

# **Introduction to DigiGage screens**

From  
**Albion Devices, Inc.**  
[www.AlbionDevices.com](http://www.AlbionDevices.com)

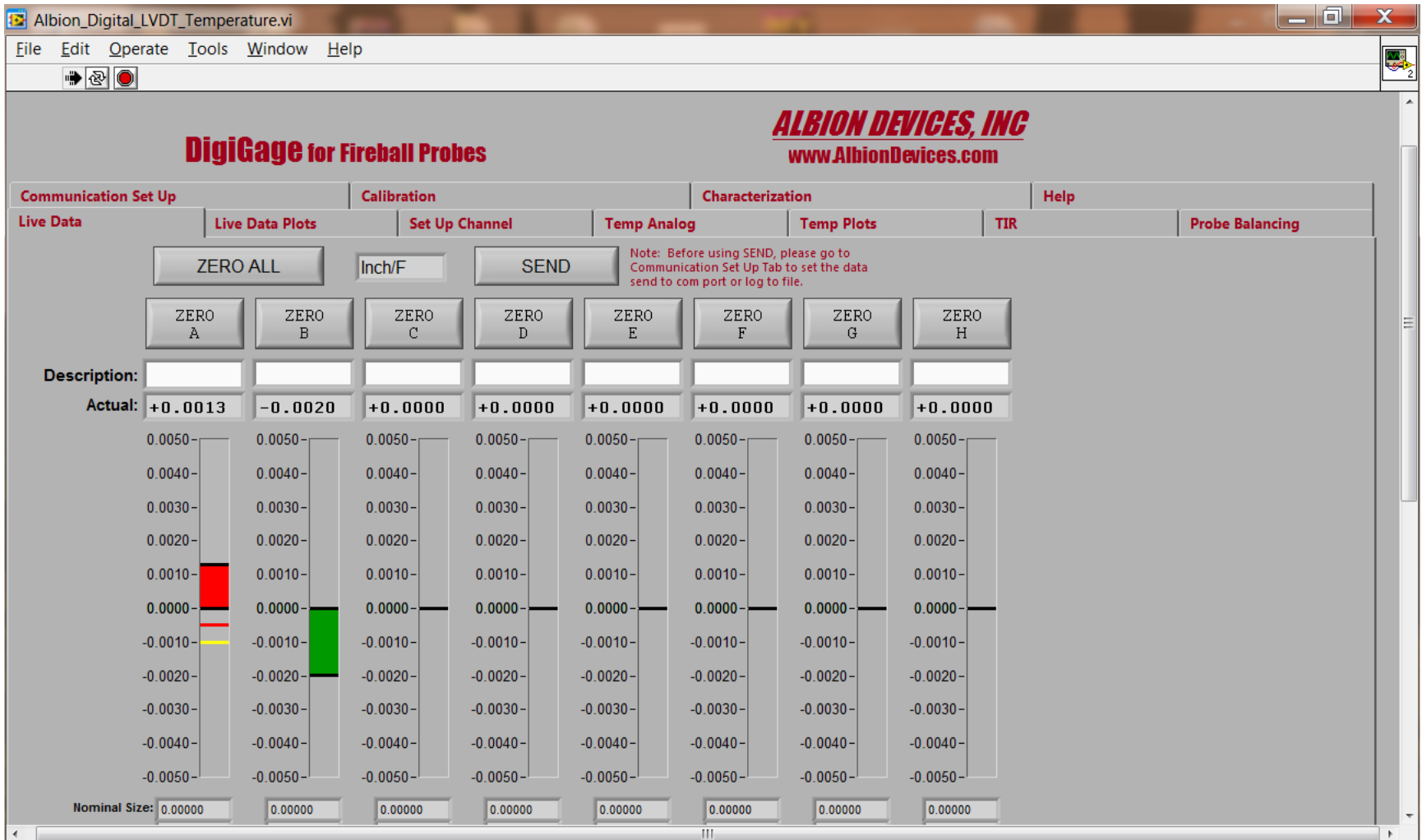
# Purpose

The following screens are intended to provide an overview of the layout and scope of DigiGage software from Albion Devices, Inc.

DigiGage has multiple uses: Simple gaging software, temperature monitoring software or temperature compensated gaging software.

