



ViewSpectSig.vi

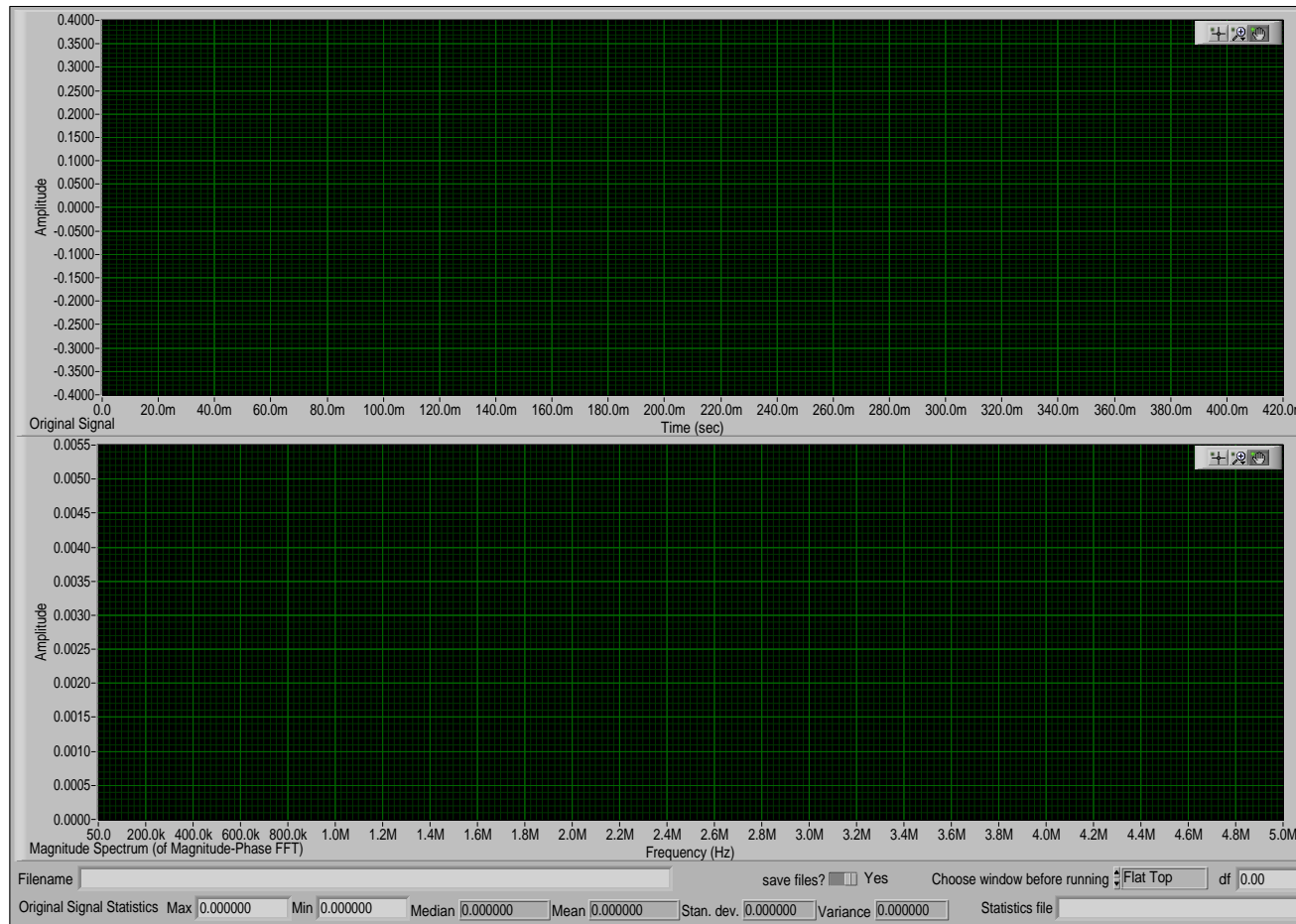
Connector Pane














ViewSpectSig.vi

This VI reads Gagescope signal files and plots the magnitude spectrum. Statistics are performed on the signal and the data is saved to an ASCII spreadsheet file.

Front Panel



Controls and Indicators

-  **Choose window before running**
window is the time-domain window to be used.
-  **save files?**
-  **Magnitude Spectrum (of Magnitude-Phase FFT)**
-  **Filename**
-  **Original Signal**
-  **df**
-  **Min**
-  **Max**
-  **Variance**
variance is the calculated variance of the values in the input sequence X.
-  **Stan. dev.**
standard deviation is the calculated standard deviation of the values in the input sequence X.
-  **Median**
median is the calculated median value of the input sequence X.



ViewSpectSig.vi



Mean

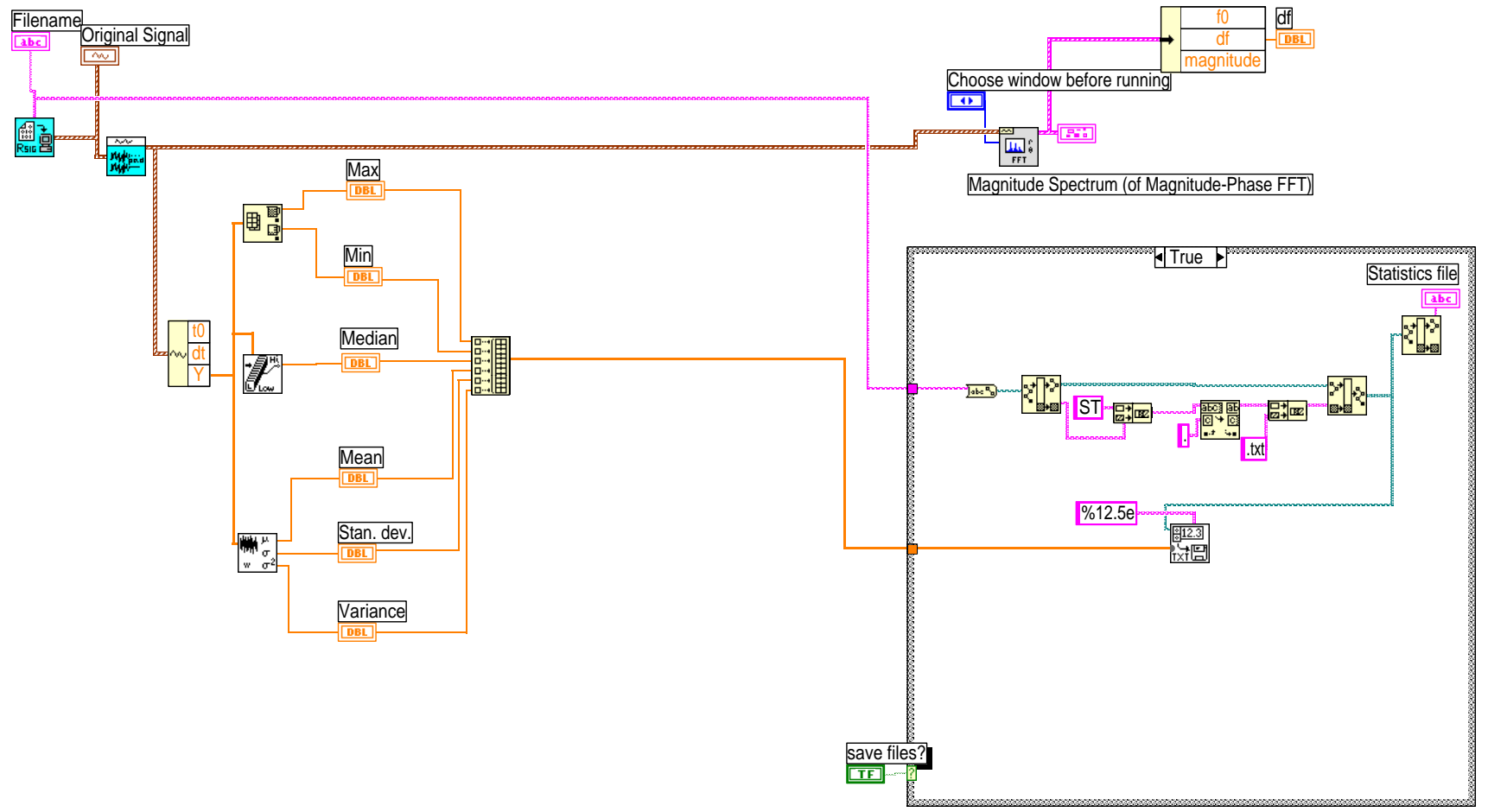
mean is the average of the values in the input sequence X .



Statistics file

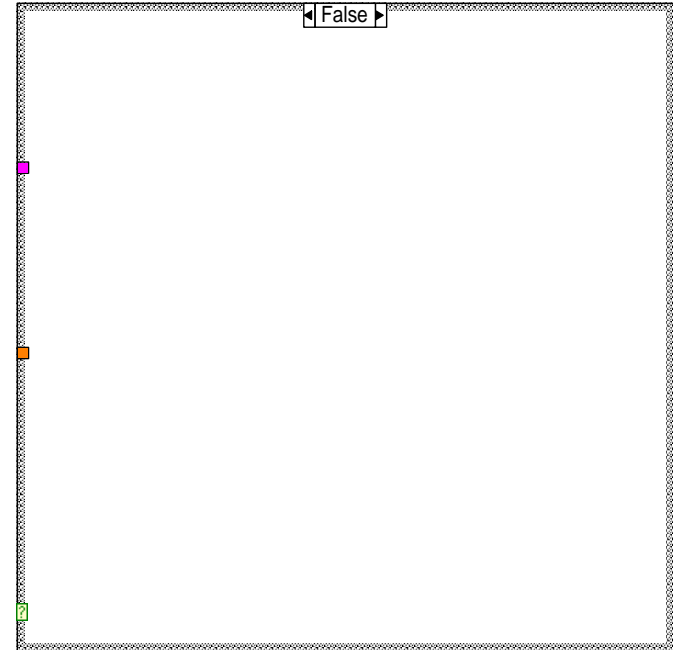
ViewSpectSig.vi

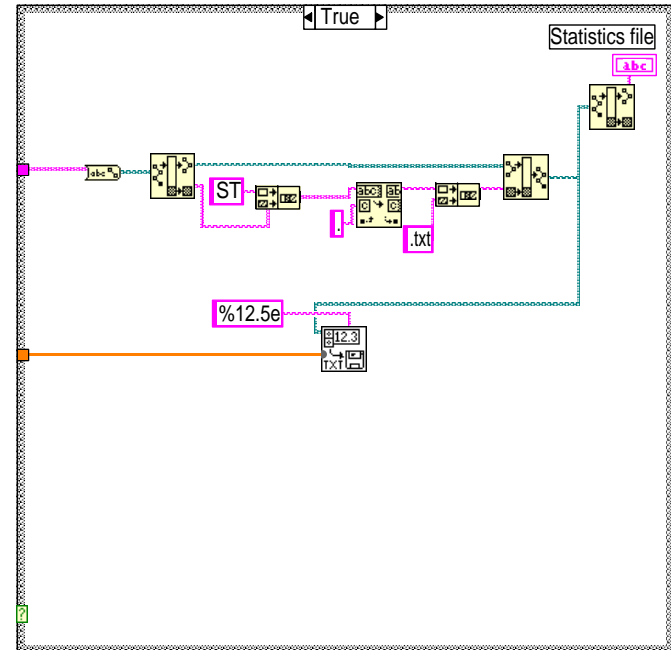
Block Diagram



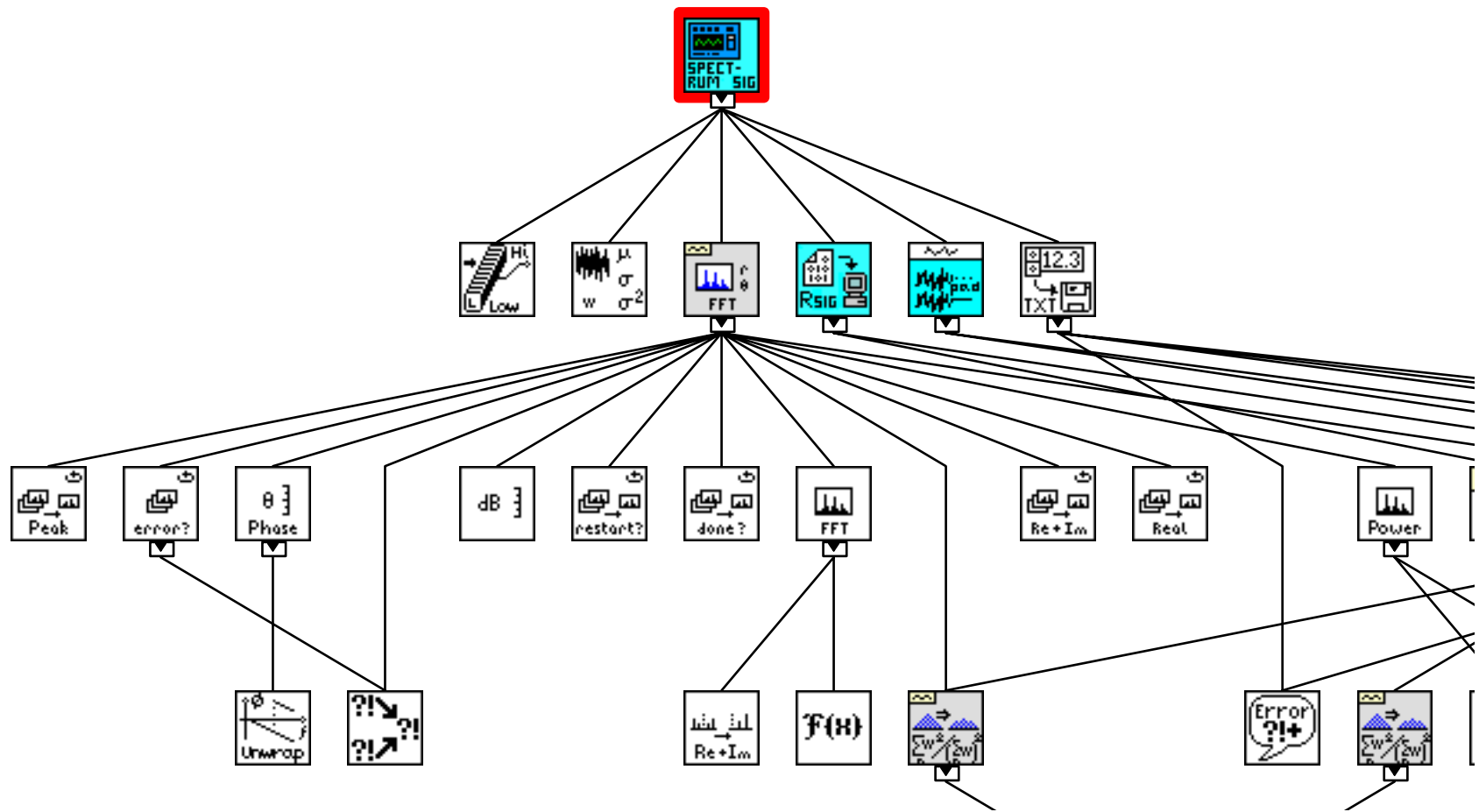


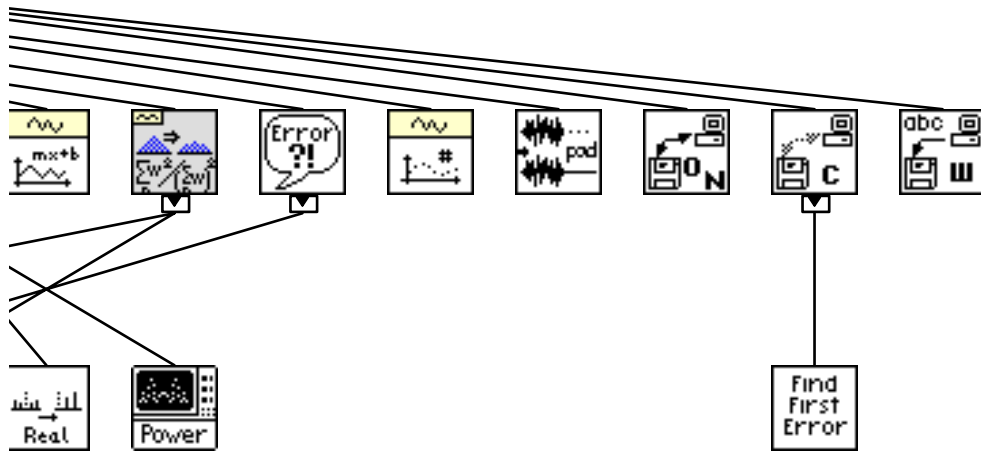
ViewSpectSig.vi

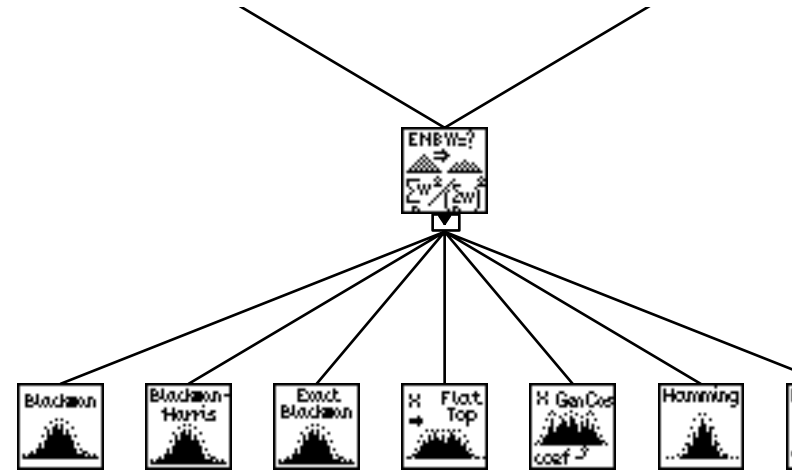




Position in Hierarchy







ViewSpectSig.vi





List of SubVIs

**FFT Spectrum (Mag-Phase).vi**

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Measure\maspectr.llb\FFT Spectrum (Mag-Phase).vi

**MyReadGageSigSub.vi**

C:\Program Files\National Instruments\LabVIEW 6\user.lib\MyReadGageSigSub.vi

**SmartZeroPadderSub.vi**

C:\Program Files\National Instruments\LabVIEW 6\user.lib\SmartZeroPadderSub.vi

**Median.vi**

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Analysis\baseanly.llb\Median.vi

**Std Deviation and Variance.vi**

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Analysis\baseanly.llb\Std Deviation and Variance.vi

**Write To Spreadsheet File.vi**

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Utility\file.llb\Write To Spreadsheet File.vi



ViewPeakDetectSig.vi

Connector Pane



ViewPeakDetectSig.vi

This VI is for reading Gagescope binary data files and separating them into high and low frequency components that are saved into individual Gagescope format files. Another file is created with the location and amplitude of the excursions above threshold of the high frequency data. This program is optimized for very large megasample data sets.
















