DSALink4

Software Manual
Software Version 1.01
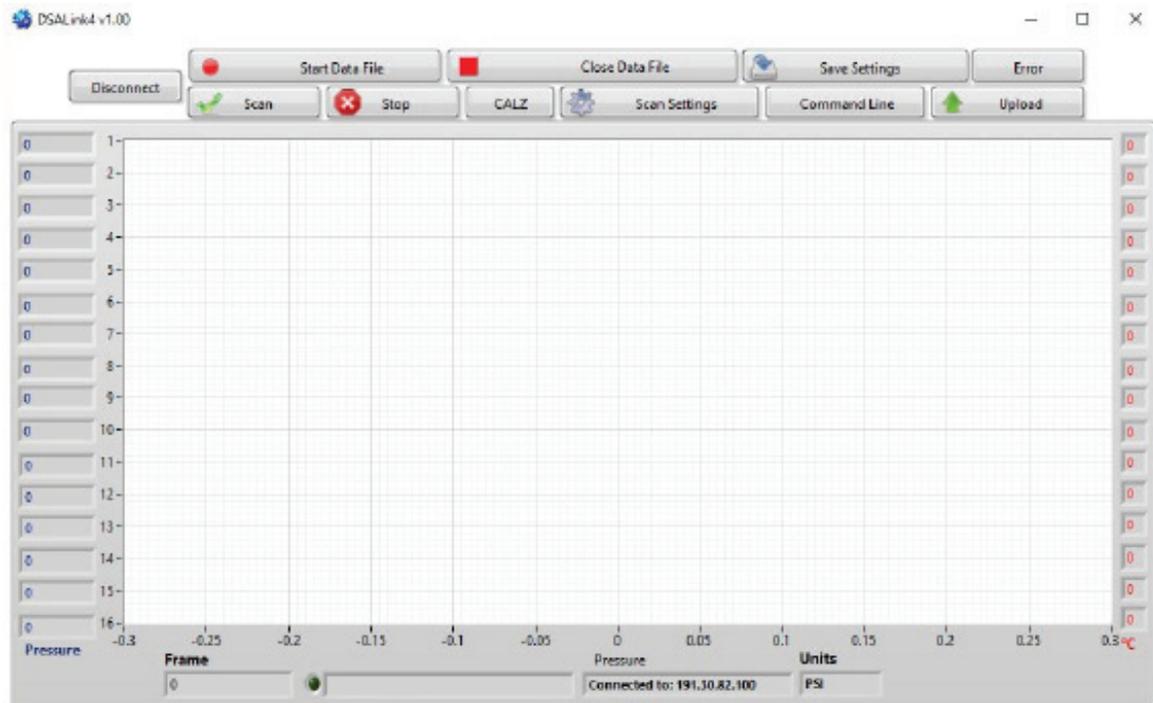
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PREFACE

WARNINGS, CAUTIONS AND NOTES

The WARNING! symbol indicates that danger of injury for persons and the environment and/or considerable damage (mortal danger, danger of injury) will occur if the respective safety precautions are not taken.

WARNING

The CAUTION ! symbol indicate danger for the system and material if the respective safety precautions are not taken.

CAUTION

The ESD note symbol indicates that proper precautions for handling Electrostatic Sensitive Devices needs to be taken when performing the related operation. This includes the use of grounded work surfaces and personal wrist straps to prevent damage to sensitive electronic components.

ESD PROTECTION REQUIRED

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This Warranty does not extend to any Seller product or component part thereof which has been subjected to misuse, accident or improper installation, maintenance or application; or to any product or component part thereof which has been repaired or altered outside of Seller's facilities unless authorized in writing by Seller, or unless such installation, repair or alteration is performed by Seller; or to any labor charges whatsoever, whether for removal and/or reinstallation of the defective product or component part or otherwise, except for Seller's labor charges for repair or replacement in accordance with the Warranty. Any repaired or replacement product or component part thereof provided by Seller under this Warranty shall, upon redelivery to Buyer, be warranted for the unexpired portion of the original product warranty.