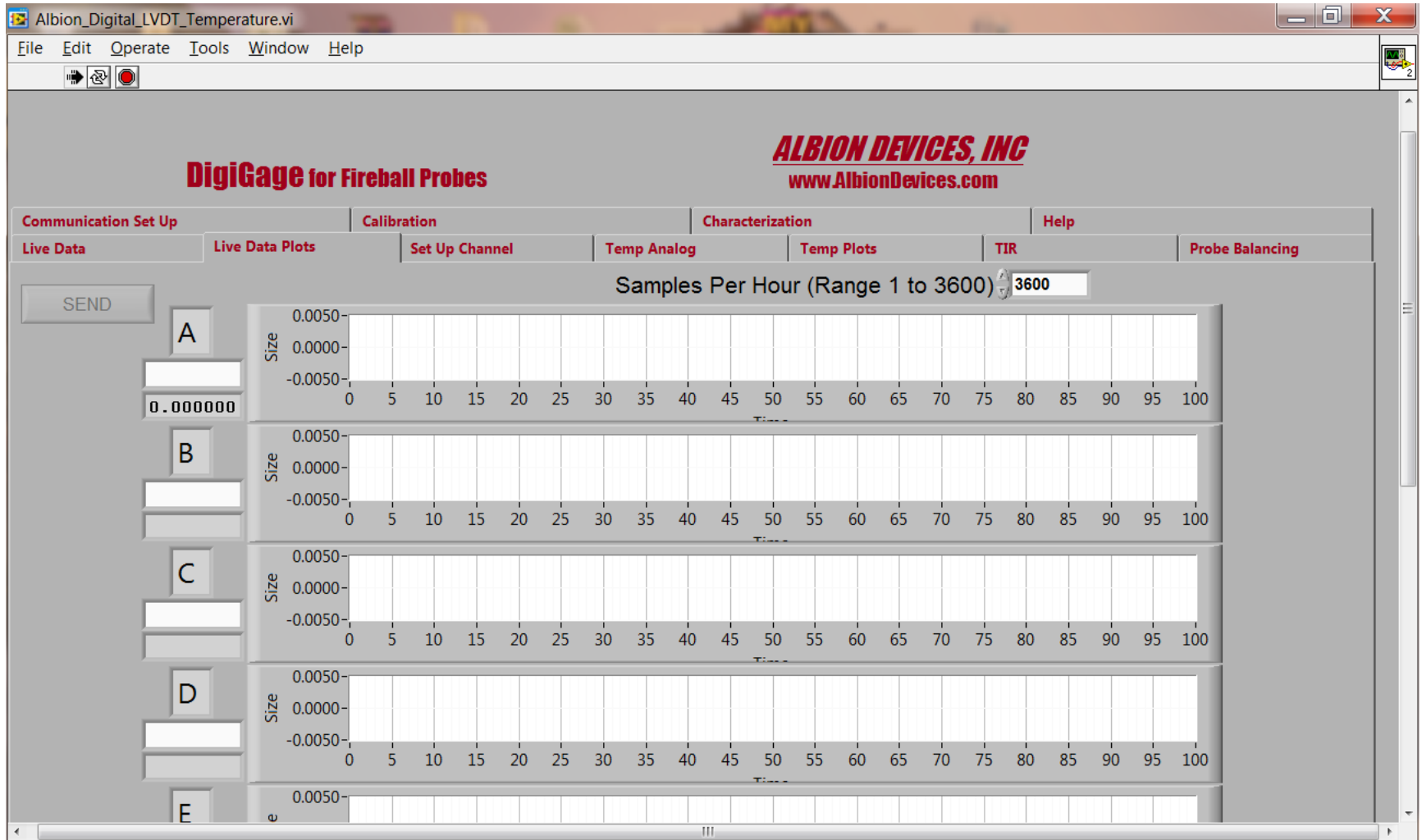
# Live Data Screen

Used primarily when gage is running. Displays size measurements.