ViewPeakDetectSig.vi

Front Panel



Controls and Indicators

-  **stage 1 Coef.**
-  **# stage2 coef.**
-  **# S.D.'s**
-  **Which end of noise?**
-  **Save files?**
-  **Finish clipping?**
-  **Low Frequency Baseline**
-  **Original Wave**
-  **Mean+ #S. D.'s**
-  **Rectify and threshold**
-  **RF noise min**
-  **RF noise max**
-  **RF variance**
variance is the calculated variance of the values in the input sequence X.



RF Noise stand. dev.

standard deviation is the calculated standard deviation of the values in the input sequence X.



RF noise median

median is the calculated median value of the input sequence X.



RF Noise mean

mean is the average of the values in the input sequence X.



RT file



HF file



LF file



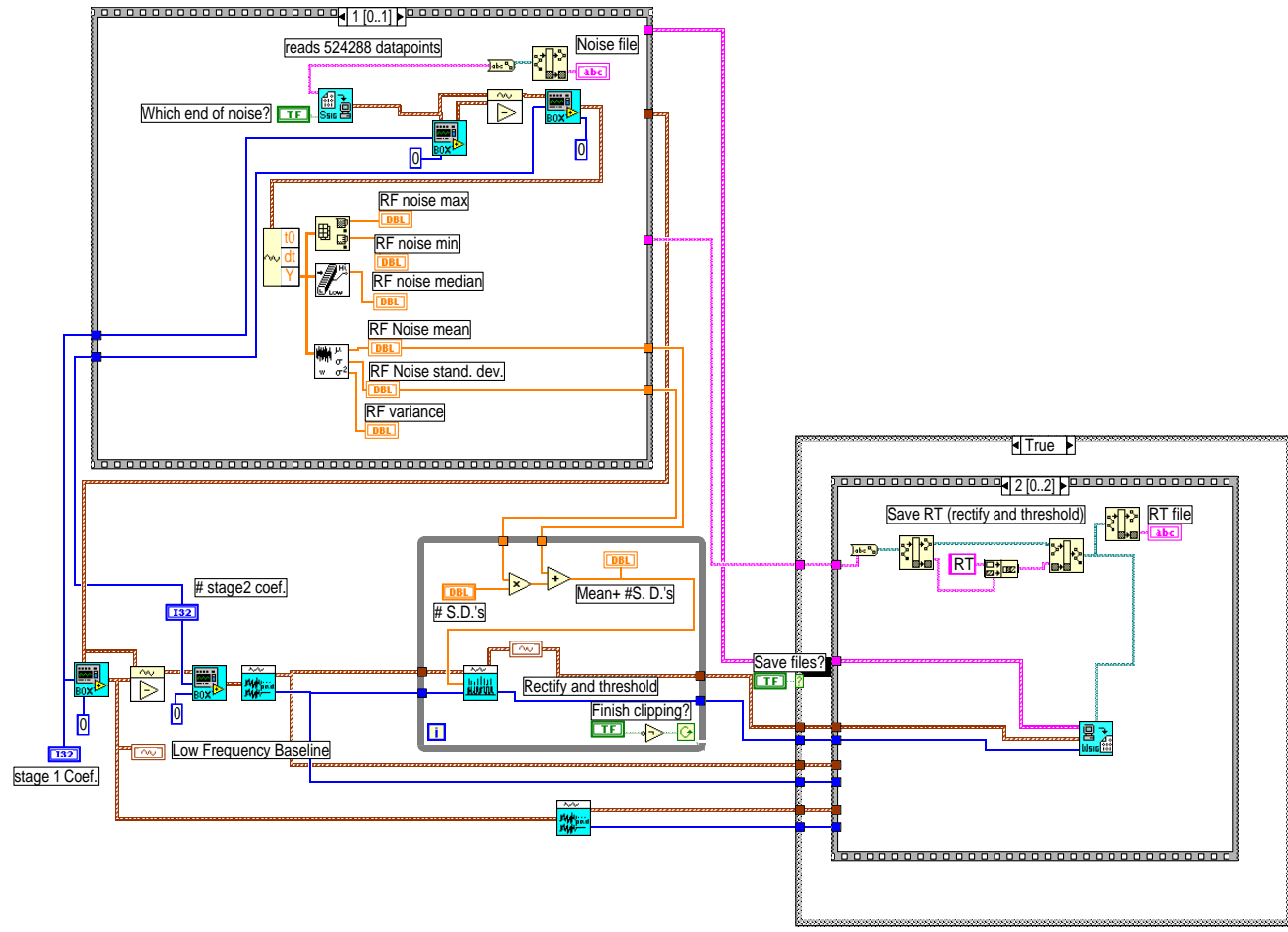
Signal File



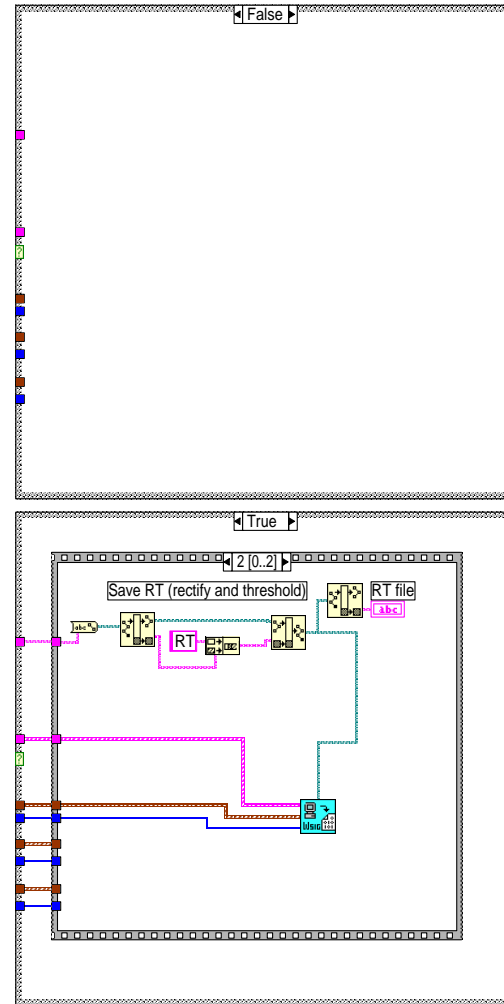
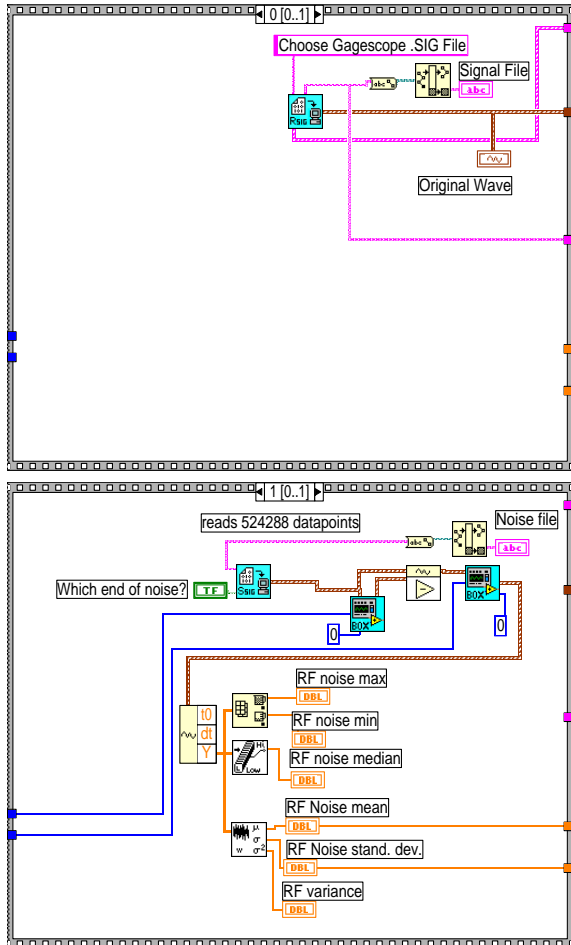
Noise file

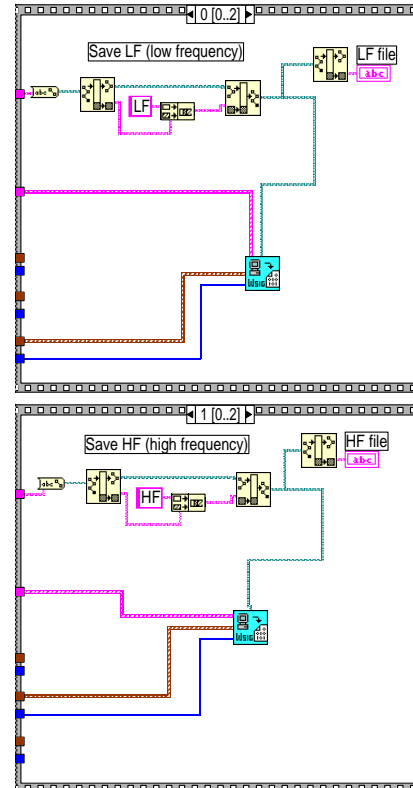
ViewPeakDetectSig.vi

Block Diagram

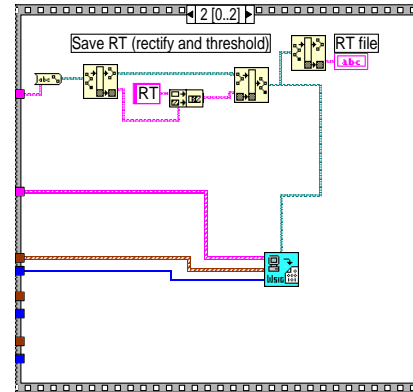


ViewPeakDetectSig.vi



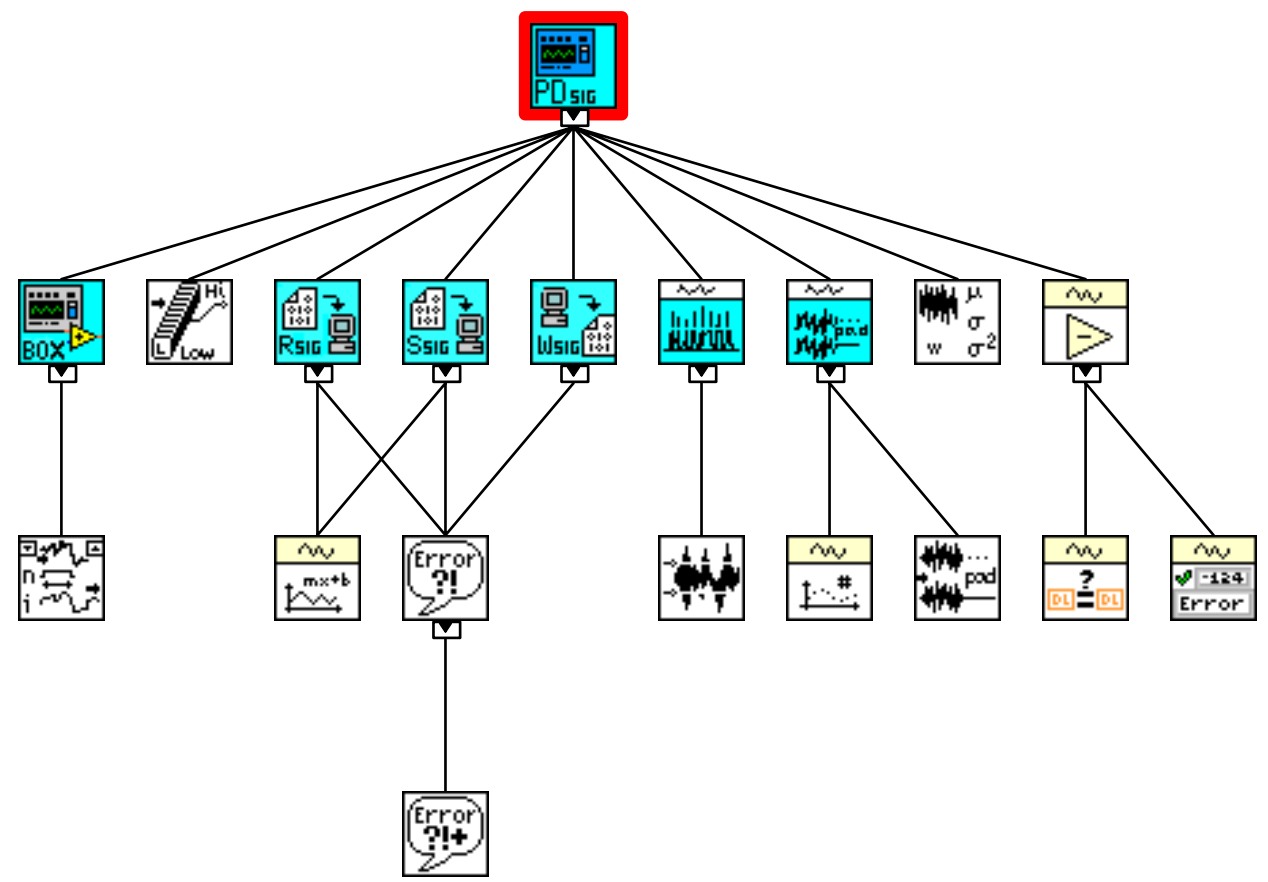


ViewPeakDetectSig.vi



ViewPeakDetectSig.vi

Position in Hierarchy



List of SubVIs**Subtract Waveforms.vi**

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Waveform\WDTOps.Ilb\Subtract Waveforms.vi

**BoxcarFilterSub.vi**

C:\Program Files\National Instruments\LabVIEW 6\user.lib\BoxcarFilterSub.vi

**MyReadGageSigSub.vi**

C:\Program Files\National Instruments\LabVIEW 6\user.lib\MyReadGageSigSub.vi

**MyWriteSigwFilenameSub.vi**

C:\Program Files\National Instruments\LabVIEW 6\user.lib\MyWriteSigwFilenameSub.vi

**Std Deviation and Variance.vi**

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Analysis\baseanly.Ilb\Std Deviation and Variance.vi

**SmartZeroPadderSub.vi**

C:\Program Files\National Instruments\LabVIEW 6\user.lib\SmartZeroPadderSub.vi

**RectifyandThresholdSub.vi**

C:\Program Files\National Instruments\LabVIEW 6\user.lib\RectifyandThresholdSub.vi

**MySampleGageSigNoiseSub.vi**

C:\Program Files\National Instruments\LabVIEW 6\user.lib\MySampleGageSigNoiseSub.vi

ViewPeakDetectSig.vi

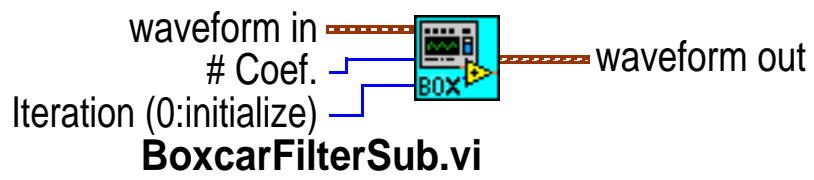


Median.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Analysis\baseanly.llb\Median.vi

BoxcarFilterSub.vi

Connector Pane



This SubVI performs a boxcar or moving average filter on the input waveform.

Front Panel

waveform in

t0	Y
08:00:00 PM	0.00
12/31/03	0.00
dt	0.00
1.000000	0.00
	0.00
	0.00

waveform out

t0	Y
08:00:00 PM	0.00
12/31/03	0.00
dt	0.00
1.000000	0.00
	0.00
	0.00

Coef.
0

Iteration (0:initialize)
0

Controls and Indicators



Coef.



Iteration (0:initialize)



waveform in



t0



dt



Y



dt



error

The error cluster contains error or warning information.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



status

The status boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**code**

The code number identifies the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**source**

The source string describes the origin of the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**hi res t0****attributes****waveform out****t0****dt****Y****dt**

**error**

The error cluster contains error or warning information.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**status**

The status boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

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**source**

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The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

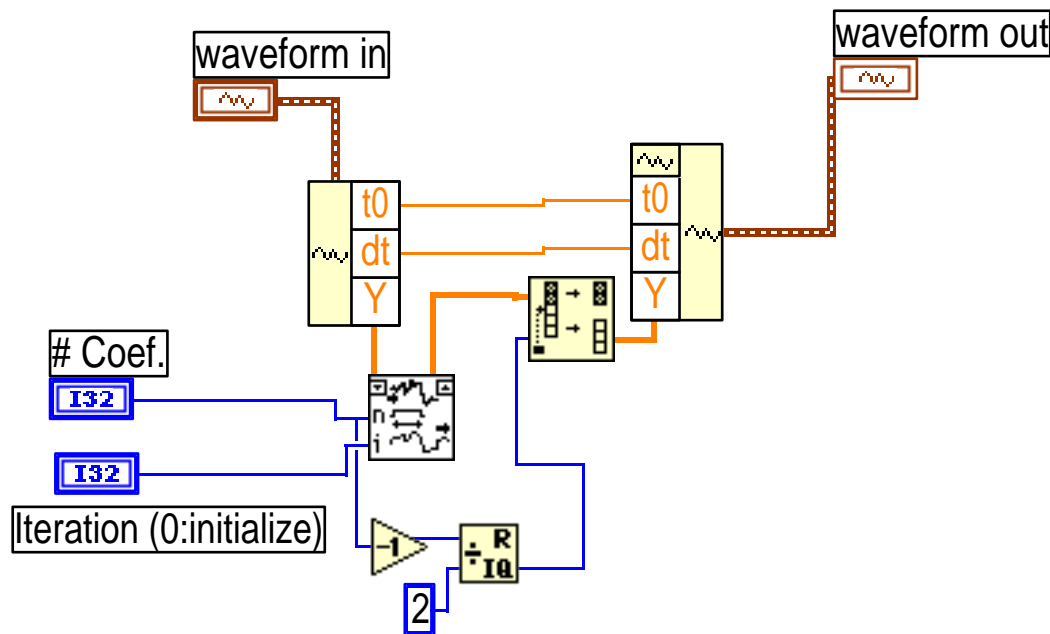
**hi res t0**



BoxcarFilterSub.vi

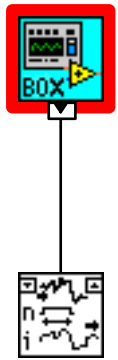


Block Diagram



BoxcarFilterSub.vi

Position in Hierarchy



BoxcarFilterSub.vi

List of SubVIs

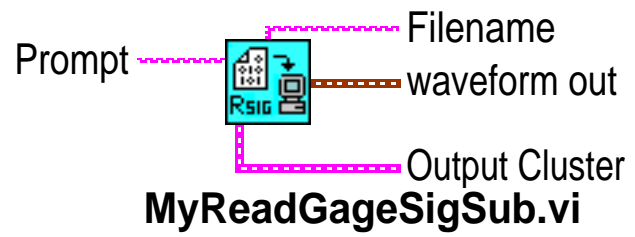


Moving Averager.vi

C:\Program Files\National Instruments\LabVIEW 6\user.lib\Moving Averager.vi

MyReadGageSigSub.vi

Connector Pane



Read binary Gagescope .SIG files including header.