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In the event of a failure:

1) Notify Scanivalve Corporation, Customer Service Department. Include model number and serial number. On receipt of this information, service data or shipping instructions will be forwarded. This may be transacted by telephone or e-mail.

2) On receipt of shipping instructions, forward the product, transportation prepaid. Repairs will be made and the product returned.

3) All shipments should be made via "Best Way". The product should be shipped in the original packing container or wrapped in protective material and surrounded by a minimum of four (4) inches of a shock absorbing material.

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PACKAGING FOR SHIPMENT

If the product must be shipped, whether being returned to Scanivalve or relocated to another location it must be packaged properly to minimize the risk of damage. The recommended method of packing is to place the instrument in a container, surrounded on all sides with at lease four inches of shock attenuating material such as Styrofoam peanuts.

IMPORTANT NOTICE

Please note that the product specifications and other information contained in this manual are subject to change without notice. Scanivalve Corporation makes an effort and strives to provide complete and current information for the proper use of the equipment. If there are any questions regarding this manual or the proper use of the equipment, contact Scanivalve Corporation.

CONTACT INFORMATION

If there are any questions or concerns regarding any Scanivalve product please do not hesitate to contact us at the following:

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Scanivalve Corporation is an ISO9001:2000 certified company.

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SECTION 1: SPECIFICATIONS

General Specifications

Minimum System Requirements:
    Windows 7 or newer (32 or 64-bit)
    512 MB RAM
    1024 x 768 Screen Resolution

DSA Software version Requirements:
    DSA3200 Series: Versions 1.16 and newer with the
    exception of version 1.21
    DSAPTP Series: All versions

Maximum Scan Rate:
    DSA3200 Series: 500Hz
    DSAPTP Series: 850Hz

Expected Data Format:
    TCP Binary data

Allowable number of instances:
    Dependant upon network and system limitations

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SECTION 2: INTRODUCTION

DSALink4

DSALink4 is used to configure and collect data from the DSA3200 and DSAPTP series pressure scanners manufactured by Scanivalve Corp. DSALink4 is intended to be an entry level interface to the DSA scanner. While using DSALink4, certain features of the DSA will be inaccessible or unused for ease of use. If the user wishes to access these features, the source VIs for DSALink4 can be downloaded and modified from the Scanivalve LabVIEW Development Kit at no charge.

To reach the full potential of the DSA scan rate, data is transmitted from the scanner in TCP Binary format and converted from binary real-time by DSALink4. This architecture may require DSA3200 series scanners that have software versions prior to version 1.23 to set the BIN variable to 1, the HOST variable to 0 0 T, and issue a SAVE command before power cycling the scanner and attempting to use DSALink4.