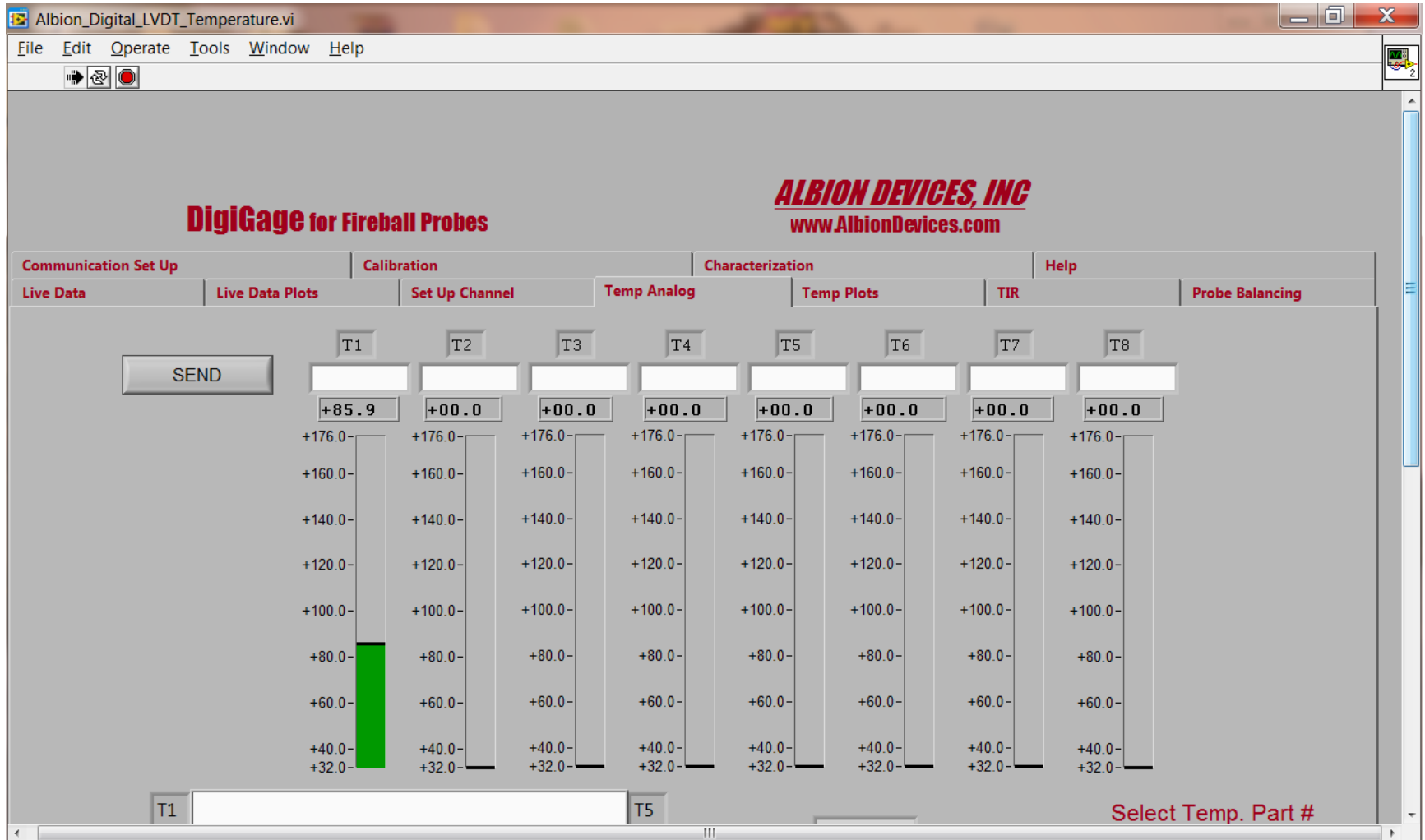
# Live Data Plotting

Charts data when "sent" operator



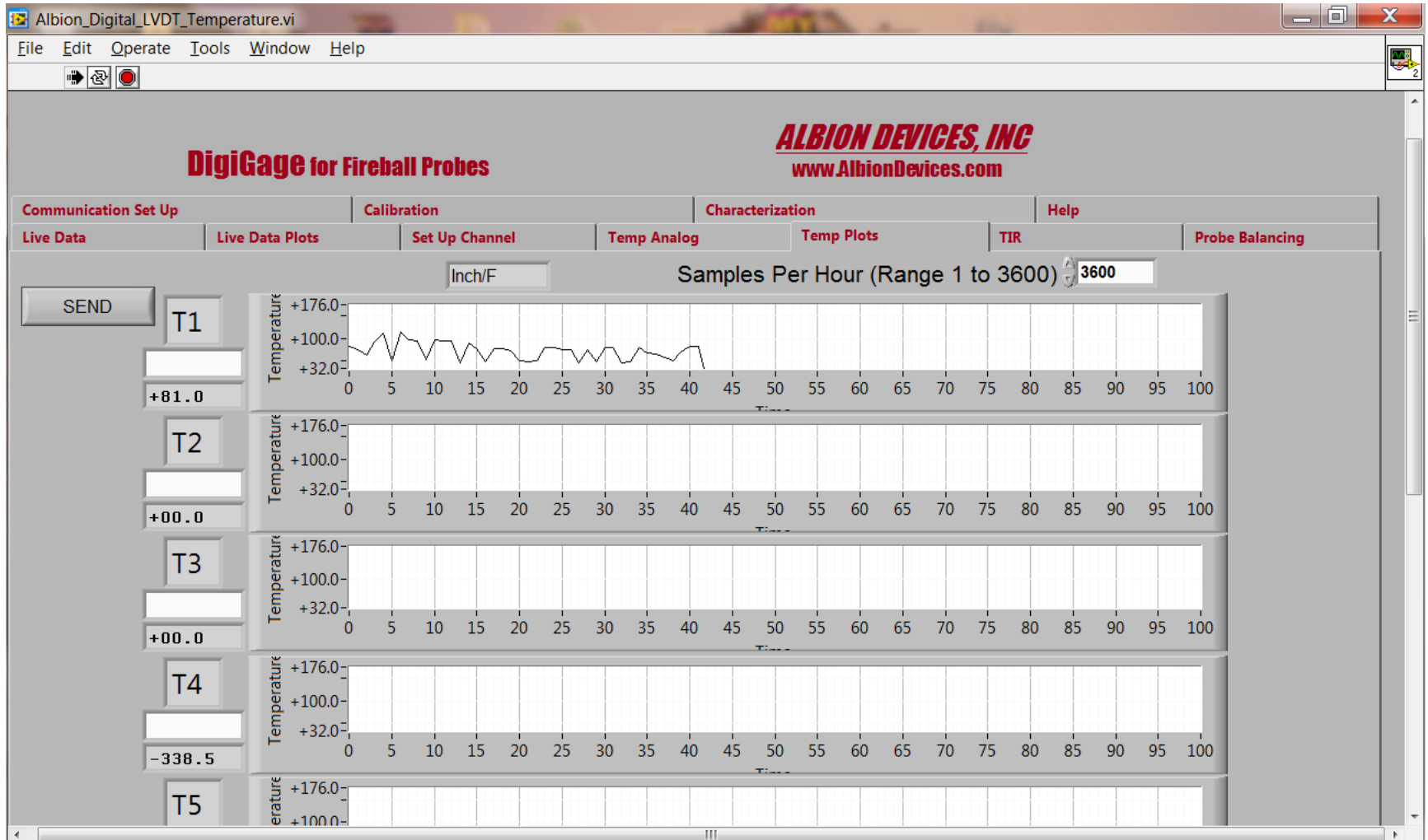
# Temp Analog Screen

Display temperature readings when temperature sensors are in use