MyReadGageSigSub.vi


Front Panel

The front panel of the MyReadGageSigSub.vi instrument includes the following elements:

- File Information:** Fields for filename, prompt, channel comment, file version, and channel name.
- Waveform Out:** A digital display showing ID (08:00:00 PM), dt (12/31/03), and a value of 1.000000.
- Control Knobs:** A grid of knobs for parameters such as sample rate, sample depth, sample offset, sample resolution, start address, end address, capture gain, and capture coupling.
- Triggering Controls:** Knobs for trigger source, level, slope, depth, address, time, date, coupling, gain, and probe.
- Advanced Settings:** Knobs for external trigger source, clock rate, file options, version, EEPROM, hardware, multi-record, and record depth.
- Output Cluster:** A vertical stack of 20 string indicators, each currently displaying '0'. Below this are two float indicators, each displaying '0.00'.
- Notes:** A text box on the right side providing instructions on how to use the 'imped ch' parameter and how to calculate output voltages from integer signal data.


















Controls and Indicators

-  **Prompt**
-  **File Version**
-  **channel name**
-  **channel comment**
-  **capt coupling**
-  **current mem ptr**
-  **start addr**
-  **trig addr**
-  **end addr**
-  **trig time**
-  **trig date**
-  **trig coupling**
-  **trig gain**
-  **probe**
-  **board type**

- I16** 12bit flag
- I16** mult record
- I16** trig probe
- I16** sample offset
- I16** sample res
- I16** sample bits
- U32** extend trig time
- I16** imped ch a
- I16** imped ch b
- SGL** ext. clock rate
- I32** file options
- U16** version
- U32** eeprom
- U32** trig hardware
- U32** record depth
- SGL** external tbs
- I32** EOF offset
- I16** sample rate

MyReadGageSigSub.vi

-  **Op mode**
-  **trig depth**
-  **trig slope**
-  **trig source**
-  **trig level**
-  **sample depth**
-  **capt gain**
-  **inverted data**
-  **Filename**
-  **waveform out**
-  **t0**
-  **dt**
-  **Y**
-  **dt**
-  **error**

The error cluster contains error or warning information.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



status

The status boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



code

The code number identifies the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



source

The source string describes the origin of the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



hi res t0



attributes



Output Cluster



MyReadGageSigSub.vi





MyReadGageSigSub.vi

I16

I16

I16

I16

U16

I16

I16

I16

I16

I16

I16

U32

I16

I16

SGL

type (float,single)

SGL

type (float,single)

I32

U16



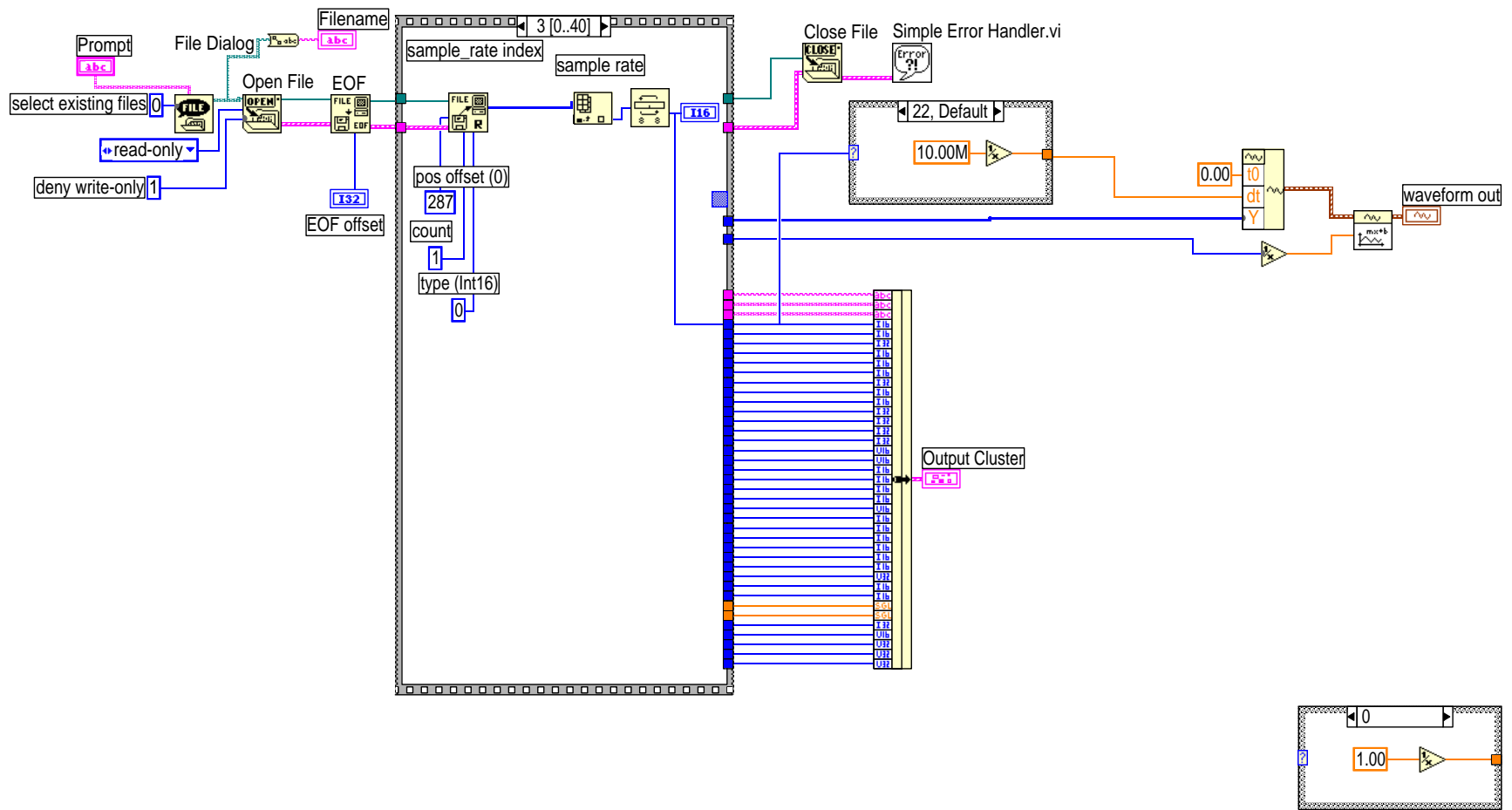
MyReadGageSigSub.vi

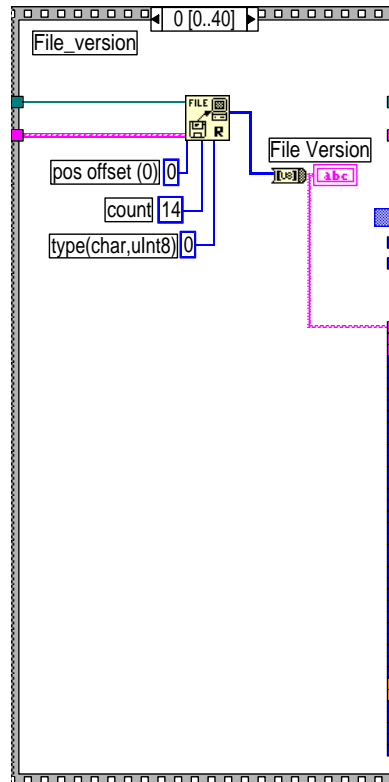
U32

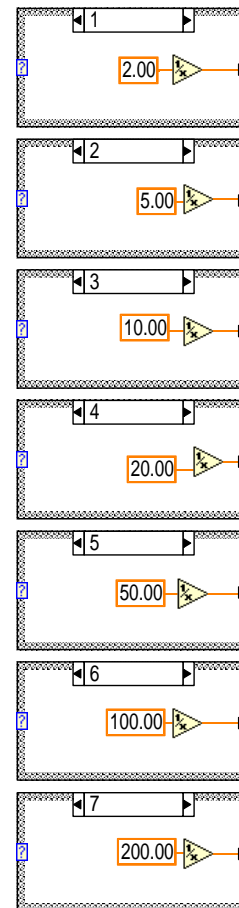
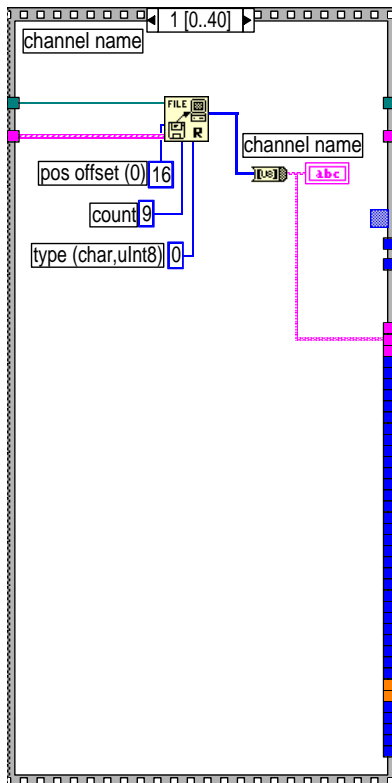
U32

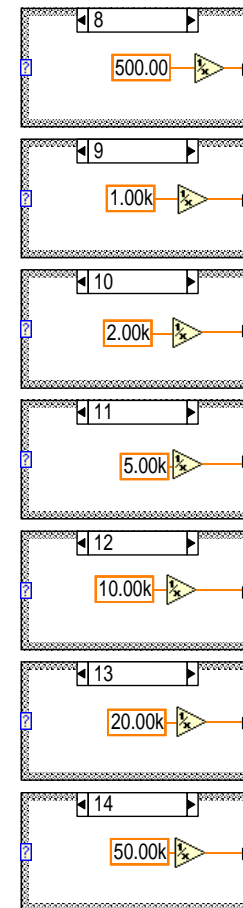
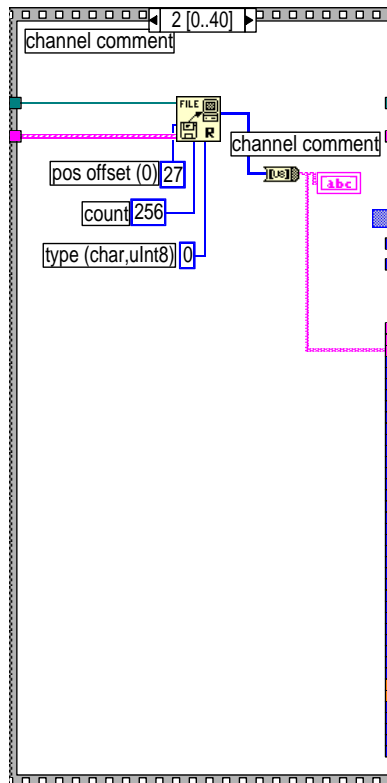
U32

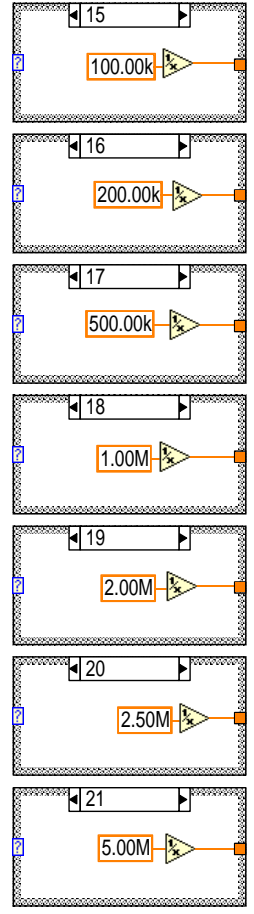
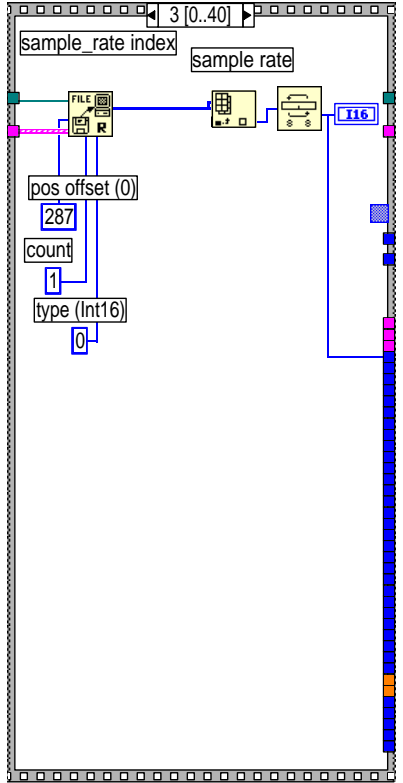
Block Diagram

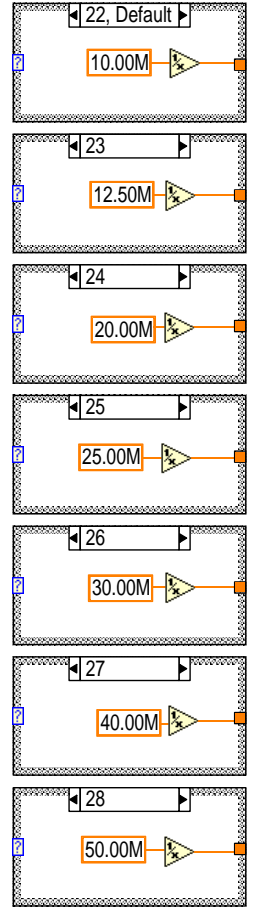
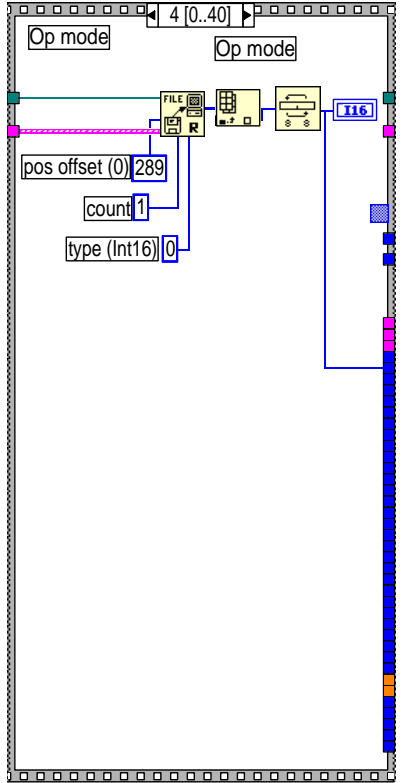


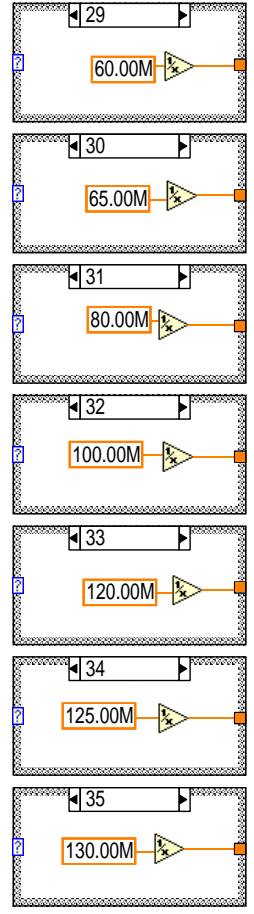
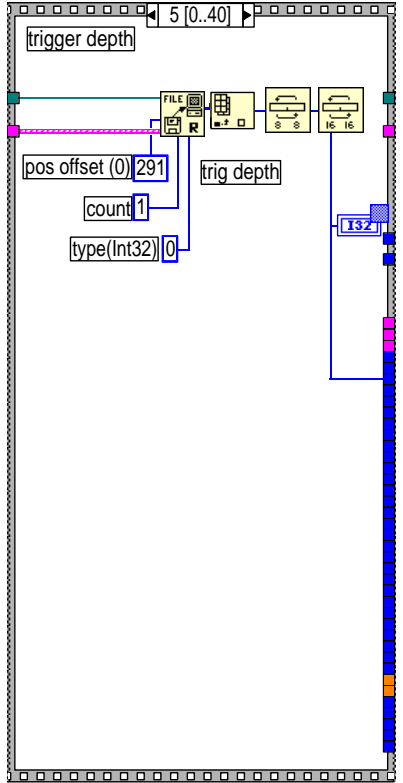


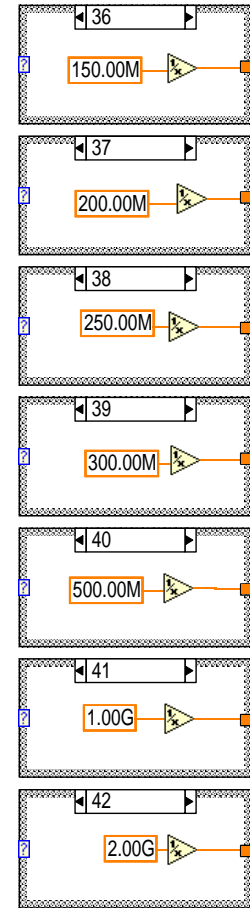
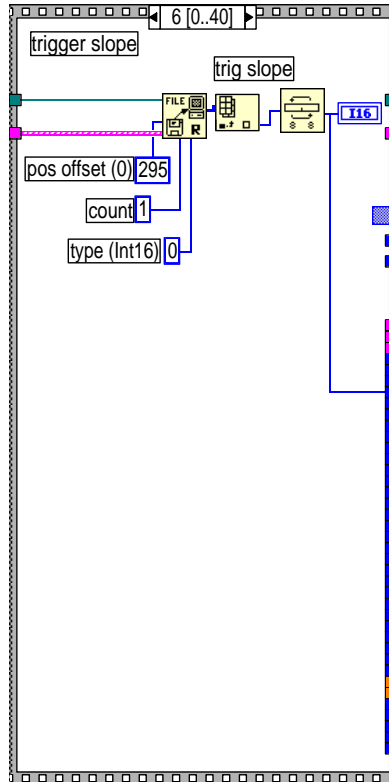