For detailed information on the DSA scanner, please see the DSA3200 or DSAPTP user manuals.
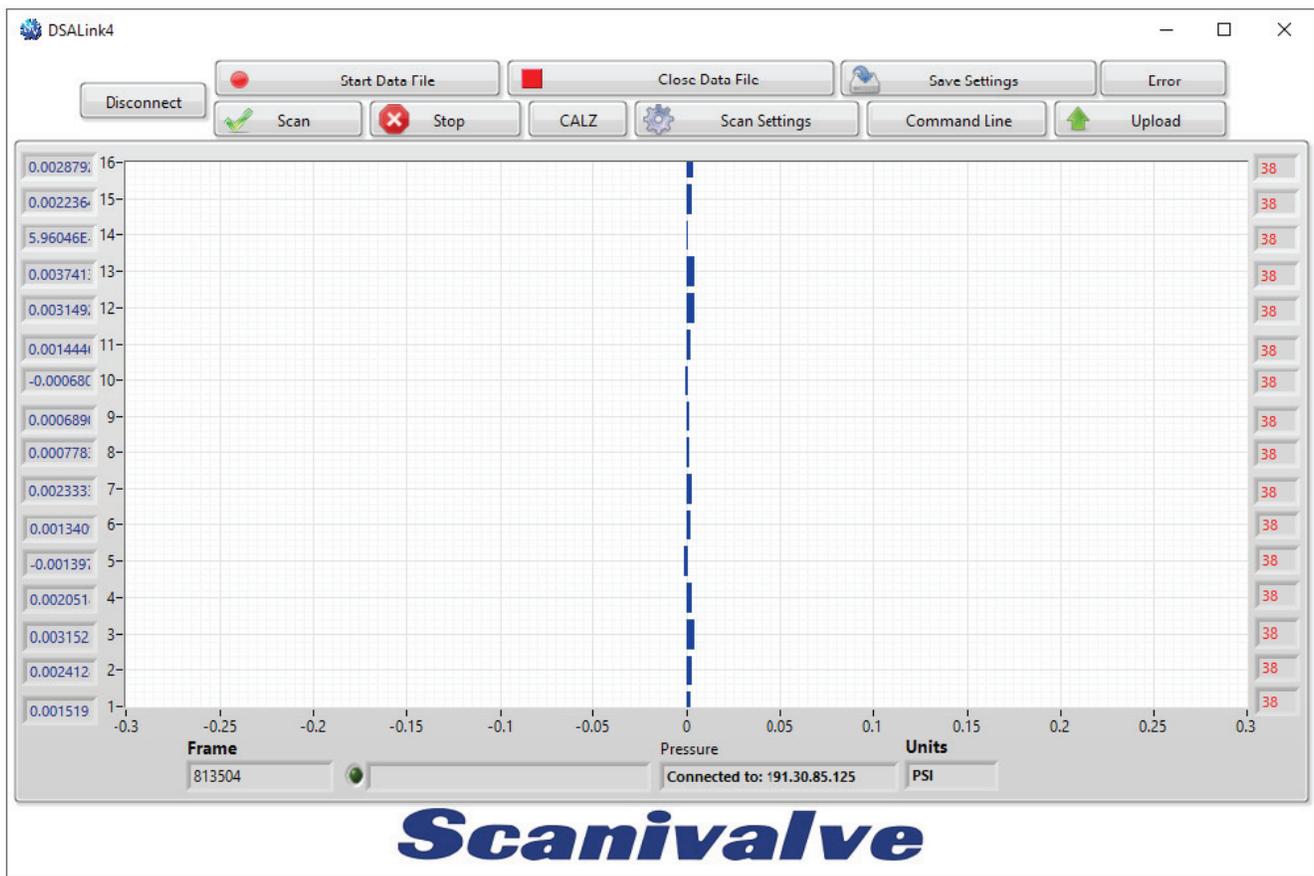
FIGURE 2.1- DSALink4 HOME SCREEN

SECTION 3: INSTALLATION

OVERVIEW

To install DSALink4 the software must be downloaded from the Scanivalve website, installed, and the computer rebooted after successful installation. This section covers the entire installation process in detail. If you encounter unexpected difficulties, contact your IT department or Scanivalve Technical Support.

DOWNLOAD

DSALink4 can be downloaded from the Scanivalve website at no charge. Visit www.scanivalve.com/support/software-downloads as shown in Figure 3.1 and select the DSALink4 download. Download should begin automatically. Note which folder the files are being downloaded to.
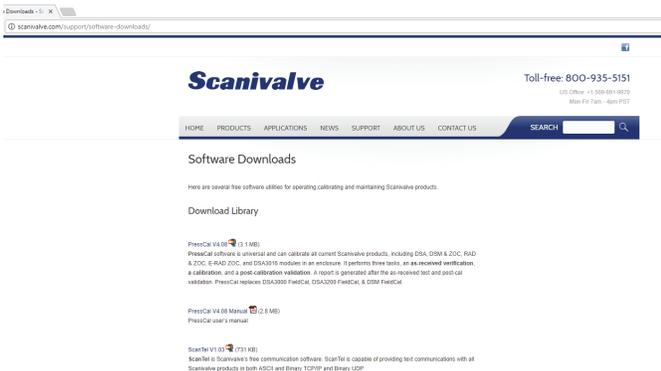
FIGURE 3.1- SCANIVALVE SOFTWARE DOWNLOADS