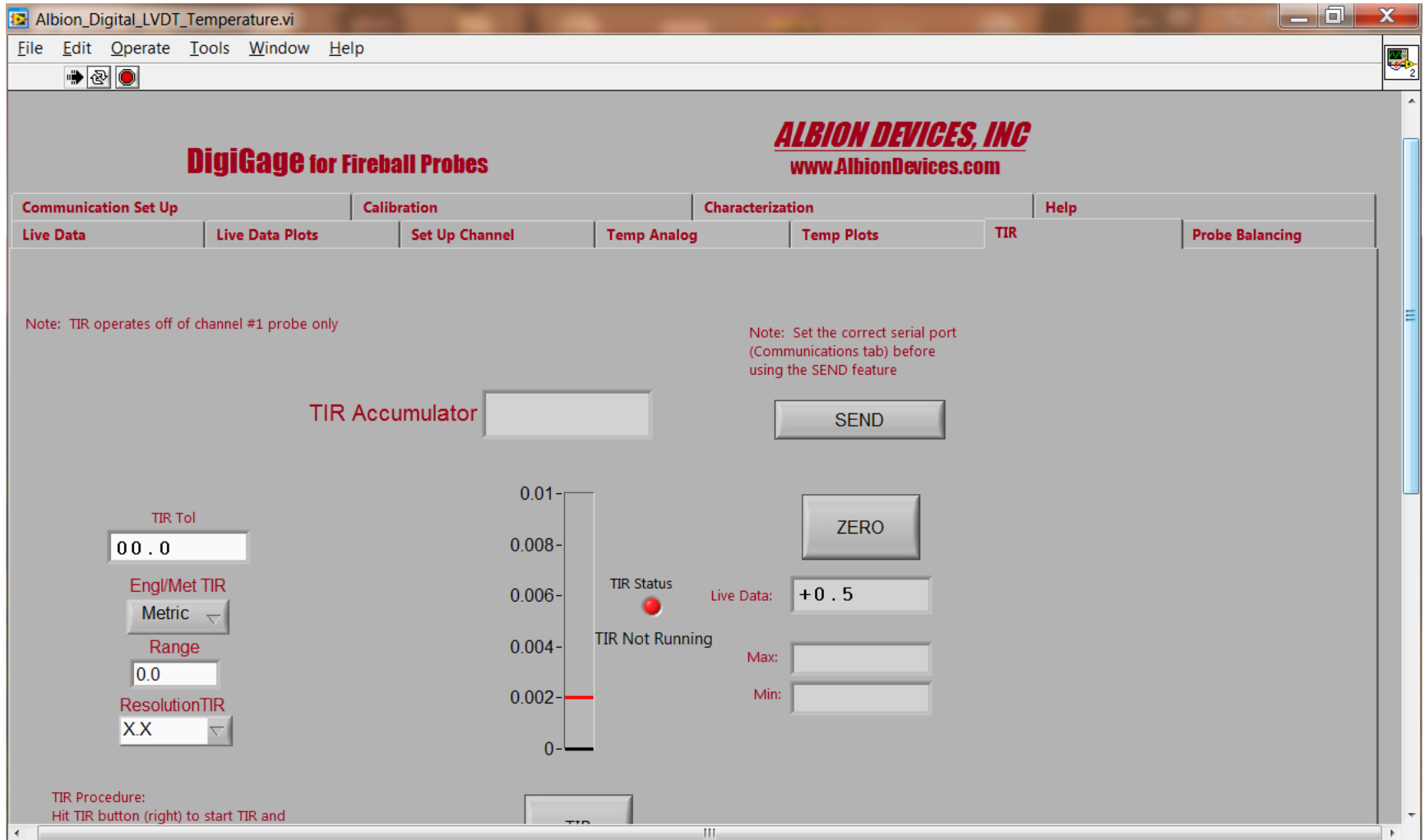
# Temp Plots Screen

Plots temperature readings



# TIR Screen

Used for displaying TIR (Total Indicator Readout)



# Channel Set Up Screen

Used to configure Live Data and Temperature screens for applications.