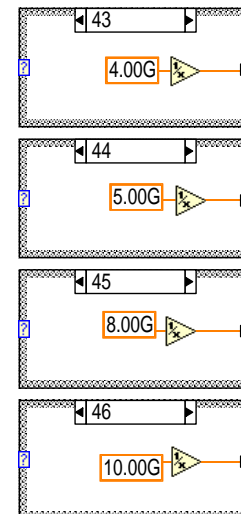
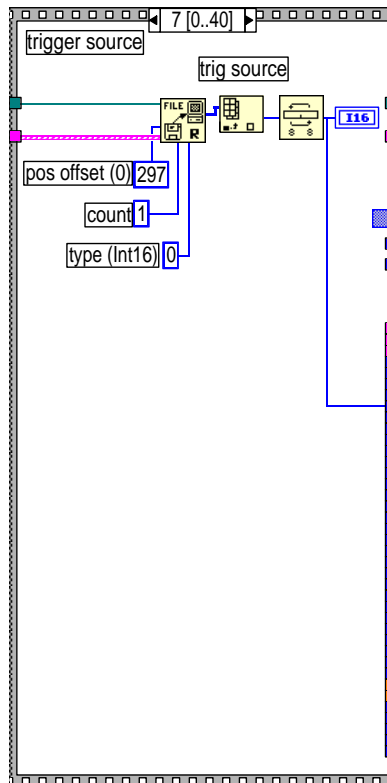