INSTALL

Once the files are downloaded, navigate to the folder where the downloaded files are located. Run the "setup" application. Follow the instructions as outlined by the setup wizard as shown in Figure 3.2.
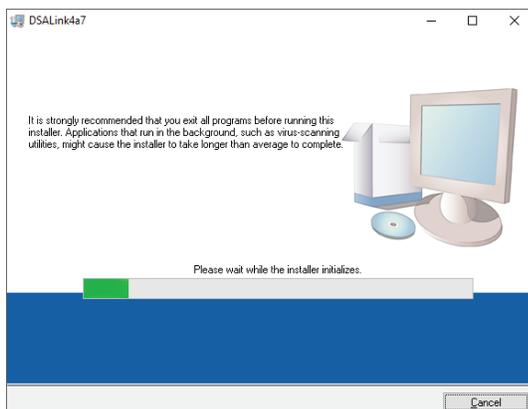
FIGURE 3.2- INSTALL WIZARD

RESTART

The LabVIEW Runtime Engine may require that you restart the computer before running DSALink4. If the LabVIEW Runtime Engine is already installed, a restart may not be necessary. When convenient, and before attempting to use DSALink4, restart the computer if prompted by the installer.

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SECTION 4: OPERATION

OVERVIEW

This section explains general operation and proper use of the DSALink4 software. A compatible Host IP Address and a valid connection is required for the program to run. If an incorrect IP Address is input or the connection is invalid, then DSALink4 will not operate. An overview of the DSA-Link4 home screen can be seen in Figure 4.1 below.
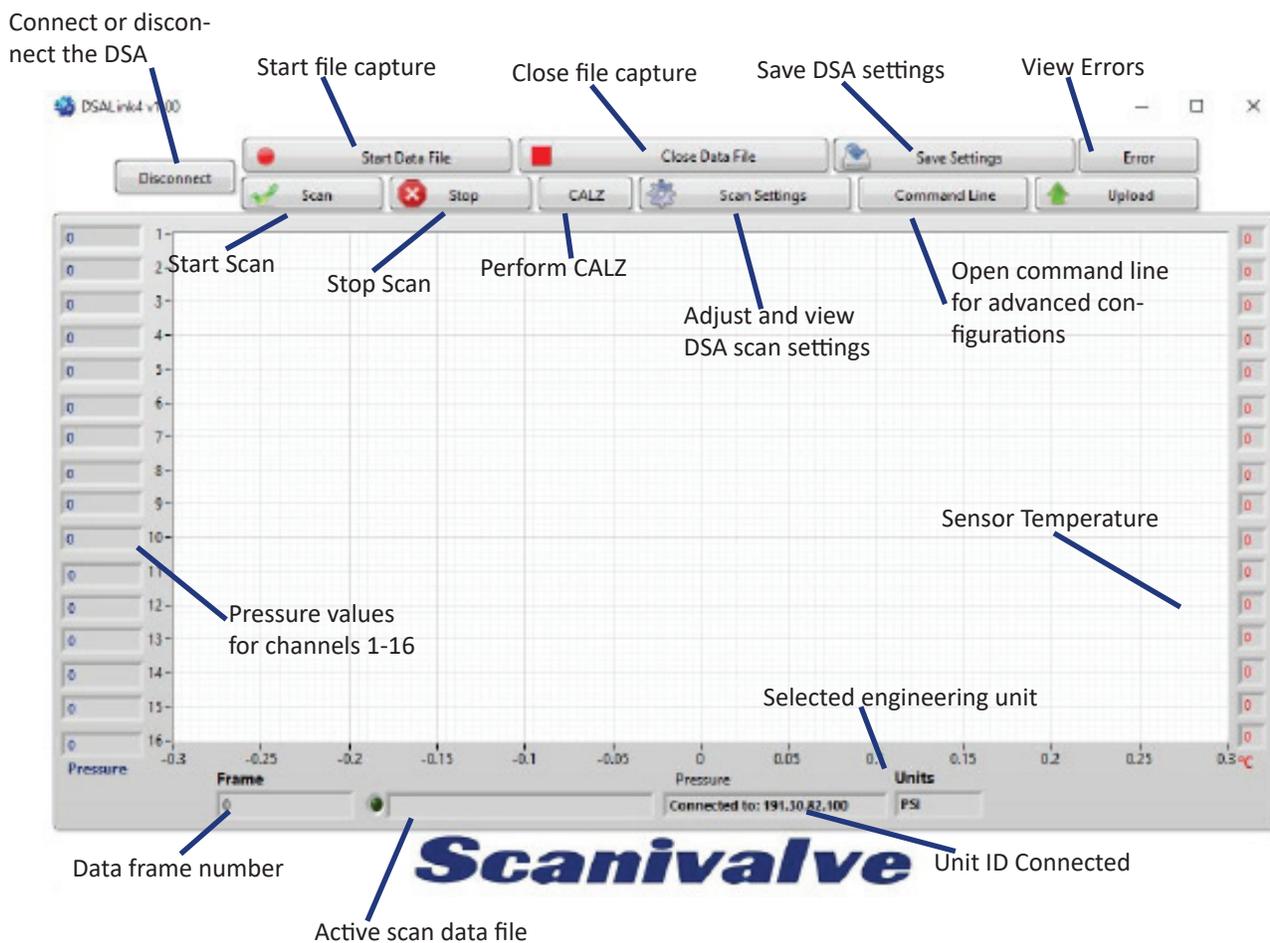
Figure 4.1- DSALink4 Overview