Albion\_Digital\_LVDT\_Temperature.vi

File Edit Operate Tools Window Help

**DigiGage for Fireball Probes**

**ALBION DEVICES, INC**  
www.AlbionDevices.com

Communication Set Up Calibration Characterization Help

Live Data Live Data Plots Set Up Channel Temp Analog Temp Plots TIR Probe Balancing

Show/Hide	Column Description	Math	Range	Upper Tolerance	Lower Tolerance	Approach Up Tolerance	Approach Lo Tolerance	Preset	Resolution	OD/ID
A		C1	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
B		C2	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
C		C3	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
D		C4	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
E		C5	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
F		C6	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
G		C7	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID
H		C8	0.0100	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	X XXXX	ID

Syntax for entering Math Formulas for Columns  
Input channels are designated Cx (where x is the input channel number, 1-8). Example, to map Channels 1 plus 2 to Column A, enter C1+C2 in the math box for Column A. To apply arithmetic, e.g. C1\*1.5 will multiply Channel 1 times 1.5 and put the value in the Column you designate.  
\*\*\*\*\*Syntax errors in the formula will result in undetermined output data\*\*\*\*\*

Eng/Met  
Inch

Discover Fireballs

QUERY

Ch #	COM #	Serial #	FW Rev
1			
2			
3			
4			
5			
6			
7			
8			

# of Fireball's Attached  
0

Ch #	COM #	Serial #	FW Rev
T1			
T2			
T3			
T4			
T5			

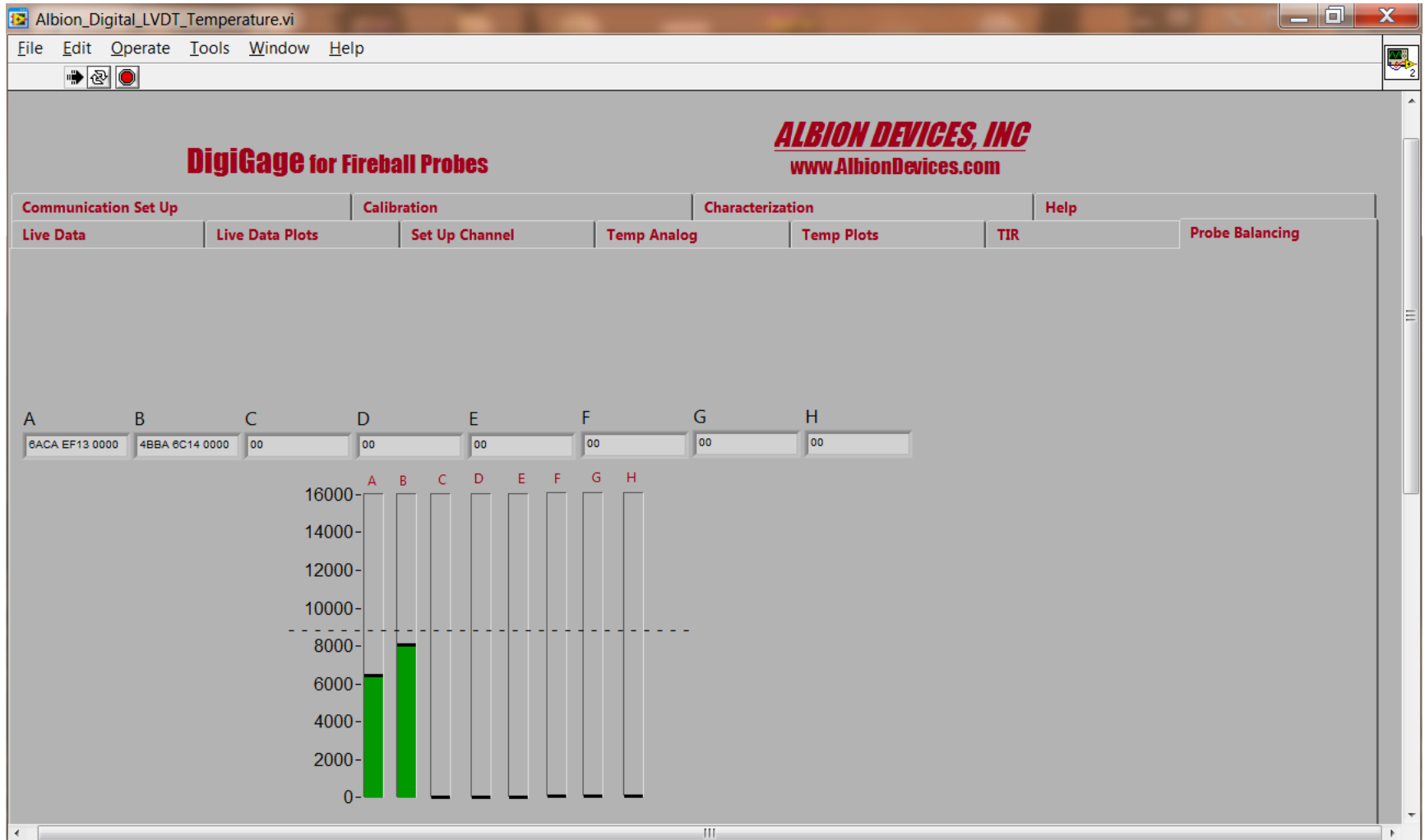
Select Part # Load Part # New Part Number Save New PN