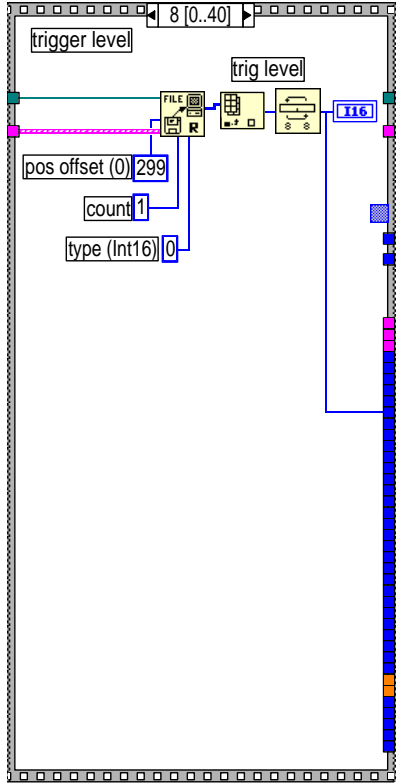


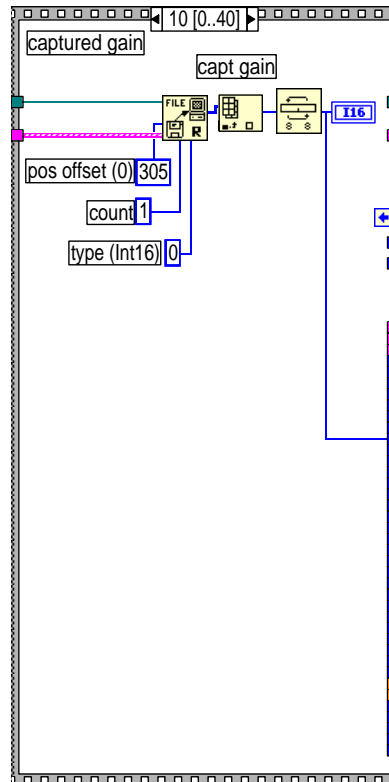


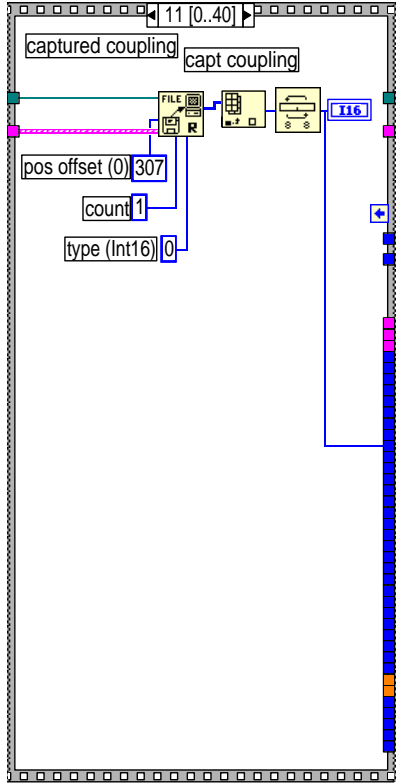


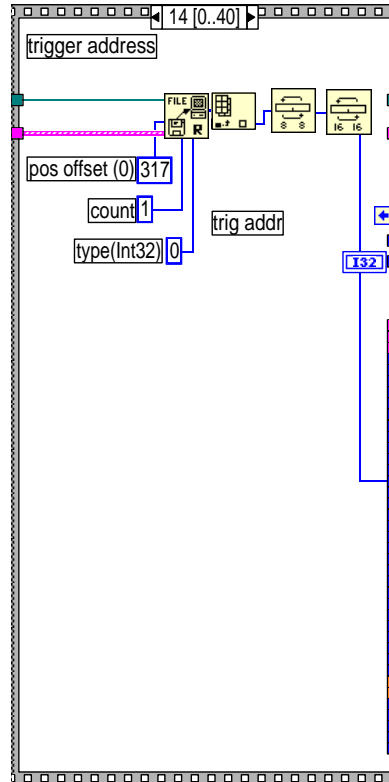


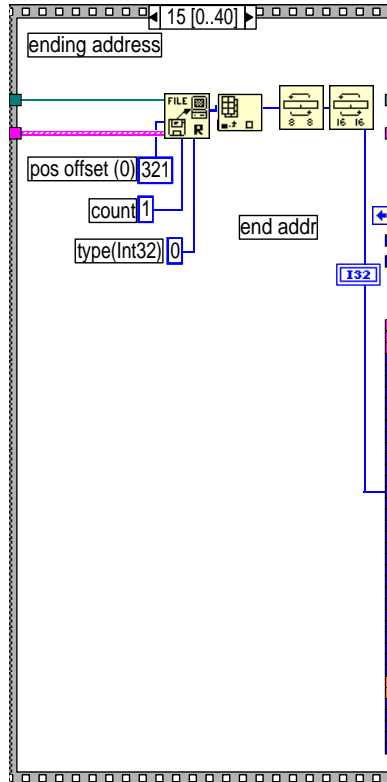


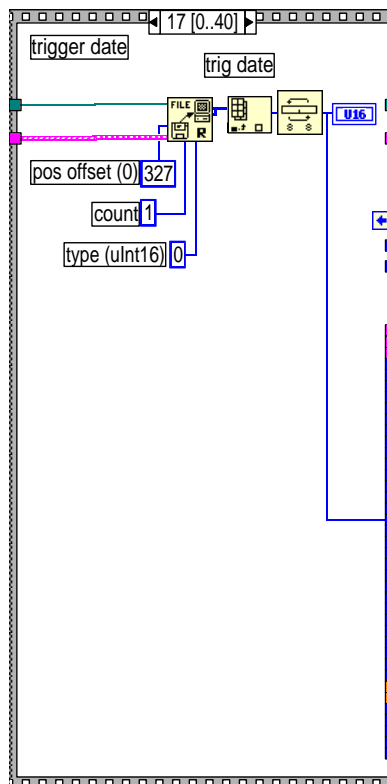


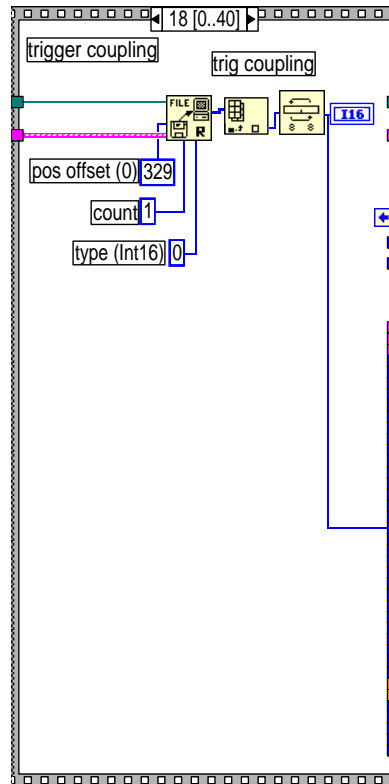


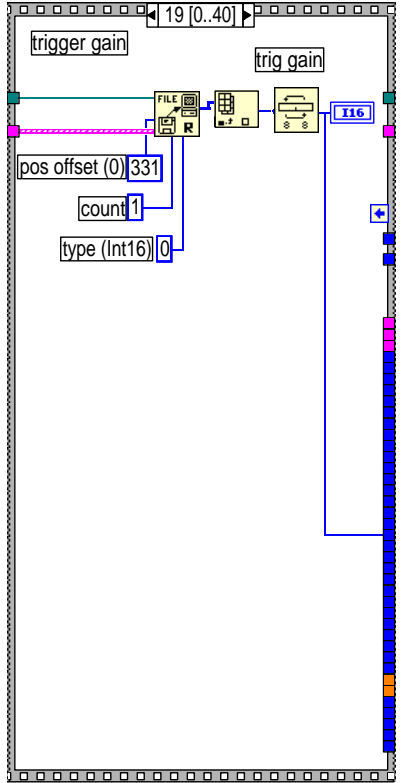


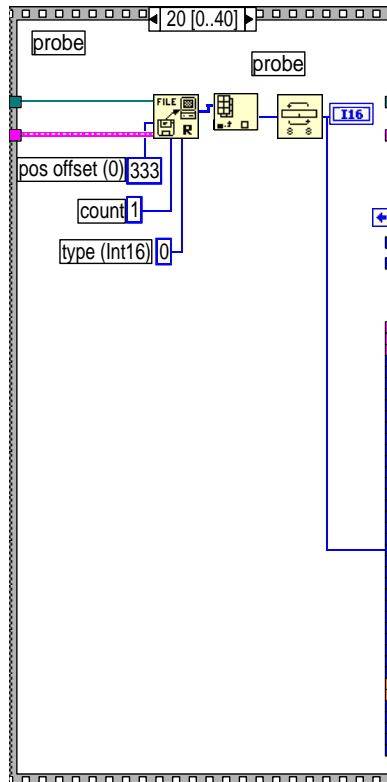


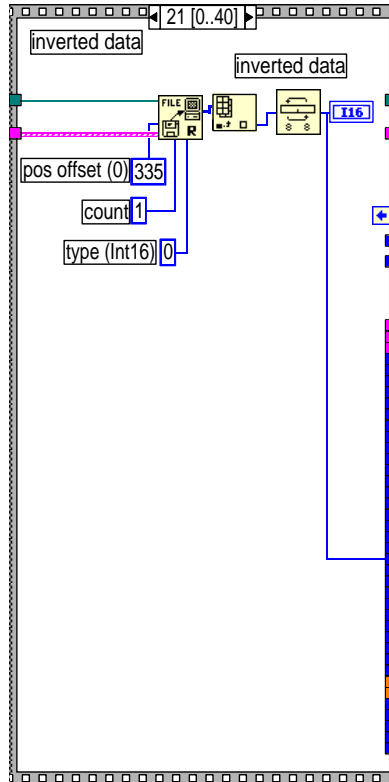


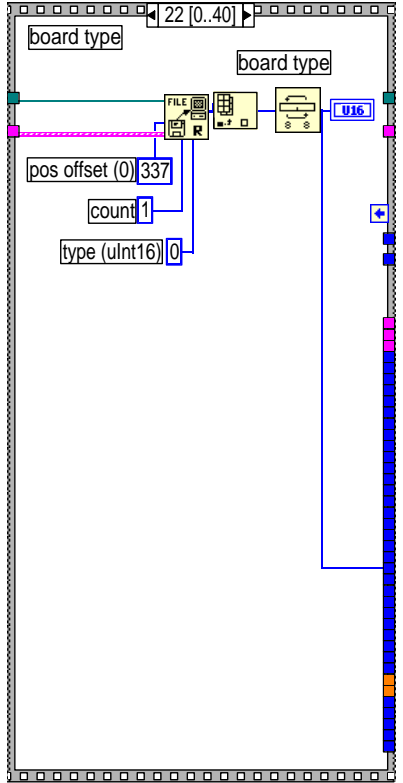


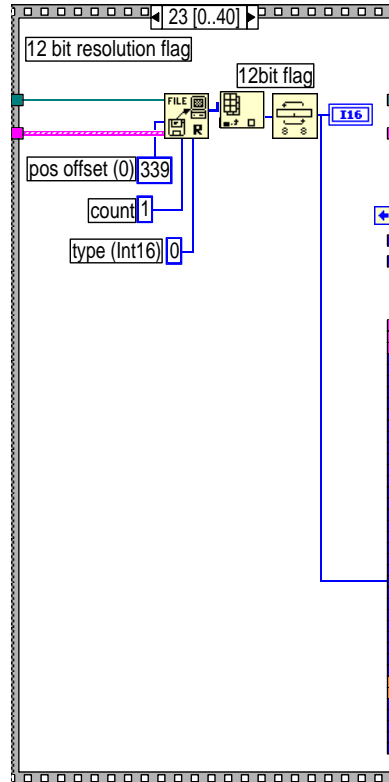


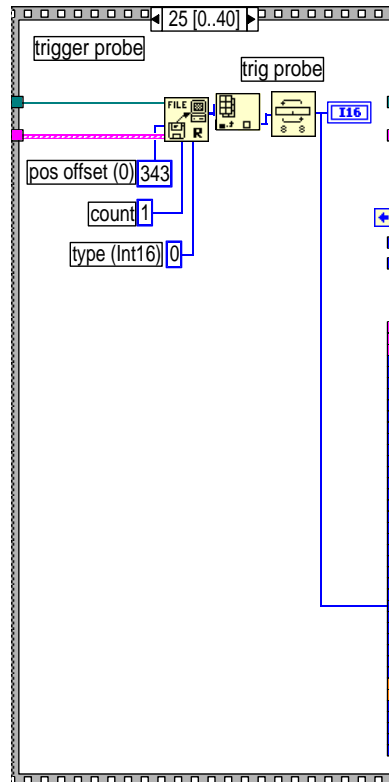


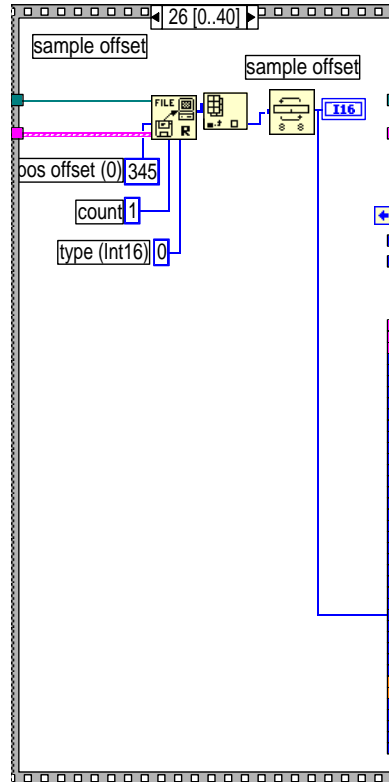


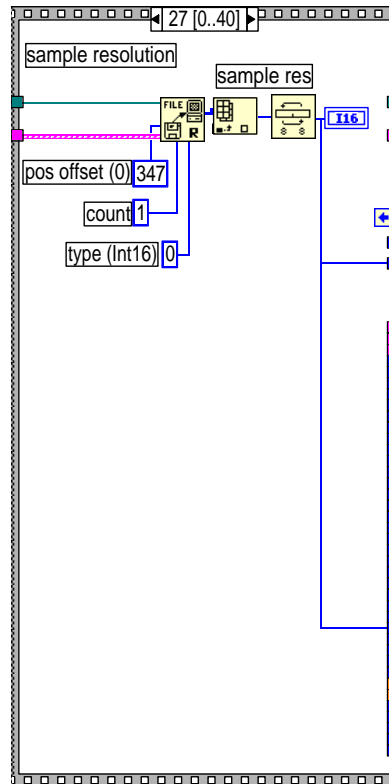


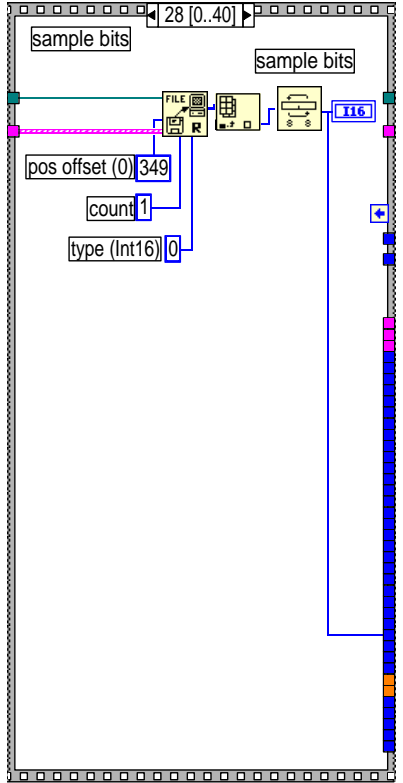


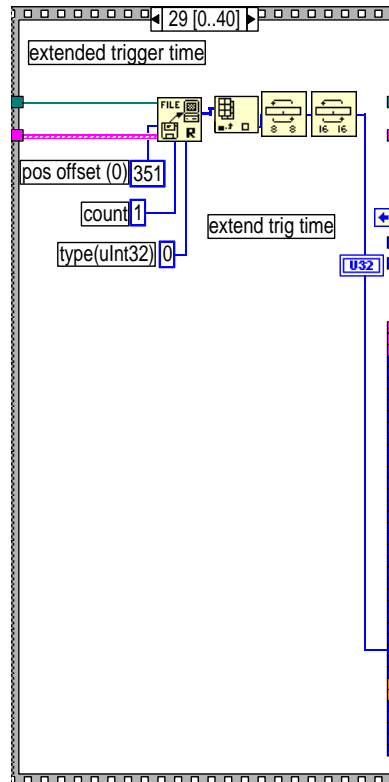


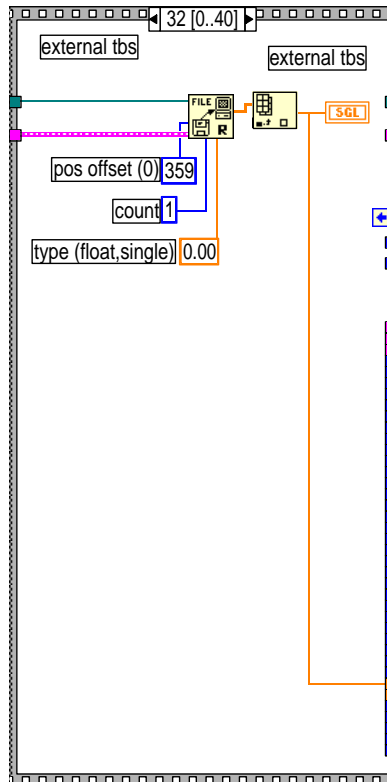


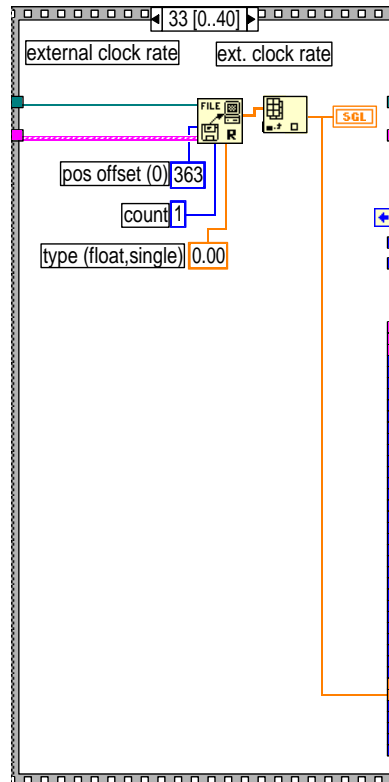


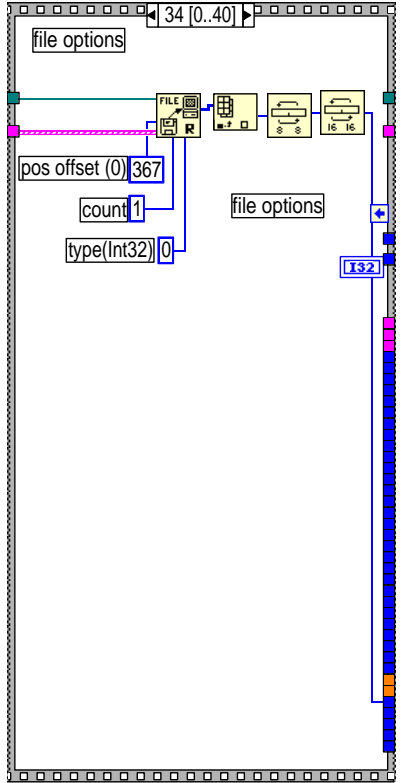


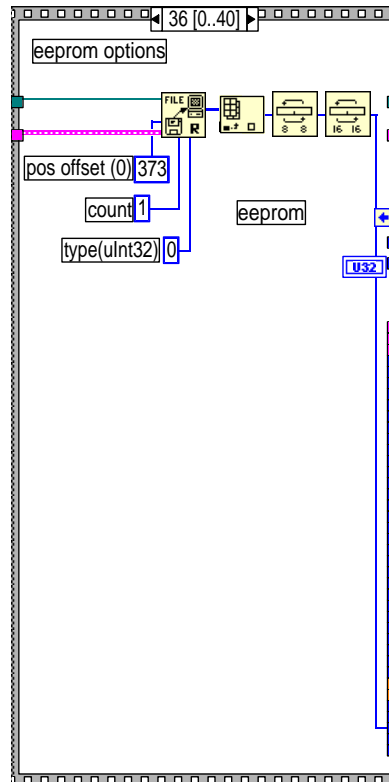


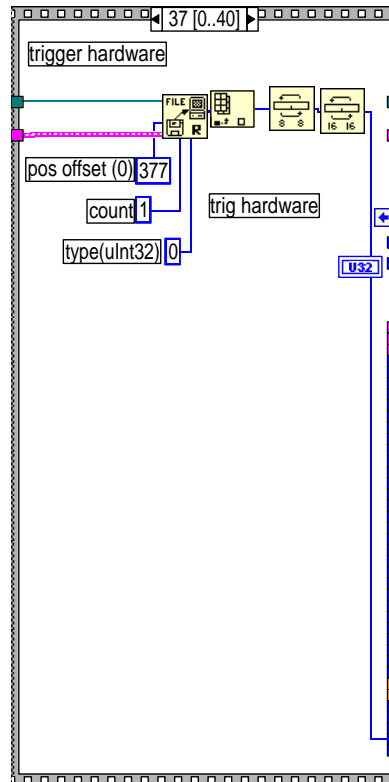


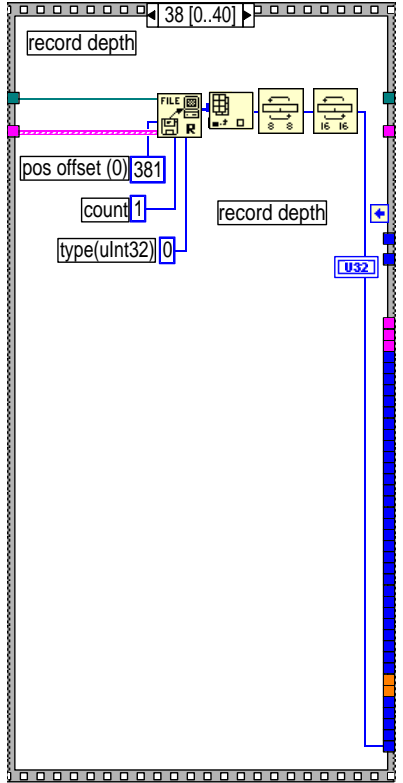


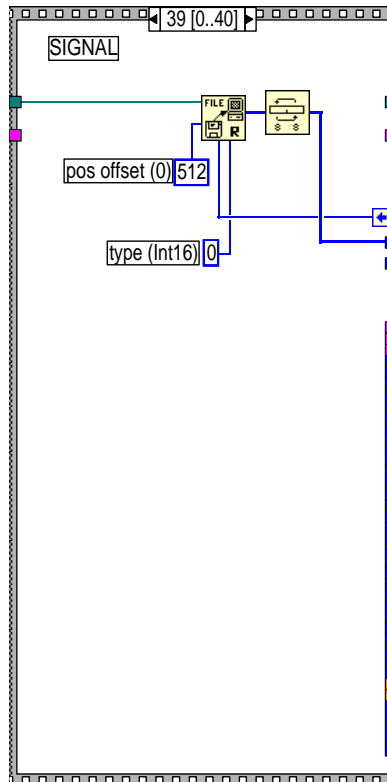


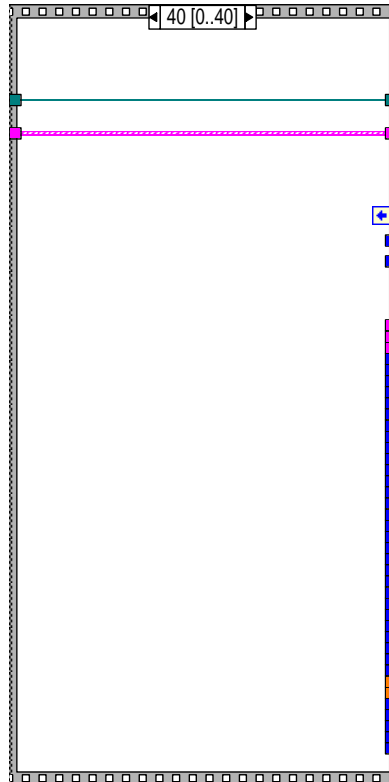




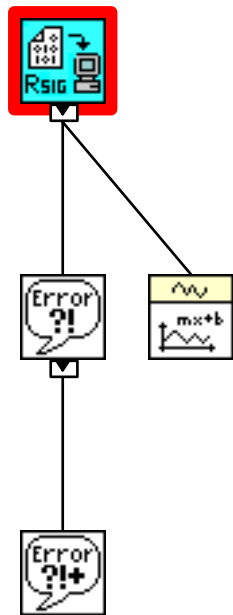








Position in Hierarchy





List of SubVIs



Simple Error Handler.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Utility\error.lib\Simple Error

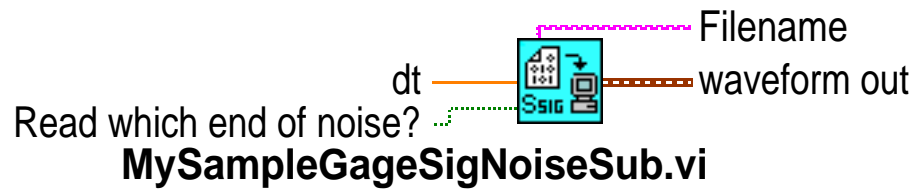


Waveform Scale and Offset.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Waveform\WDTOps.lib\Waveform Scale and Offset.vi

MySampleGageSigNoiseSub.vi

Connector Pane



Read binary Gagescope .SIG files including header. It reads 524288 (2^{19}) datapoints from the either the front or back end of the file.

Front Panel

Filename	<input type="text"/>	<input type="text" value="0"/>	trig source
channel comment	<input type="text"/>	EOF offset <input type="text" value="0"/>	trig level
File Version	<input type="text" value="0"/>	sample rate <input type="text" value="0"/>	trig slope <input type="text" value="0"/>
channel name	<input type="text" value="0"/>	sample depth <input type="text" value="0"/>	trig depth <input type="text" value="0"/>
waveform out	<input type="text" value="0"/>	sample offset <input type="text" value="0"/>	trig addr <input type="text" value="0"/>
t0	<input type="text" value="0.00"/>	sample res <input type="text" value="0"/>	trig time <input type="text" value="0"/>
08:00:00 PM	<input type="text" value="0.00"/>	sample bits <input type="text" value="0"/>	trig date <input type="text" value="0"/>
12/31/03	<input type="text" value="0.00"/>	start addr <input type="text" value="0"/>	trig coupling <input type="text" value="0"/>
dt	<input type="text" value="0.00"/>	end addr <input type="text" value="0"/>	trig gain <input type="text" value="0"/>
1.000000	<input type="text" value="0.00"/>	capt gain <input type="text" value="0"/>	extend trig time <input type="text" value="0"/>