CONNECTING

To connect a DSA to DSALink4, the DSA must be powered on and allowed to finish booting up. Once the DSA has time to finish the boot sequence, the IP Address of the DSA can be input into DSALink4 and the connect button clicked. If you do not input a correct or compatible IP Address, DSALink 4 will not run. The connect screen can be seen in Figure 4.2.

The computer and DSA must have a compatible IP Address in order to successfully connect. The DSA and host computer must have the first two or three octets of their IP Addresses matching in order to be compatible.

Example of matching the first three octets (recommended):
Host computer: 191.30.80.100
DSA module: 191.30.80.125
Example of matching the first two octets:
Host computer: 191.30.1.100
DSA module: 191.30.80.125
The IP address of a Windows host computer can be changed under:
Control Panel -> Network Connections -> Local Area Network -> Properties -> Internet Protocol (TCP/IP) -> Properties.
Refer to the appropriate DSA manual for details on changing the IP Address of the DSA scanner.

If the application fails to leave the Connect screen then there is likely an issue with IP Address compatibility, the DSA is not powered on or booted up, the IP Address is incorrect, the network cable is unplugged, or there is a hardware problem with the scanner.
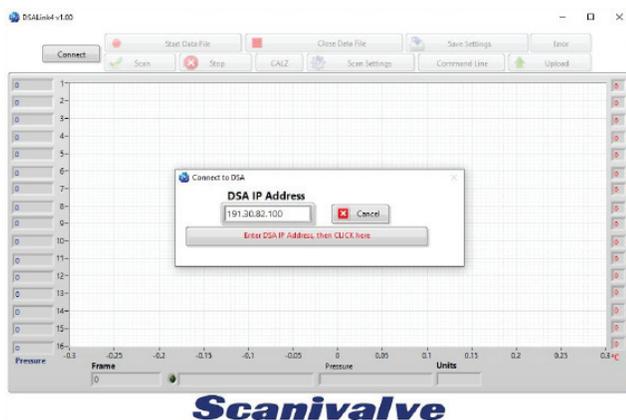
FIGURE 4.2- CONNECT TO DSA

