

# Temperature Log VI

## Goal

Modify a VI to create an ASCII file using disk streaming.

## Description

You have been given a VI that plots the current temperature and the average of the last three temperatures. Modify the VI to log the current temperature to an ASCII file.

## Implementation

The files that you need to complete this exercise are here: <NI eLearning>\LV Core 1\Understanding File I\_O\_2\Exercise.

1. Open Temperature Multipilot.vi from the <Exercise> directory.
2. Select **File>Save As** and rename the VI as Temperature Log.vi in the <Exercise> directory.

In the steps below, you modify the block diagram similar to that shown in Figure 1.

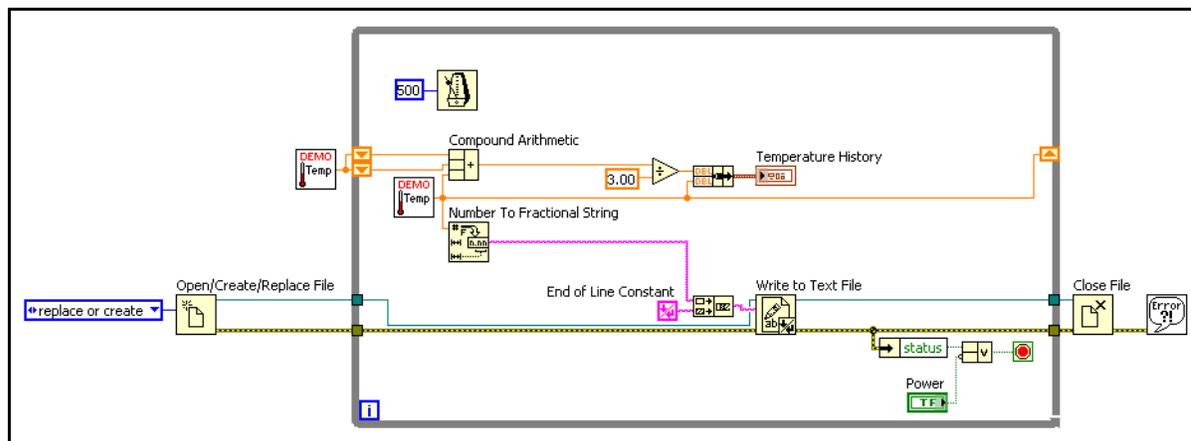


Figure 1. Temperature Log VI Block Diagram

3. Resize the While Loop to add room for the file I/O functions.

4. Create a file or replace an existing file for the data log.



- Add the Open/Create/Replace File function to the left of the While Loop.
- Right-click the operation input of the Open/Create/Replace File function, and select **Create»Constant**.
- Select replace or create in the enumerated constant that appears.

5. Write the temperature data to file, adding an End of Line constant to each piece of data.



- Add a Number to Fractional String function inside the While Loop.
- Add an End of Line constant inside the While Loop.
- Add a Concatenate Strings function inside the While Loop.
- Add a Write to Text File function inside the While Loop.
- Wire the inputs.

6. Stop the loop if an error occurs or if the user turns off the Power switch.

- Delete the wire connecting the Power Boolean control to the conditional terminal.

- Right-click the Loop Condition and select **Stop if True**.



- Add a Compound Arithmetic function next to the conditional terminal.

- Right-click the Compound Arithmetic function and select **Change Mode»OR**.
- Right-click the lower left input terminal of the Compound Arithmetic function and select **Invert**.
- Wire the Power control to the lower left input terminal of the Compound Arithmetic function.



- Add an Unbundle By Name function to the While Loop.
- Wire the conditional terminal as shown in Figure 1.

7. Close the file and handle any errors that may have occurred.



- Add a Close File function to the right of the While Loop.
- Add a Simple Error Handler VI to the right of the Close File function.
- Finish wiring the block diagram as shown in Figure 1.

8. Save the VI.

9. Test the VI.

- Run the VI.
- Give the text file a name and a location.
- Turn the Power switch to Off after the VI has been running for a few samples.
- Navigate to the text file created and explore it.

10. Close the VI and text file when you have finished.

## End of Exercise

# Notes

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