	<input type="text" value="0.00"/>	capt coupling <input type="text" value="0"/>	trig probe <input type="text" value="0"/>
	<input type="text" value="0.00"/>		


<input type="text" value="0.00"/>	imped ch a	<input type="text" value="0.00"/>	external tbs
<input type="text" value="0.00"/>	imped ch b	<input type="text" value="0.00"/>	ext. clock rate
<input type="text" value="0"/>	Op mode	<input type="text" value="0"/>	file options
<input type="text" value="0"/>	probe	<input type="text" value="0"/>	version
<input type="text" value="0"/>	inverted data	<input type="text" value="0"/>	eprom
<input type="text" value="0"/>	board type	<input type="text" value="0"/>	trig hardware
<input type="text" value="0"/>	12bit flag	<input type="text" value="0"/>	mult record
<input type="text" value="0"/>	current mem ptr	<input type="text" value="0"/>	record depth

Read which end of noise?
 Front back

dt
1.00E-7

Notes: Ignore "imped ch b" for single channel files created by GS3.5 from 1610 data acquisitions. "Imped ch a" is correct for the channel in the file. To calculate output voltages from integer signal data (S), use the captured gain amplitude (C, see captured gain index table) and sample resolution. For example, +/- 5V (C=5) and 16 bit (R = -32768) ==> Voltage = C*S/R.

Controls and Indicators

-  **Read which end of noise?**
-  **dt**
-  **File Version**
-  **channel name**
-  **channel comment**
-  **capt coupling**
-  **current mem ptr**
-  **start addr**
-  **trig addr**
-  **end addr**
-  **trig time**
-  **trig date**
-  **trig coupling**
-  **trig gain**
-  **probe**
-  **board type**



MySampleGageSigNoiseSub.vi

- I16** 12bit flag
- I16** mult record
- I16** trig probe
- I16** sample offset
- I16** sample res
- I16** sample bits
- U32** extend trig time
- I16** imped ch a
- I16** imped ch b
- SGL** ext. clock rate
- I32** file options
- U16** version
- U32** eeprom
- U32** trig hardware
- U32** record depth
- SGL** external tbs
- I32** EOF offset
- I16** sample rate

MySampleGageSigNoiseSub.vi

 **Op mode**

 **trig depth**

 **trig slope**

 **trig source**

 **trig level**

 **sample depth**

 **capt gain**

 **inverted data**

 **Filename**

 **waveform out**

 **t0**

 **dt**

 **Y**

 **dt**

 **error**

The error cluster contains error or warning information.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



status

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code

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source

The source string describes the origin of the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



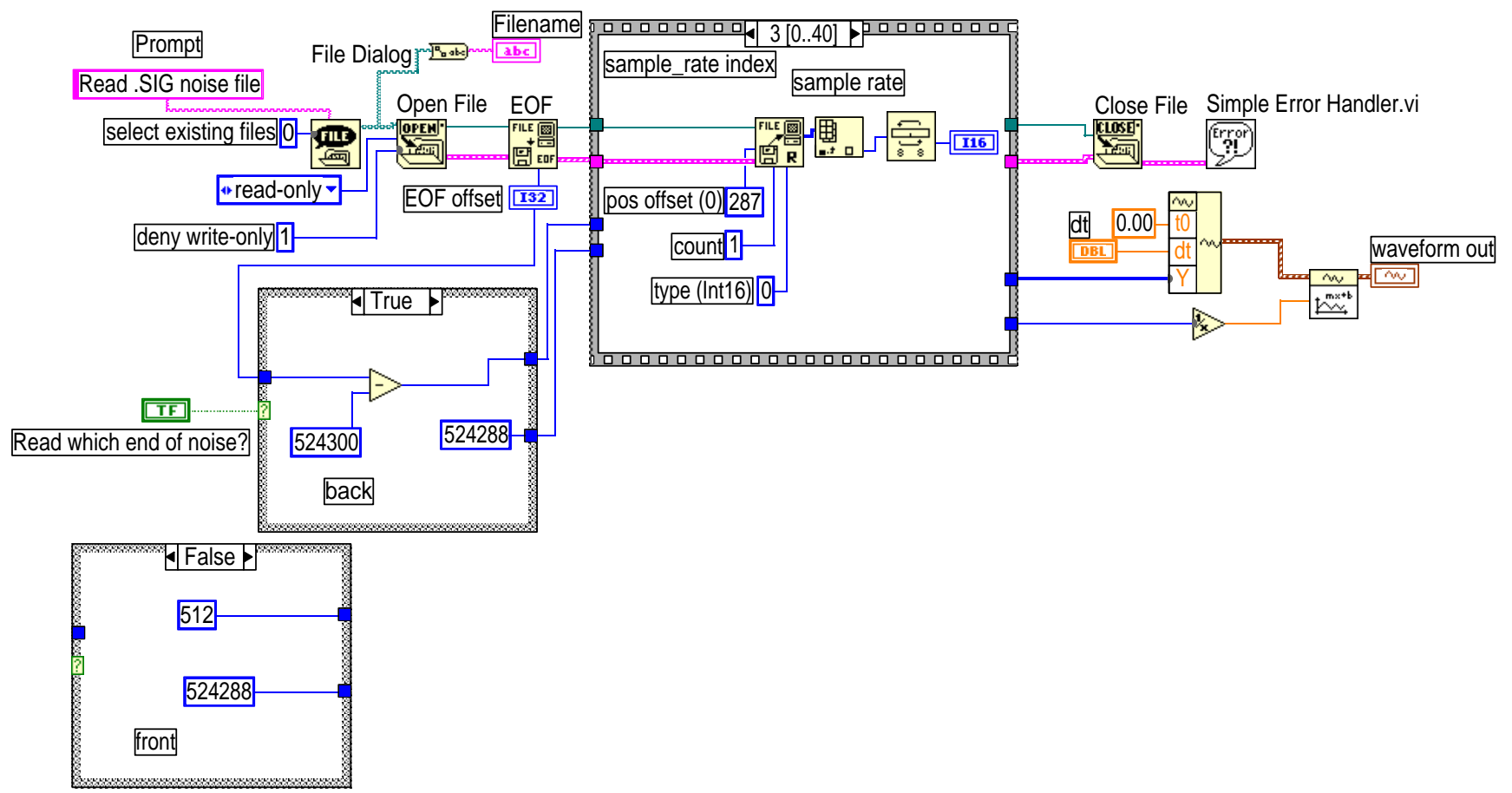
hi res t0

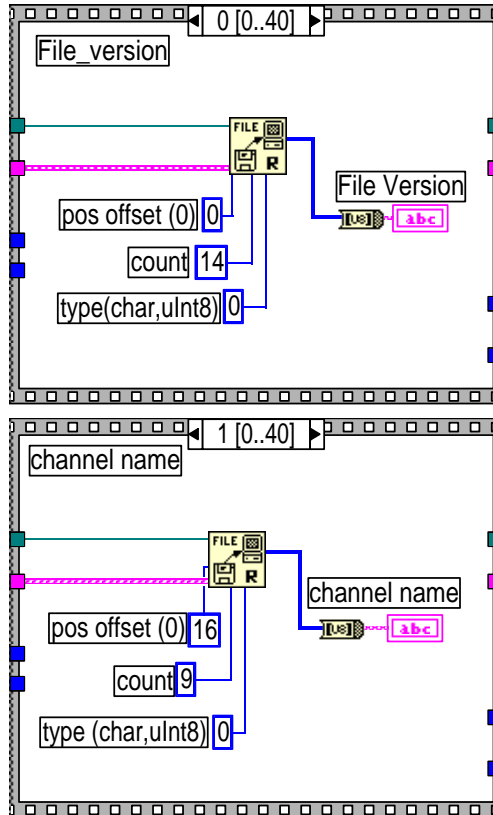
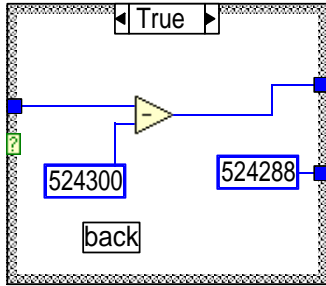