SCAN SETTINGS

The Scan Settings button will open the Scan Settings window as shown in Figure 4.3. This window allows the user to change the scan rate, frames per scan, units, triggering, and timestamp variables. When the settings are configured appropriately, simply click the Apply button and then the Close button when the settings change is complete. All other buttons are disabled on the home screen when the Scan Settings tab is active.
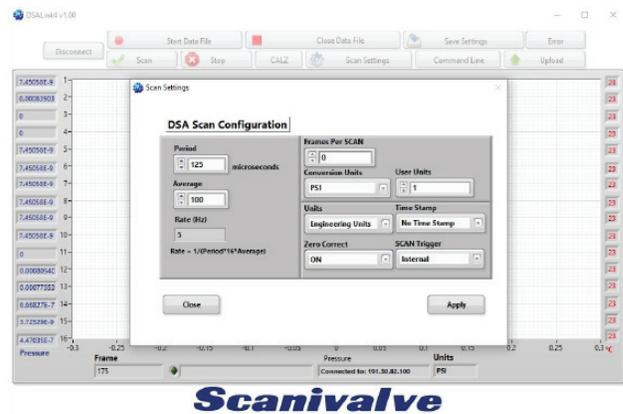
FIGURE 4.3- SCAN SETTINGS

CALZ- ZERO CALIBRATION

The CALZ button allows a user to perform a zero calibration of their DSA scanner. It is recommended that the user place the DSA in calibrate mode prior to pressing the CALZ button, but it is not required. For more information on the DSA calibration valve, see the appropriate DSA manual. Upon pressing the CALZ button, the DSA will execute a CALZ command. This command takes approximately ten seconds to execute. A status window will appear when the button is pressed as shown in Figure 4.4, and disappear when the CALZ is complete.
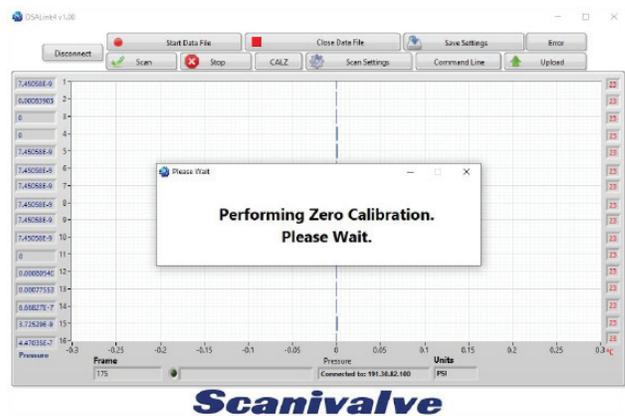
FIGURE 4.4- CALZ WINDOW

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Start Data File

The Start Data File button allows a user to log data directly to a .CSV which can be easily opened by Microsoft Excel. Upon pressing the Start Data File button, a window will open prompting the user to name and specify a location to save the file. A data file is not required to start a scan. However, if the data is to be written to a file for analysis, the Start Data FIle button must be pressed before initiating a Scan. If a data file is already started, the Start Data File button will be disabled.

Scan

To scan pressure data from the DSA, simply press the Scan button. Upon pressing the Scan button, the DSA will begin scanning at a rate and duration specified by the Scan Settings. The DSA will scan data and/or write to a data file at the rate defined by the scan settings, but DSALink4 will only display sample data to the bar graph at a rate of approximately 4Hz as shown in Figure 4.5. The bar graph will autoscale to the largest pressure value currently seen by the DSA. The Stop button is the only button which is not disabled while scanning.
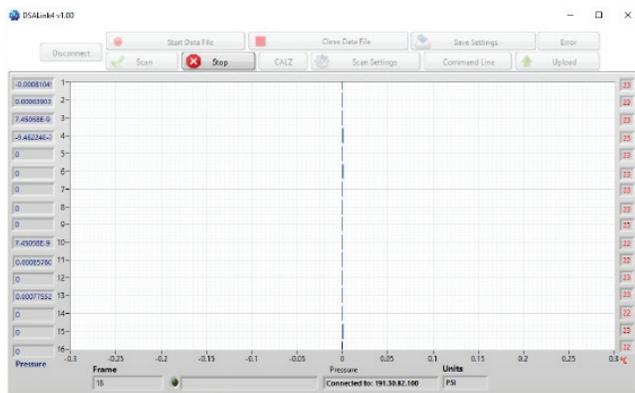
Figure 4.5- Scanning