Albion Default Load



# Probe Balancing Screen

Displays raw output from measuring probes to allow proper positioning in fixture during application set up.



# Communications Set Up Screen

Used to set up output from DigiGage software.

The screenshot shows a LabVIEW interface window titled "Albion\_Digital\_LVDT\_Temperature.vi". The menu bar includes File, Edit, Operate, Tools, Window, and Help. Below the menu bar is a toolbar with three icons: a hand, a gear, and a red circle. The main area has a header with "DigiGage for Fireball Probes" on the left and "ALBION DEVICES, INC" with "www.AlbionDevices.com" on the right. A tabbed interface is present with tabs for Live Data, Live Data Plots, Set Up Channel, Temp Analog, Temp Plots, TIR, and Probe Balancing. The "Set Up Channel" tab is active, showing sub-tabs for Communication Set Up, Calibration, Characterization, and Help. The "Communication Set Up" sub-tab is selected. On the left, there are controls for "Select Logging Option" (Log To File, OFF, Send to COM Port) and "Action" (No Action Required). Below these are serial port settings: Serial Port (COM38), Baud Rate (57600), Data Bits (8), Parity (Non), and Stop Bits (1). The main area contains a "File Location/Name for Data Logging" field and a "Communications Setup for Outgoing Data" section with a list of instructions. The instructions are numbered 1 through 9, detailing the steps for setting up outgoing data communication, including downloading a Virtual Com Port program and selecting the correct com ports.

Albion\_Digital\_LVDT\_Temperature.vi

File Edit Operate Tools Window Help

**DigiGage for Fireball Probes**

**ALBION DEVICES, INC**  
www.AlbionDevices.com

Live Data Live Data Plots Set Up Channel Temp Analog Temp Plots TIR Probe Balancing

Communication Set Up Calibration Characterization Help

Select Logging Option

File Location/Name for Data Logging

Log To File

OFF

Send to COM Port

Action

No Action Required

Serial Port

COM38

Baud Rate

57600

Data Bits

8

Parity

Non

Stop Bits

1

**Communications Setup for Outgoing Data**

1. Start your application that will receive data from this program.
2. Select a com port that your program will use for communications.
3. Make note of the settings such as baud rate, number of bits, etc.

Be advised that the Albion DigiGage program uses the following settings:

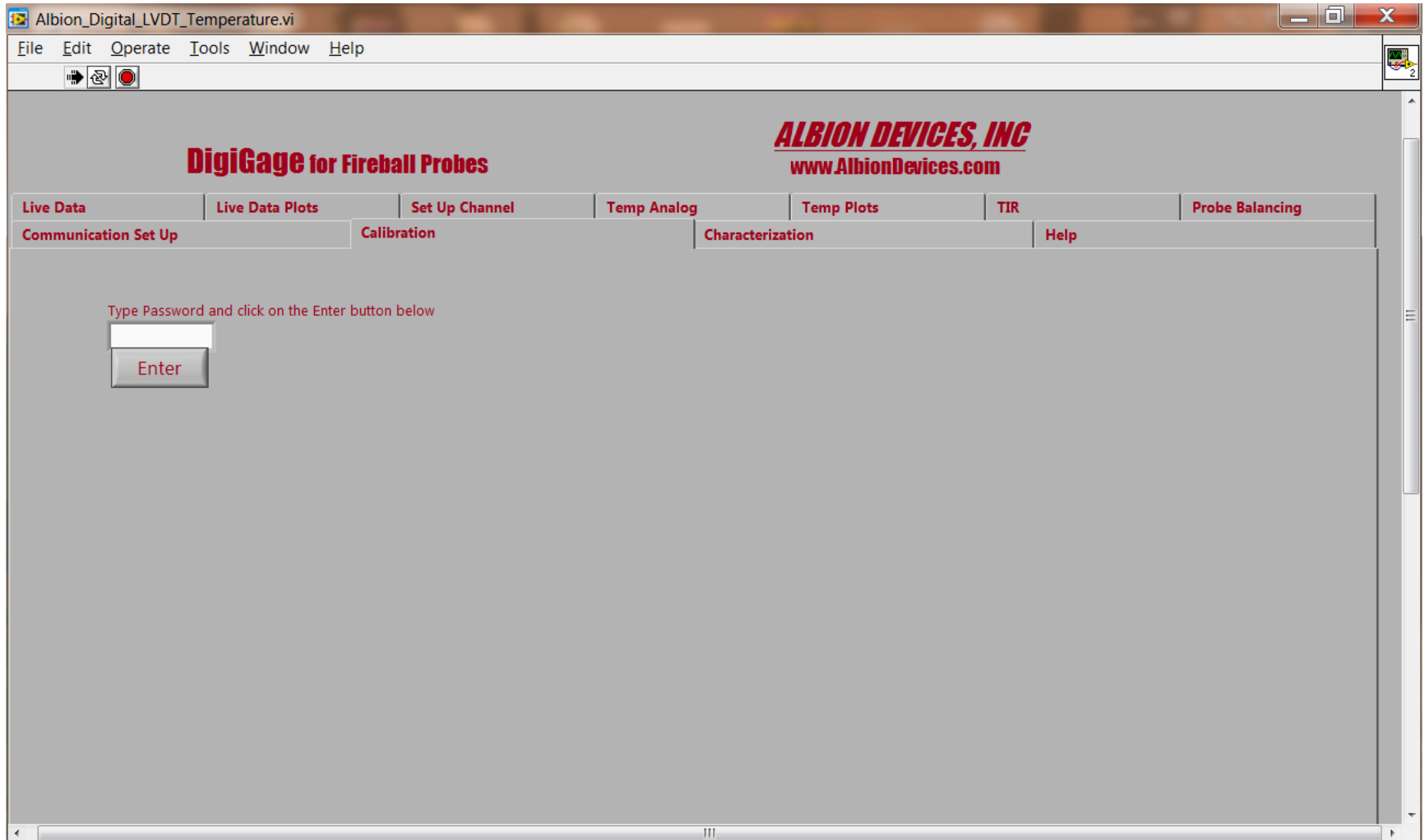
- >Baud Rate = 57,600 maximum
- >8 data bits, no parity, 1 stop bit ( 8,N,1)
- >A carriage return and line feed will be sent
- >Data is sent in standard ASCII text format

4. Download a Virtual Com Port program such as can be found at: <http://www.eltima.com/products/vspdxp/>.
5. Open the program and choose a pair of com ports to set up as Virtual Com Ports. These ports will be used to send data out of the Albion DigiGage software and to your data collection software or other application. The program may, for example, choose com 1 & 3. Make sure you are not already using these ports. If you are, just choose another pair like com 2 & 4. This com port pair will be remembered so there is no need to go into the program again.
6. Next, go into the DigiGage program and then to the Communication Page.
7. Select a com port from the listing shown. You may have to wait a moment for the list to appear.
8. Select the com port that matches the com port that you set up in the Virtual Com Port program ( set 5 above ).
9. Go to the Live Data screen now and click on the SEND button. Data should be sent to your date collection application.

If not, check your data collection

# Calibration Screen

Password protected screen for calibration of probes. Primarily for factory use only.



# Characterization Screen

Used to determine correction coefficients for temperature compensation applications only.

Albion\_Digital\_LVDT\_Temperature.vi

File Edit Operate Tools Window Help

**DigiGage for Fireball Probes**

**ALBION DEVICES, INC**  
www.AlbionDevices.com

Live Data | Live Data Plots | Set Up Channel | Temp Analog | Temp Plots | TIR | Probe Balancing

Communication Set Up | Calibration | **Characterization** | Help

**Characterization (determination of Correction Coefficients)**

Input Channel: Size **C1** Temperature **T1**

Inch/F/mm/C  
mm/C

ZERO

Capture

Size: -0.05022 Temperature: +34.9

	Size	Temp	CCC	Avg
Baseline (Zero)	0.00000	00.0		
Sample #1	0.00000	00.0	0.000000	⊗
Sample #2	0.00000	00.0	0.000000	⊗
Sample #3	0.00000	00.0	0.000000	⊗
Sample #4	0.00000	00.0	0.000000	⊗
Sample #5	0.00000	00.0	0.000000	⊗
Sample #6	0.00000	00.0	0.000000	⊗
Sample #7	0.00000	00.0	0.000000	⊗
Sample #8	0.00000	00.0	0.000000	⊗
Sample #9	0.00000	00.0	0.000000	⊗

Avg. Calculated Correction Coefficient: 0.000000

Abbreviated CCC: 00.0

Save Results Clear

Enter Nominal Size Here: 00.00000

**Note:** A value of Inf for CCC is likely a result of a Nominal Size of 00.00000 or a temperature not changing from baseline to sample #. Hit clear and re-run the test with these corrections.