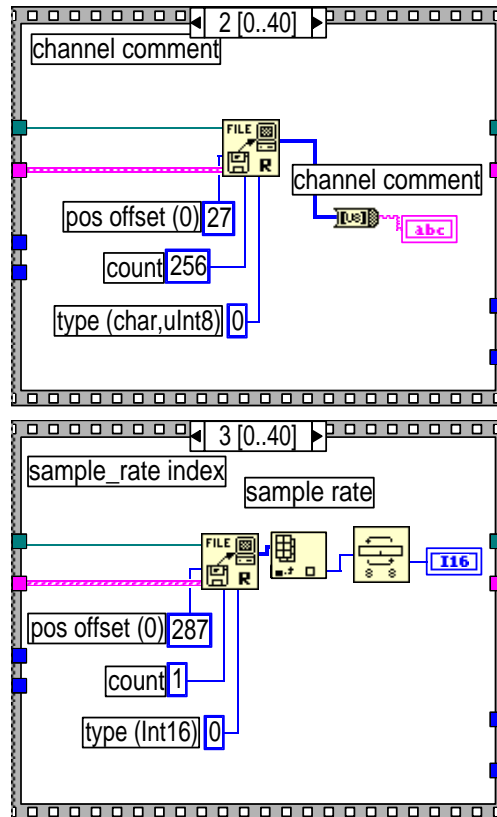
attributes

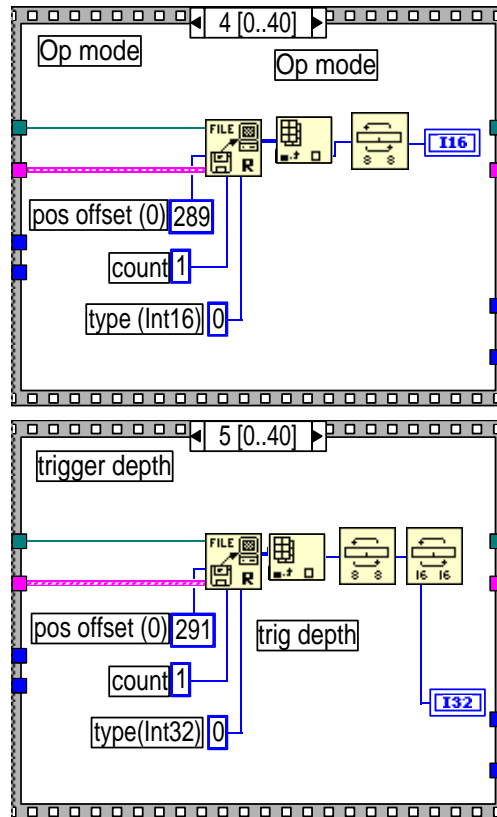
MySampleGageSigNoiseSub.vi

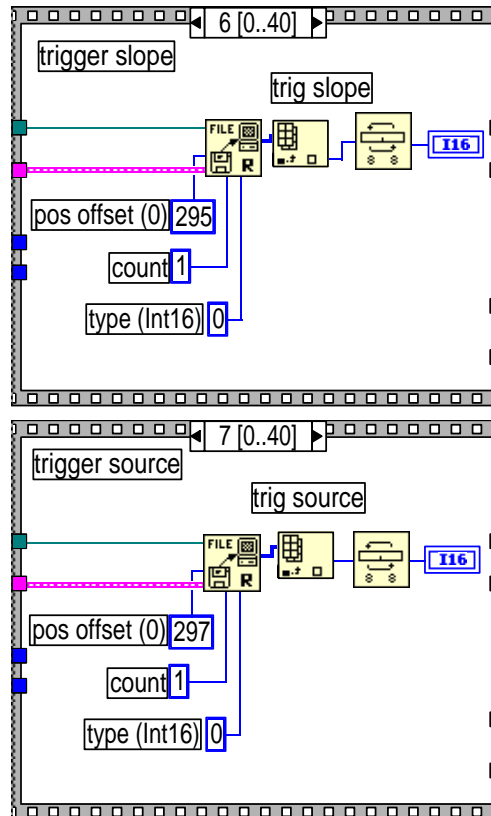
Block Diagram

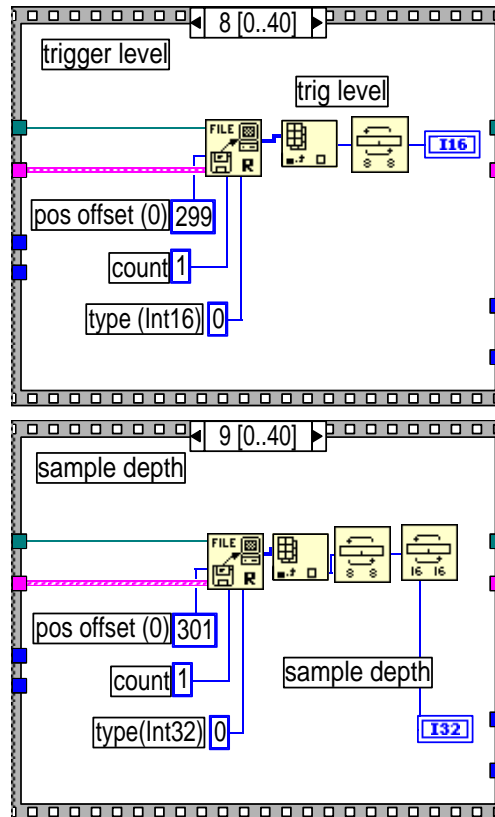


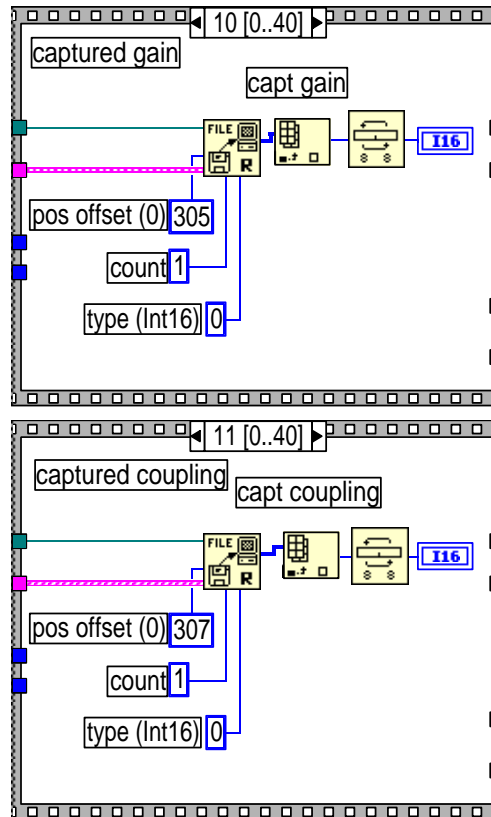


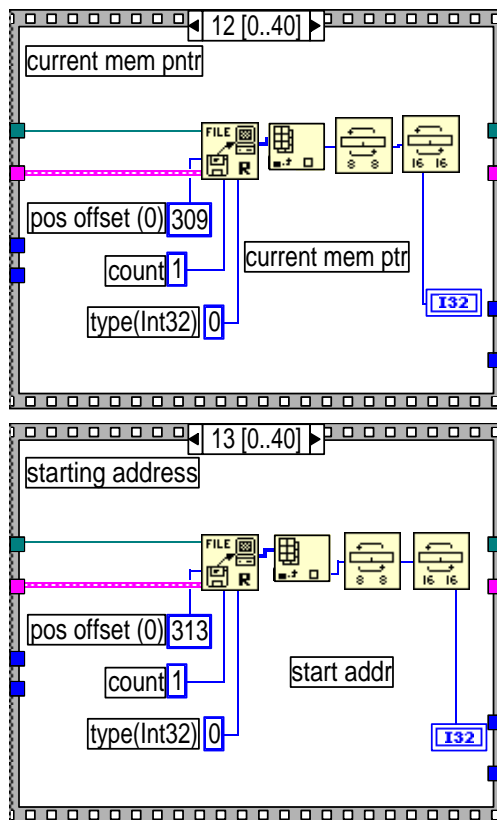


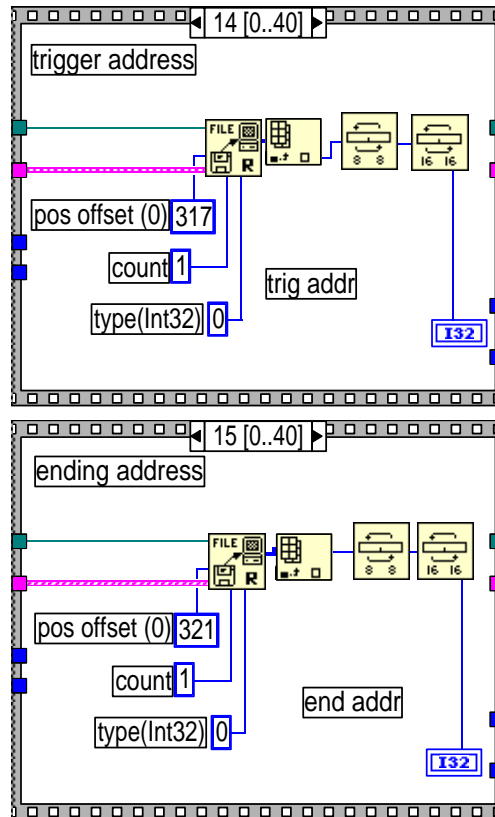


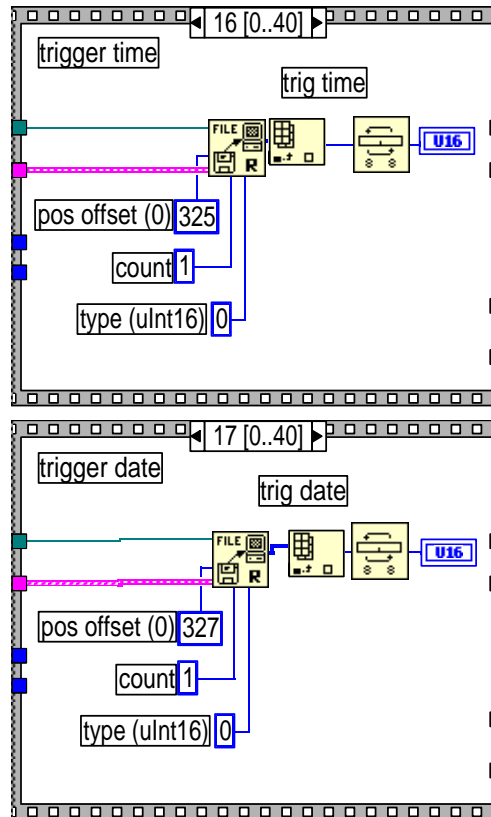


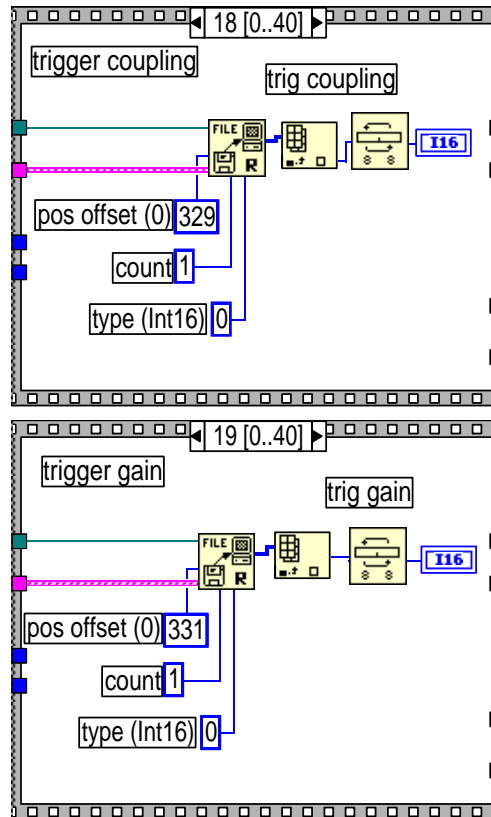


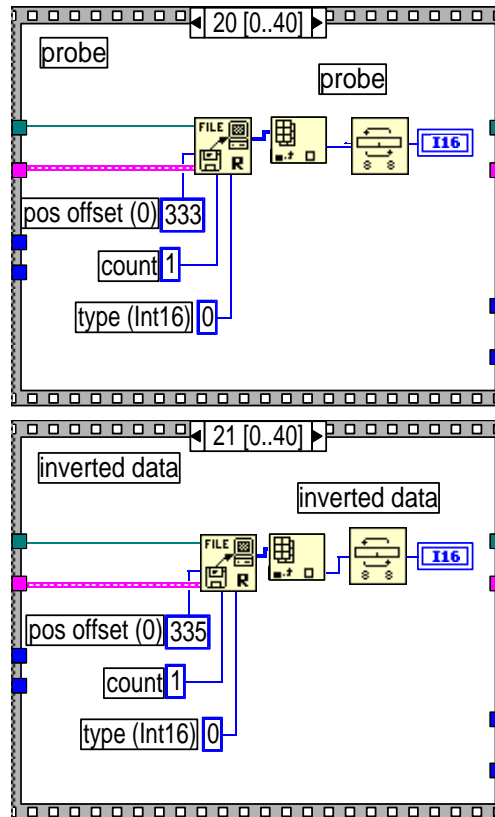


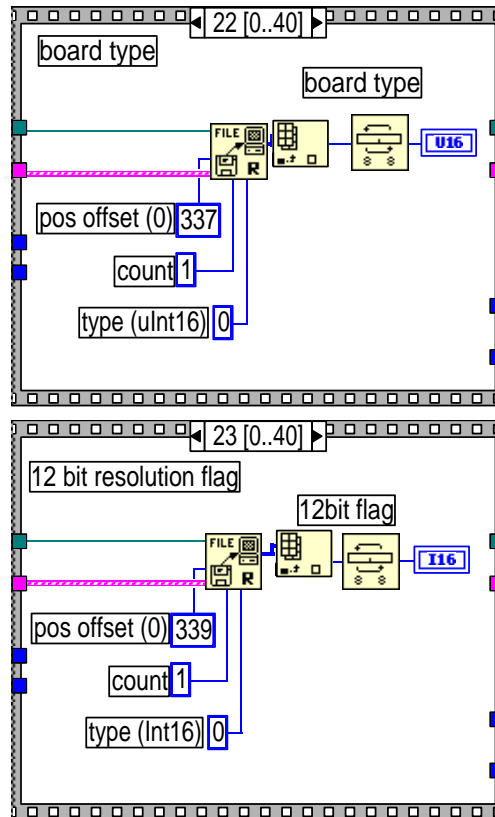


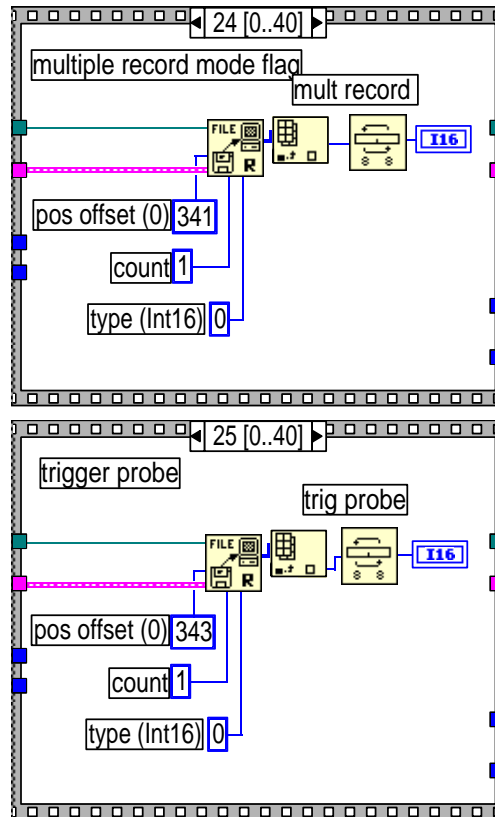


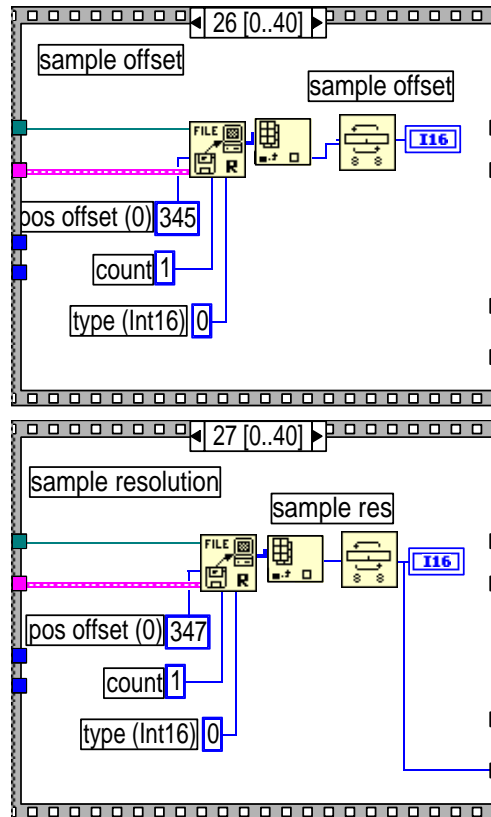


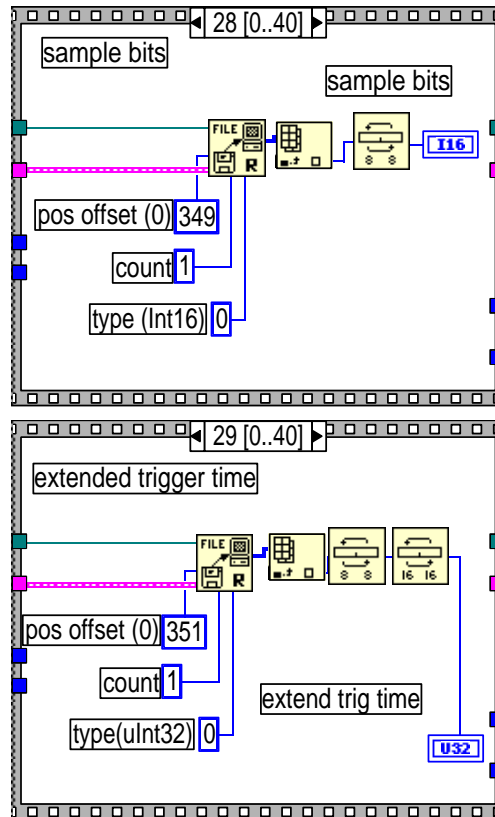


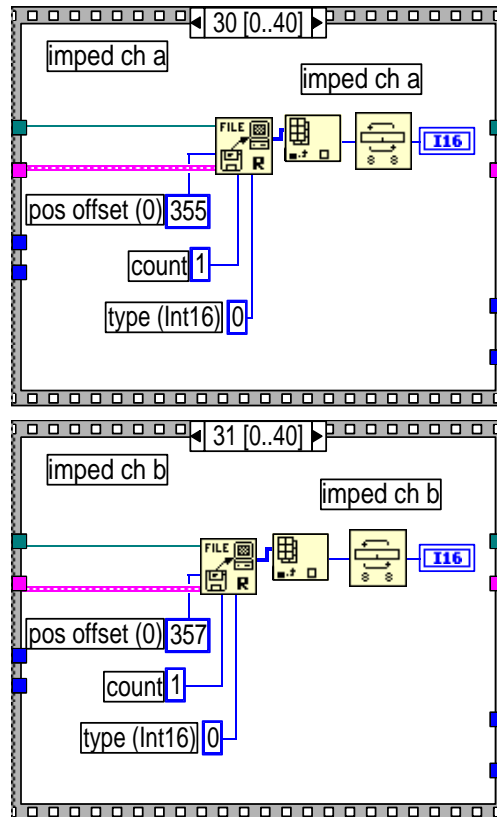


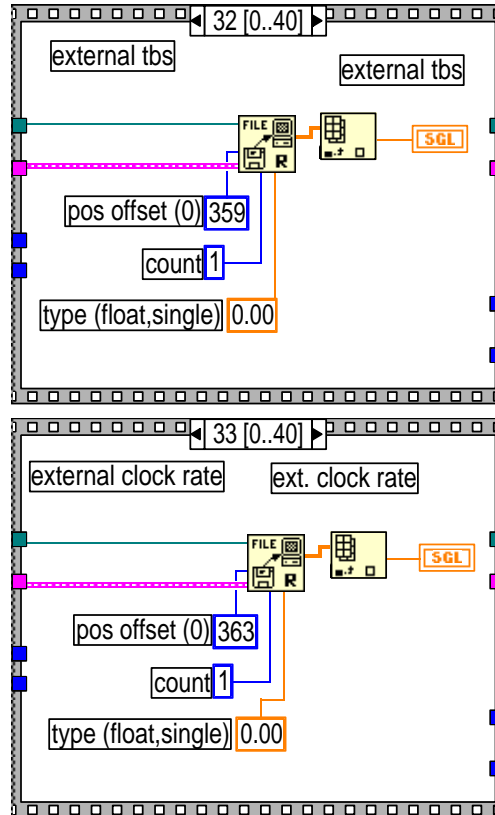


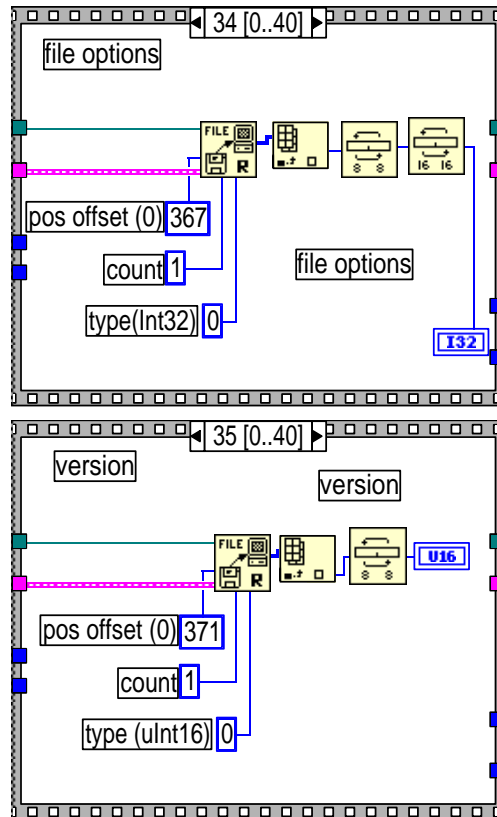


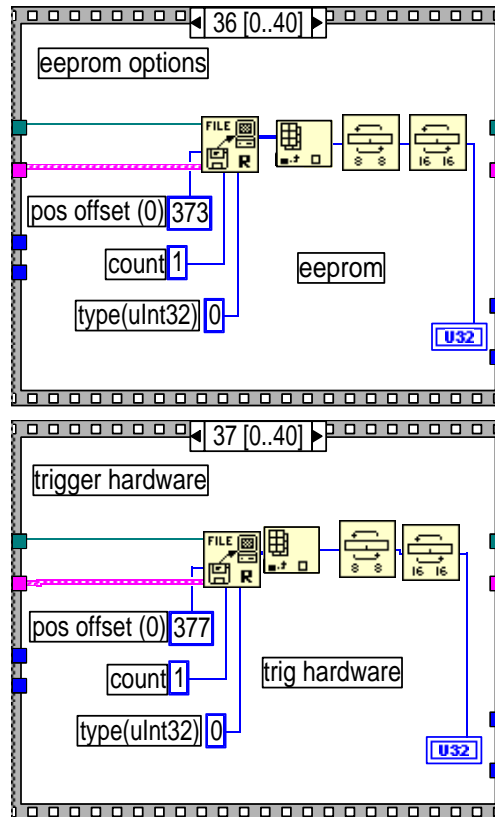


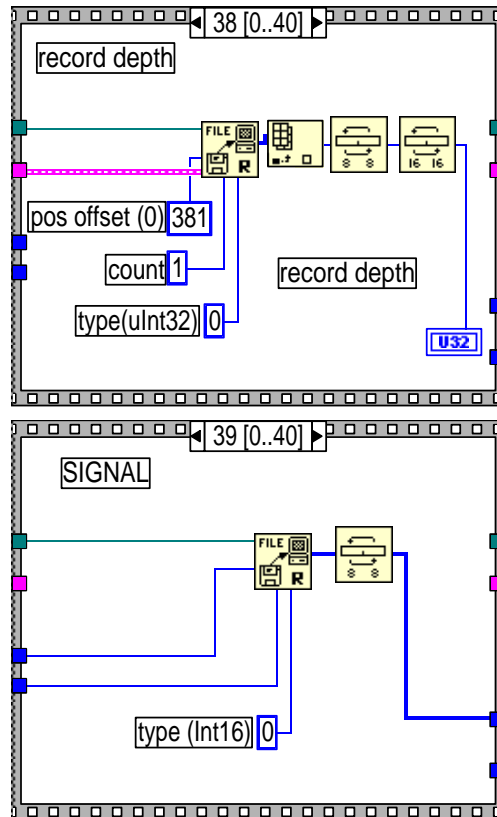


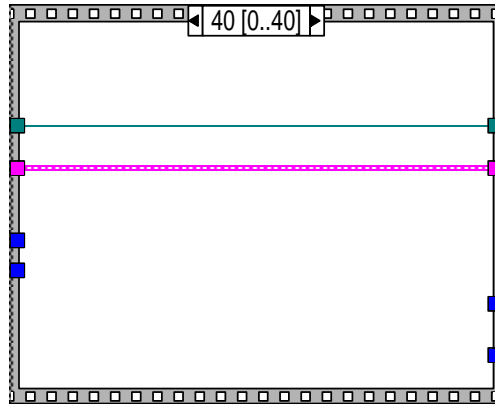




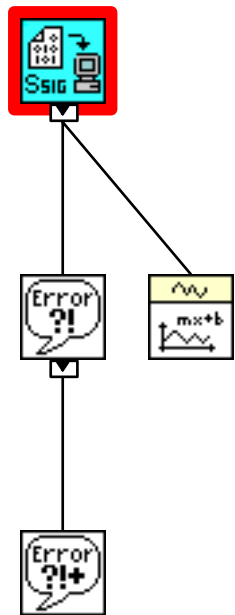








Position in Hierarchy





List of SubVIs



Simple Error Handler.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Utility\error.llb\Simple Error

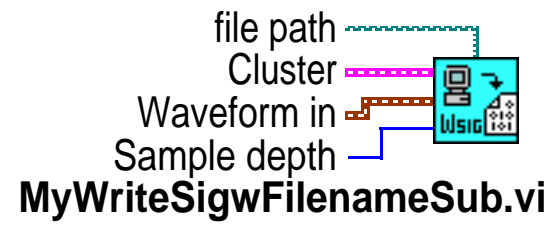


Waveform Scale and Offset.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Waveform\WDTOps.llb\Waveform Scale and Offset.vi
















MyWriteSigwFilenameSub.vi

Connector Pane



Write .SIG file (w/header) using input waveform and pathname.

Controls and Indicators

-  **Cluster**
-  **string**
-  **string**
-  **string**
-  **I16**
-  **I16**
-  **I32**
-  **I16**
-  **I16**
-  **I16**
-  **I32**
-  **I16**
-  **I16**
-  **I32**
-  **I32**



MyWriteSigwFilenameSub.vi

I32

I32

U16

U16

I16

I16

I16

I16

U16

I16

I16

I16

I16

I16


I16


U32

I16

I16

MyWriteSigwFilenameSub.vi

 **type (float,single)**

 **type (float,single)**

 **I32**

 **U16**

 **U32**

 **U32**

 **U32**

 **Waveform in**

 **t0**

 **dt**

 **Y**

 **dt**

 **error**

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hi res t0



attributes



Sample depth



MyWriteSigwFilenameSub.vi



file path

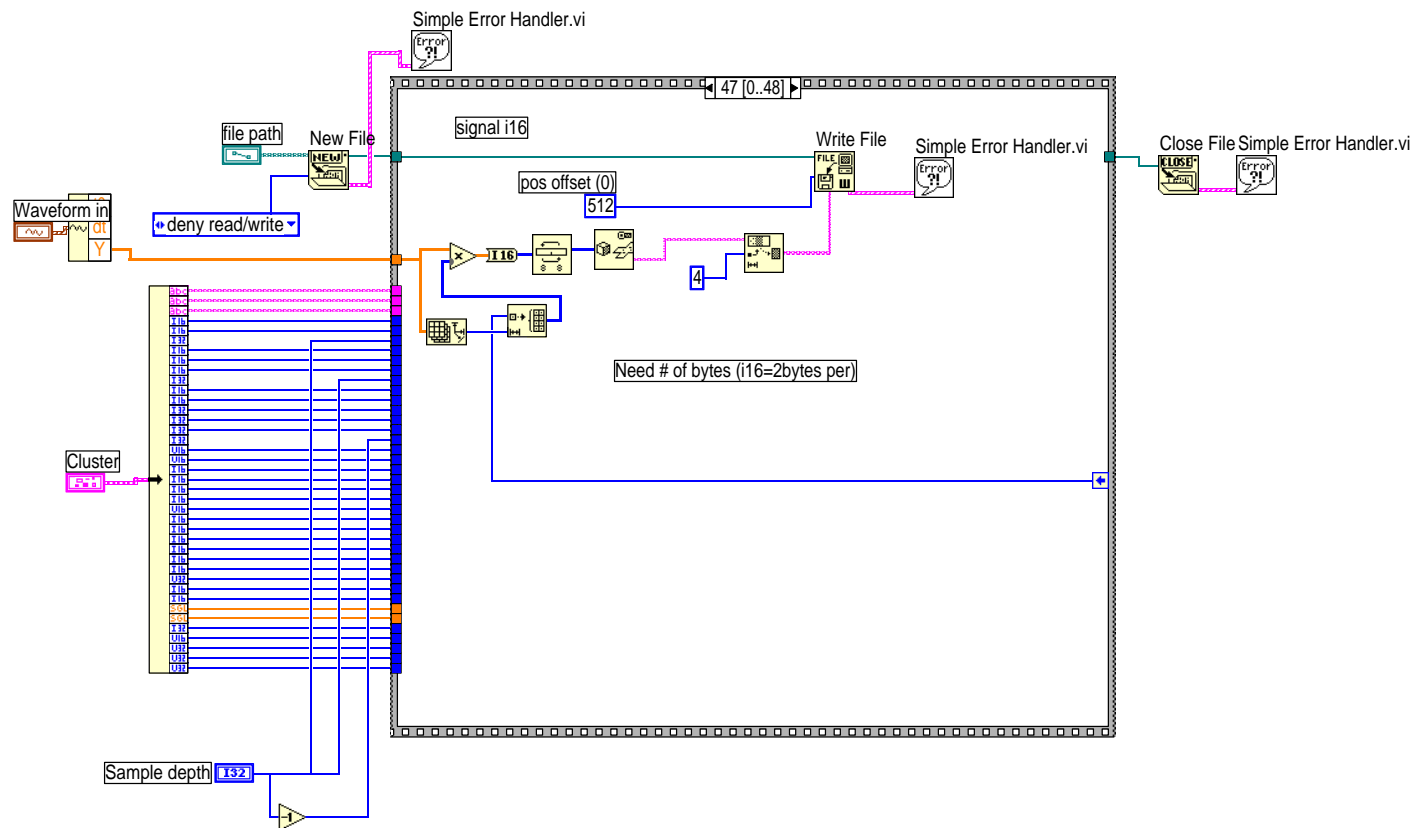


MyWriteSigwFilenameSub.vi

Block Diagram

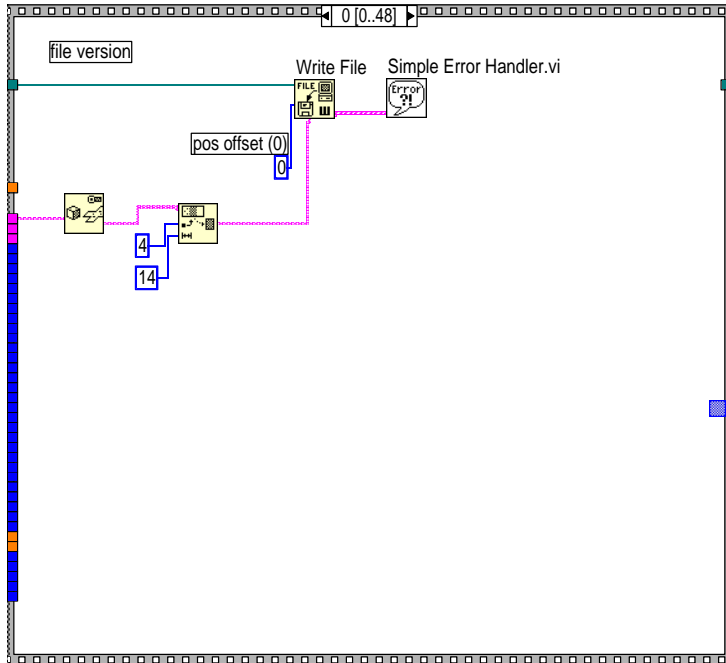
Notes:

- 1) "Flatten to string" does not seem to swap bytes as description says, so need to swap to big endian before before writing to file
- 2) It also leaves 4 bytes of header info when flattening arrays taht need to be stripped off
- 3) Float data seems to be written correctly without needing to swap