Stop

The scan will Stop when the Stop button is pressed. A window will appear as shown in Figure 4.6 notifying the user that the scan has stopped, then disappear. All buttons are disabled while the scan stops.
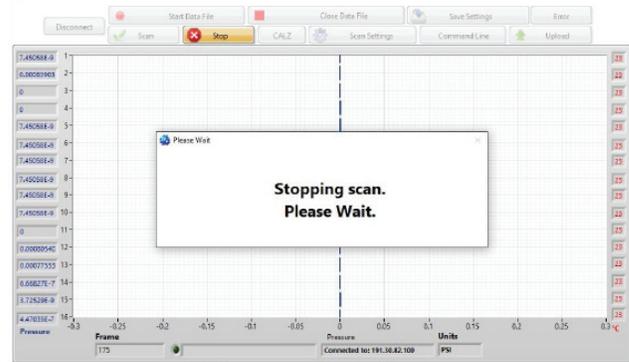
Figure 4.6- Stop Scan

Close Data File

The Close Data File button will close the currently open data file so a user can access their scan data. If there is no data file open, then DSALink4 ignores the press of this button. It is recommended to close the data file once you have collected your desired data set.

Upload

The Upload button allows a user to upload configuration settings or calibration coefficients to the DSA. All other buttons are disabled while the upload occurs.

Error

The Error button will open the error dialog as seen in Figure 4.7. This dialog queries the DSA for any errors. All other buttons are disabled when the Error button is pressed.
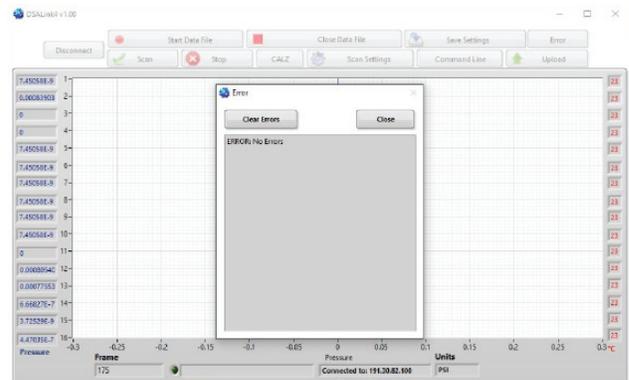
Figure 4.7- Error Window

SAVE SETTINGS

The Save Settings button will save the current configuration settings to the DSA. Using this feature will retain the original settings of the BIN and HOST variables from the start of the applicatioin. Upon pressing of the save button, a warning will appear while the DSA executes the save as shown in Figure 4.8. The warning will disappear upon completion of the save, and normal operations can resume.
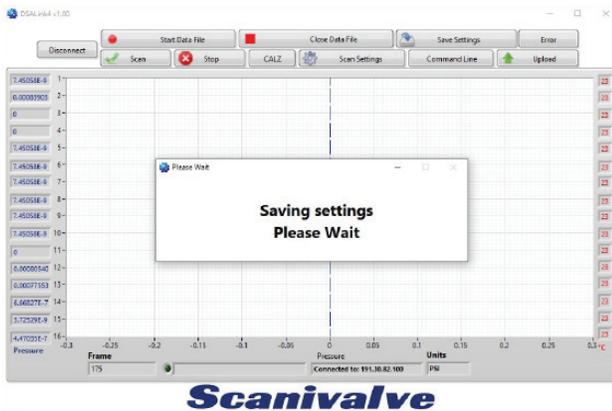
FIGURE 4.8- SAVE SETTINGS

COMMAND LINE

The Command Line button opens an optional terminal for advanced configuration. Users can send commands and query the DSA's list settings as shown in Figure 4.9 below.

FIGURE 4.9- COMMAND LINE

DISCONNECT

The Disconnect button is available on the home screen when all other tabs have been closed and the DSA is not scanning. It is unavailable while scanning and while tabs are open to prevent accidental misuse of the program. It is recommended to Disconnect from the DSA before closing the DSALink4 application.

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APPENDIX

APPENDIX A: SOFTWARE CHANGE LOG

Version 1.00- Initial Release (4/17/2018)
Version 1.01- Resolved an issue with incorrect channel labels on the front panel (1-29-19)

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