Use the green/red selectors to include or exclude CCC's from the running avg.

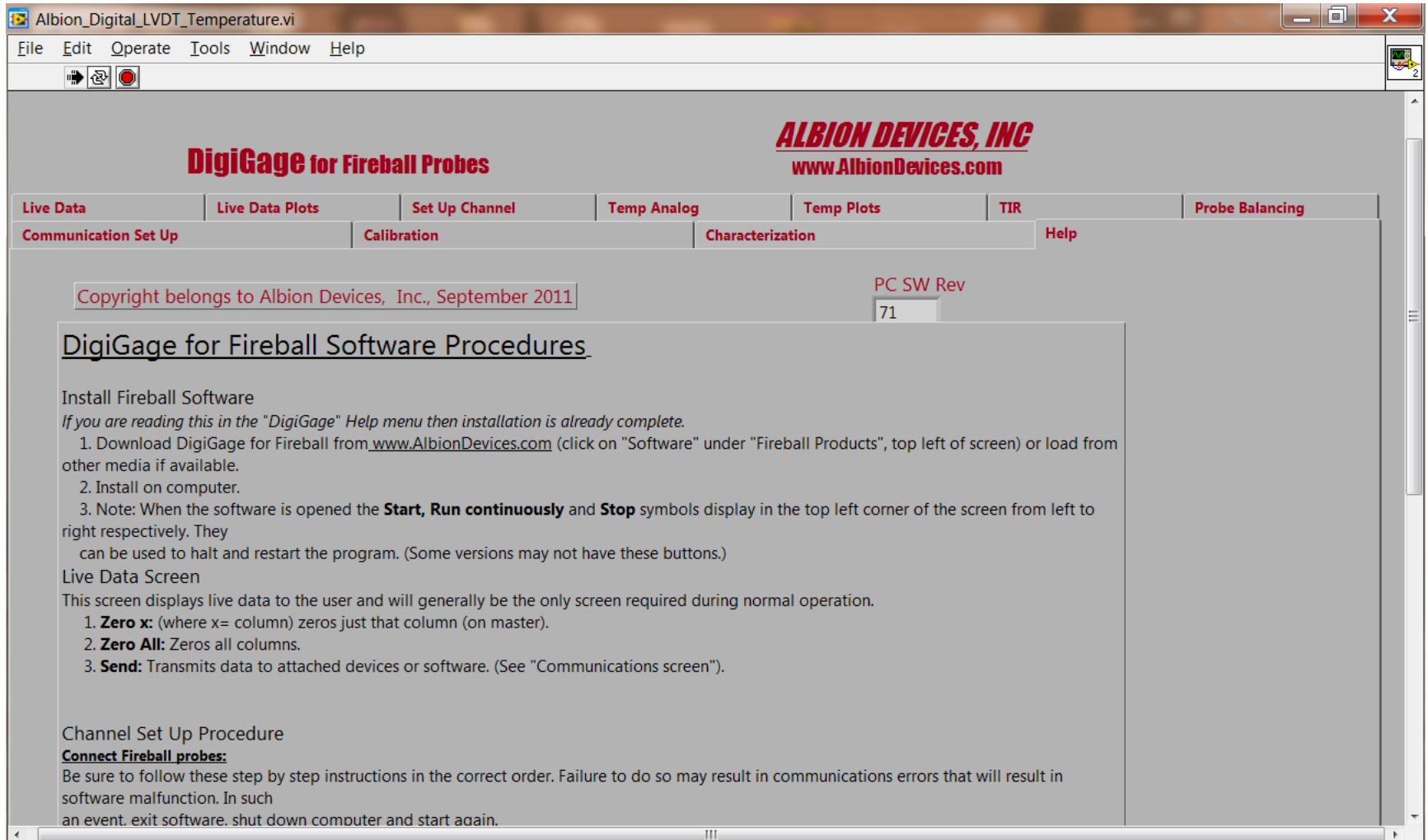
Procedure for determining effective coefficients of expansion or "Calculated Correction Coefficient" (CCC) for a part of workpiece:

1. Select input channels for Size (the dimensions for which a coefficient is to be determined) and Temperature (the sensor input that will measure the temperature variation for the dimension for which a coefficient is to be determined)

Show desktop

# Help Screen

Intended as helpful guidelines to DigiGage software users.



# Thank You

**Please visit our website or contact us directly for assistance in obtaining and applying this unique, user friendly software.**

Albion Devices, Inc.

[www.AlbionDevices.com](http://www.AlbionDevices.com)

Email: [info2@albiondevices.com](mailto:info2@albiondevices.com)