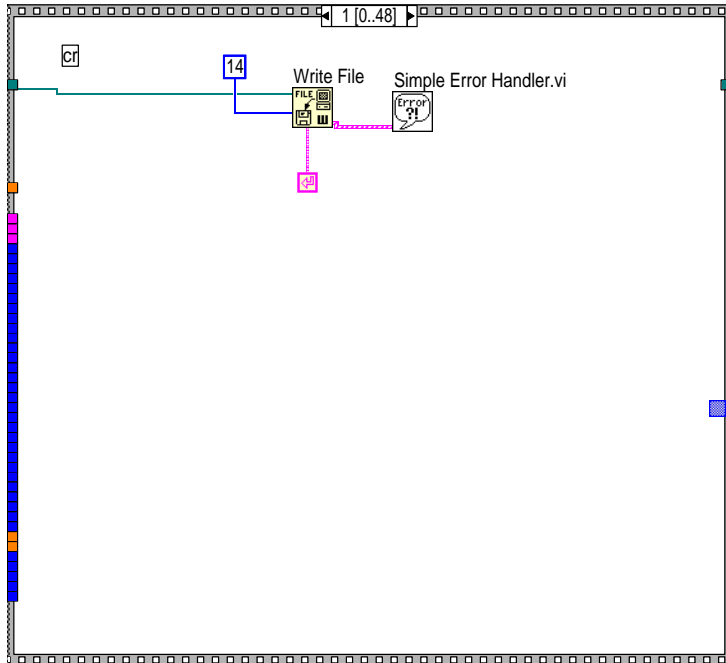




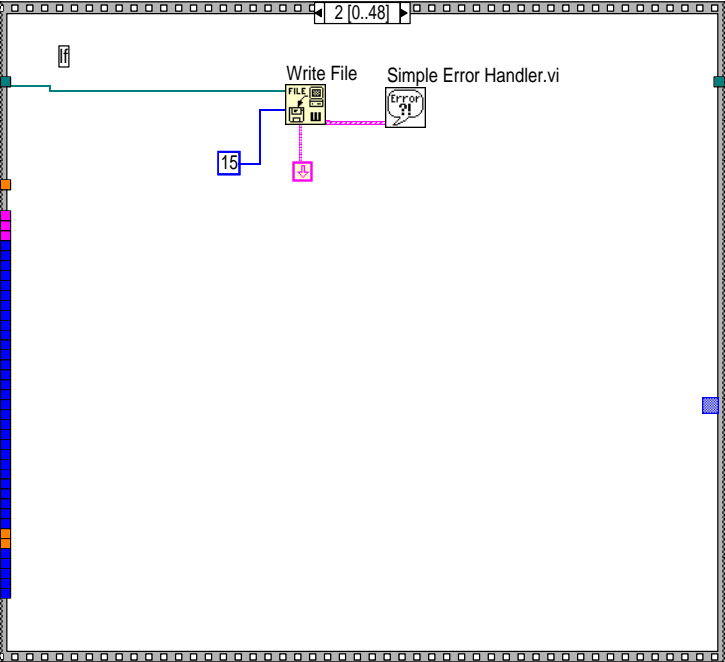
MyWriteSigwFilenameSub.vi



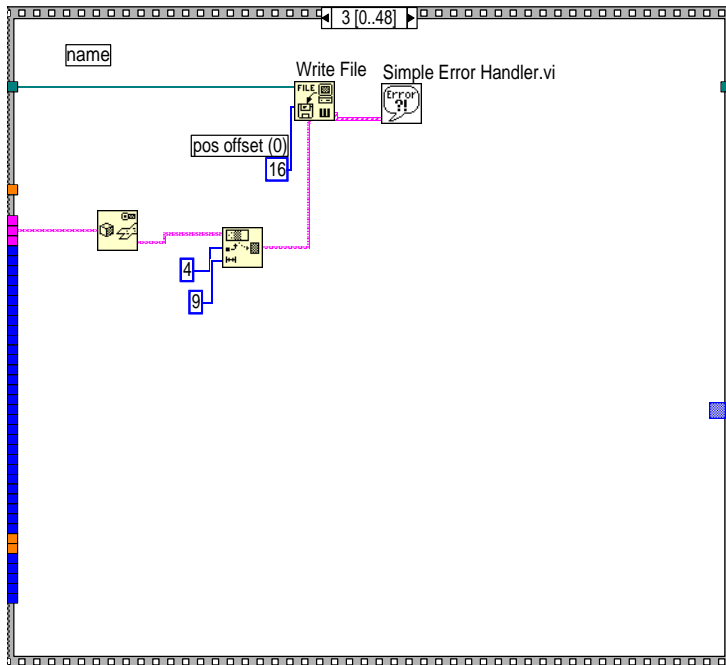
MyWriteSigwFilenameSub.vi



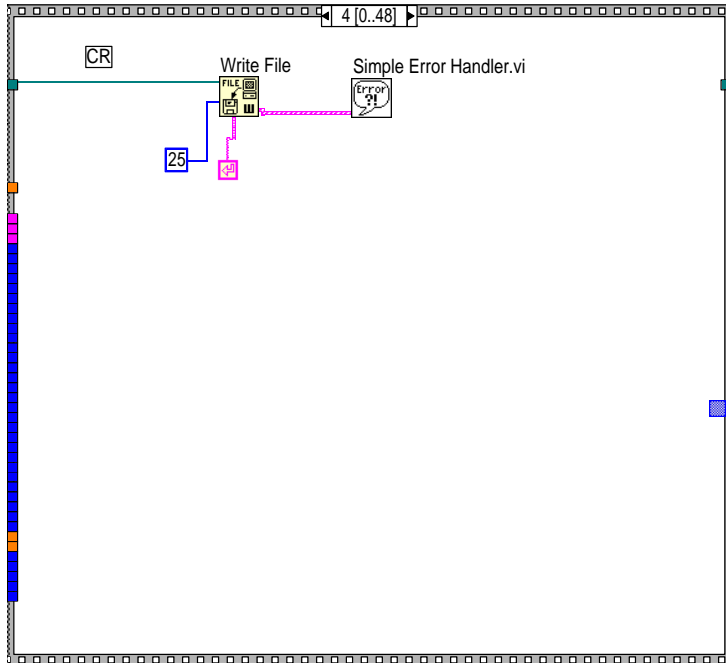
MyWriteSigwFilenameSub.vi



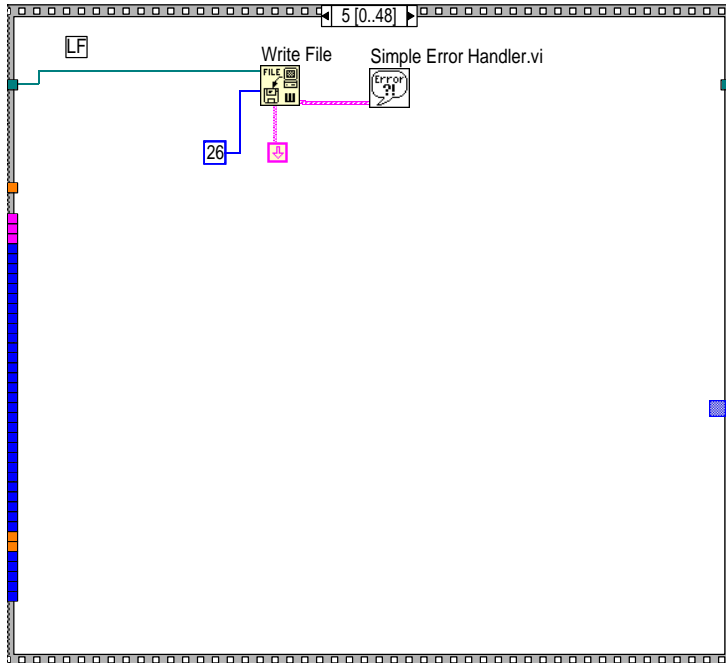
MyWriteSigwFilenameSub.vi



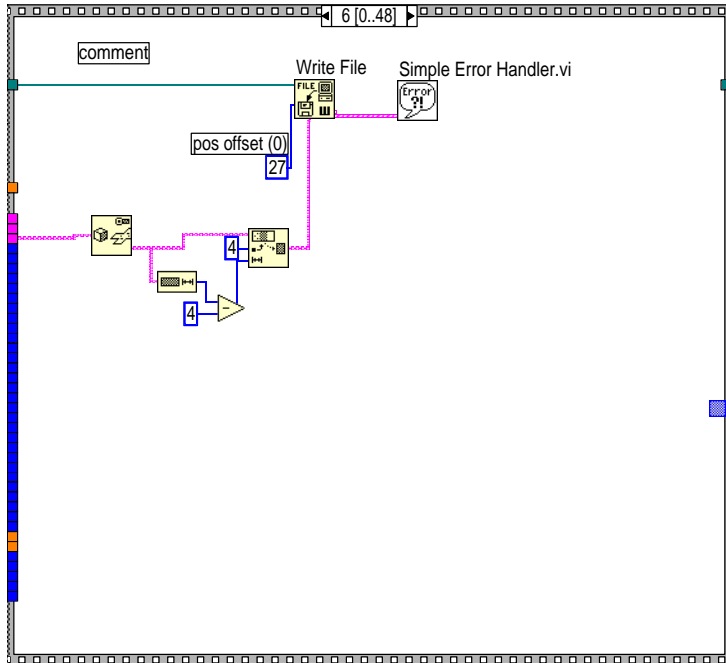
MyWriteSigwFilenameSub.vi



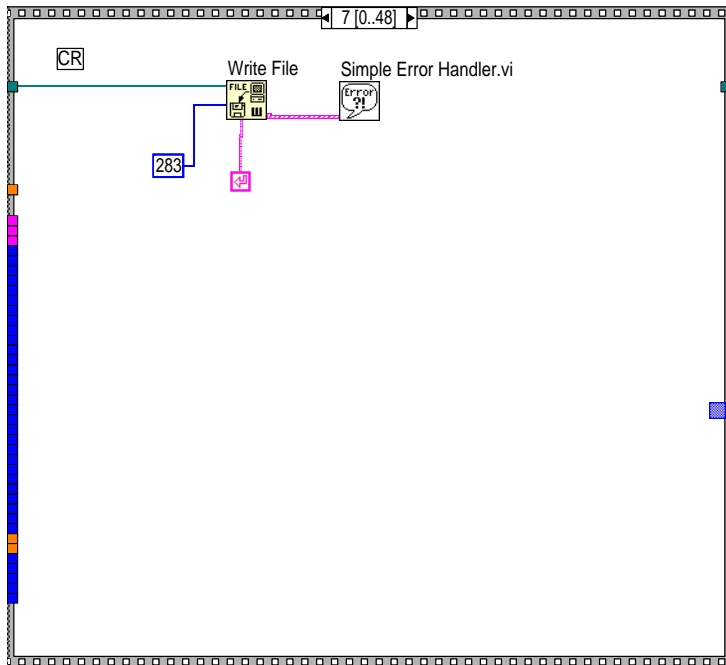
MyWriteSigwFilenameSub.vi



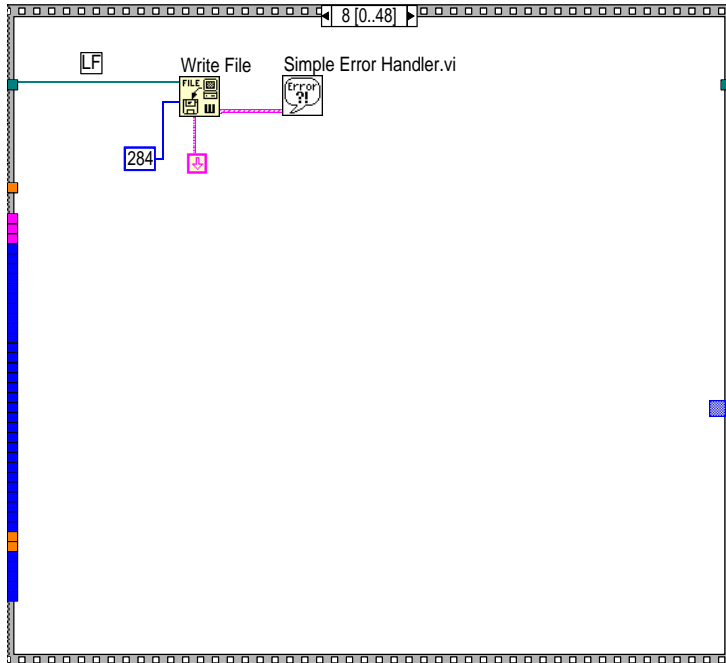
MyWriteSigwFilenameSub.vi



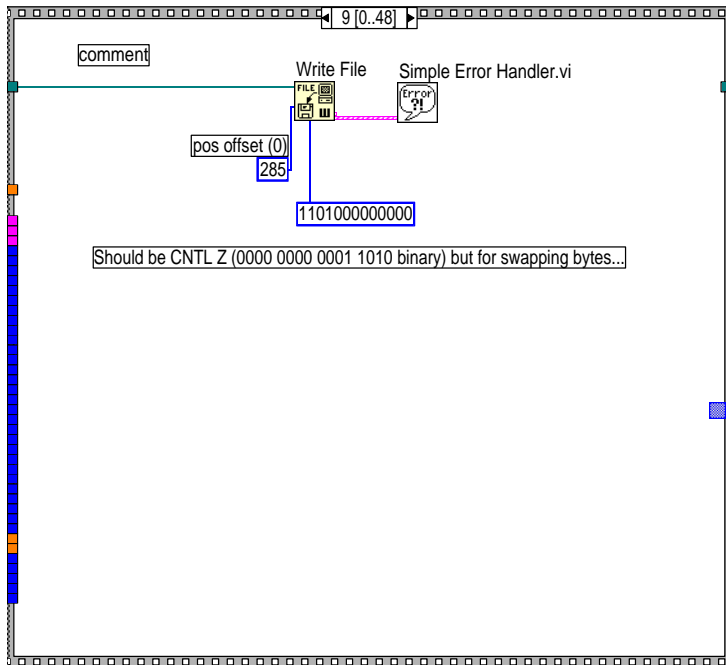
MyWriteSigwFilenameSub.vi



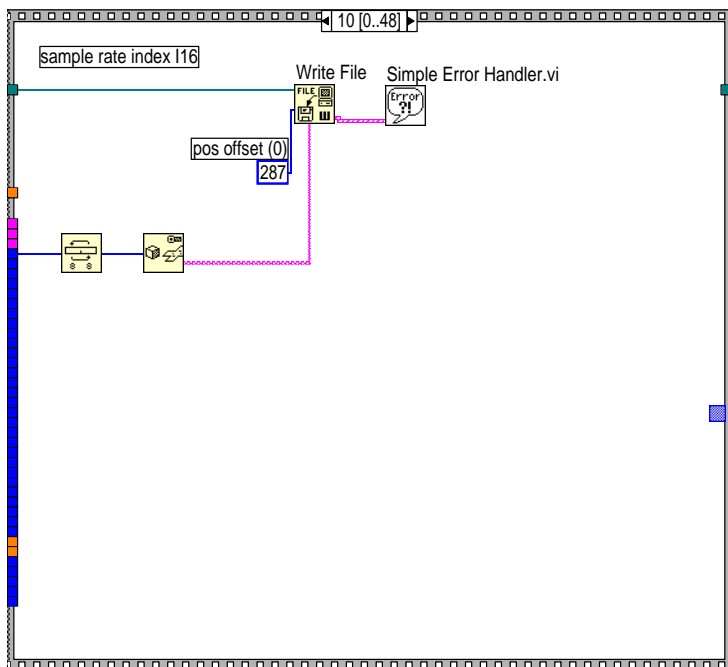
MyWriteSigwFilenameSub.vi



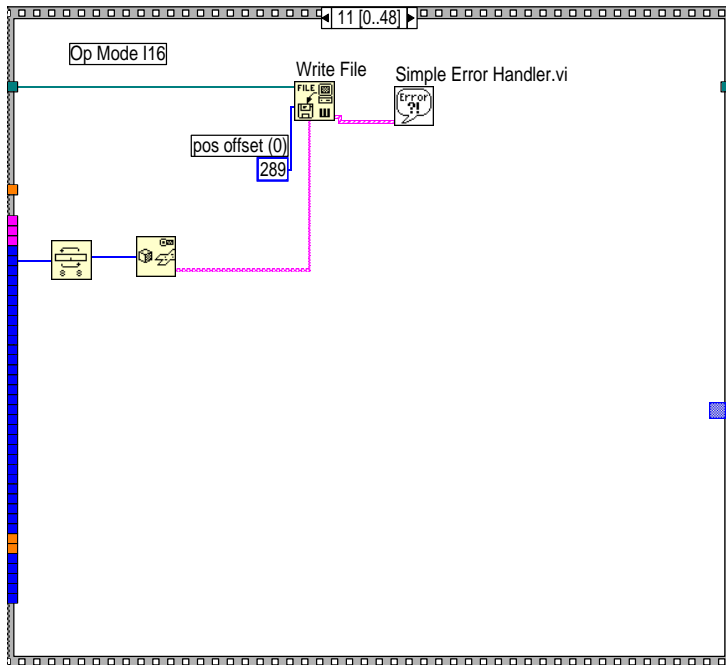
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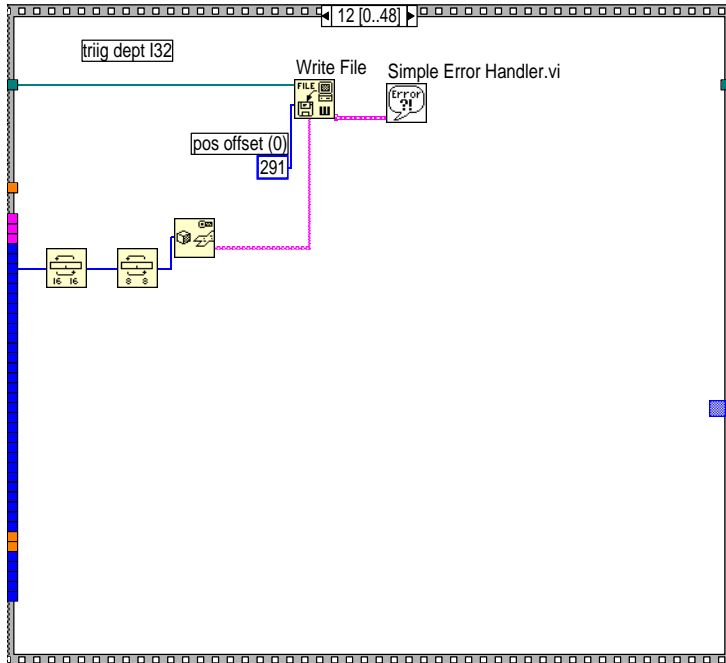
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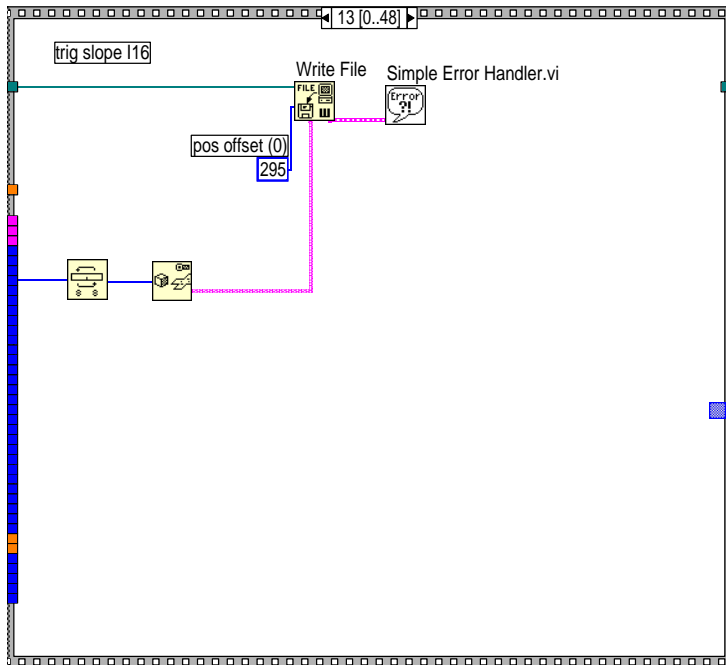
MyWriteSigwFilenameSub.vi



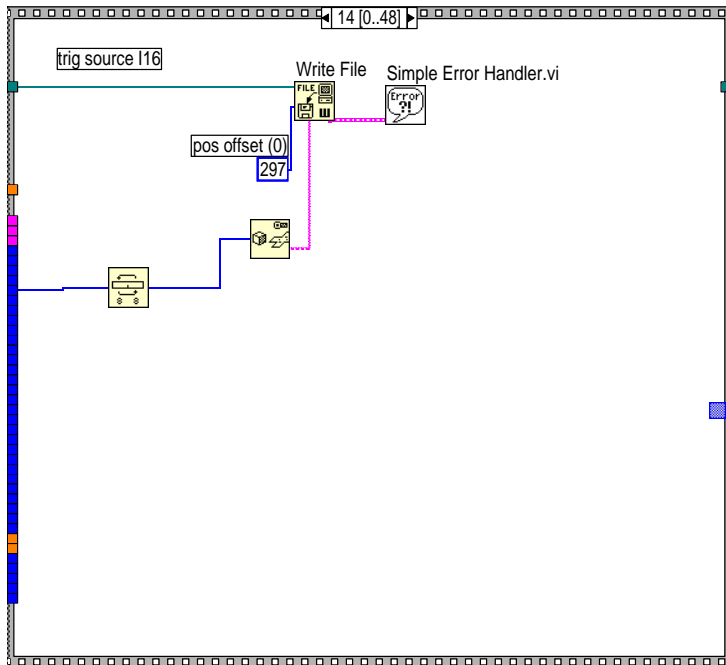
MyWriteSigwFilenameSub.vi



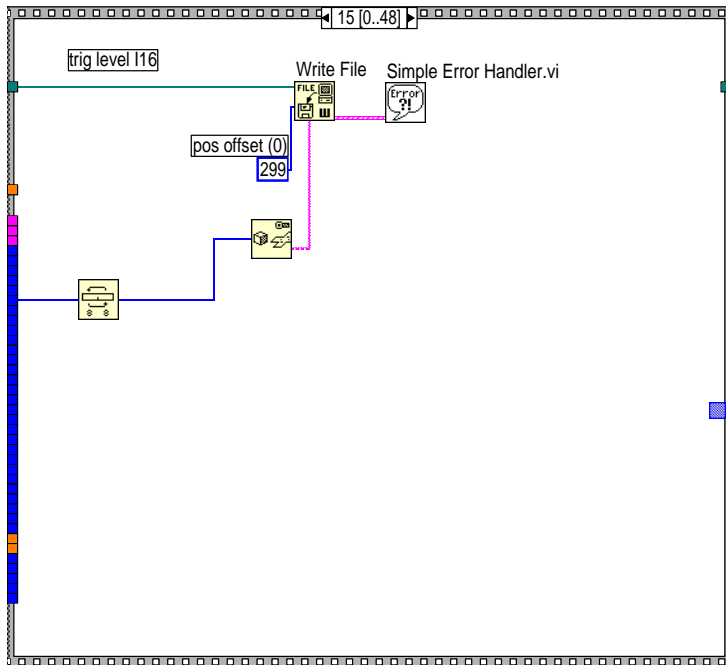
MyWriteSigwFilenameSub.vi



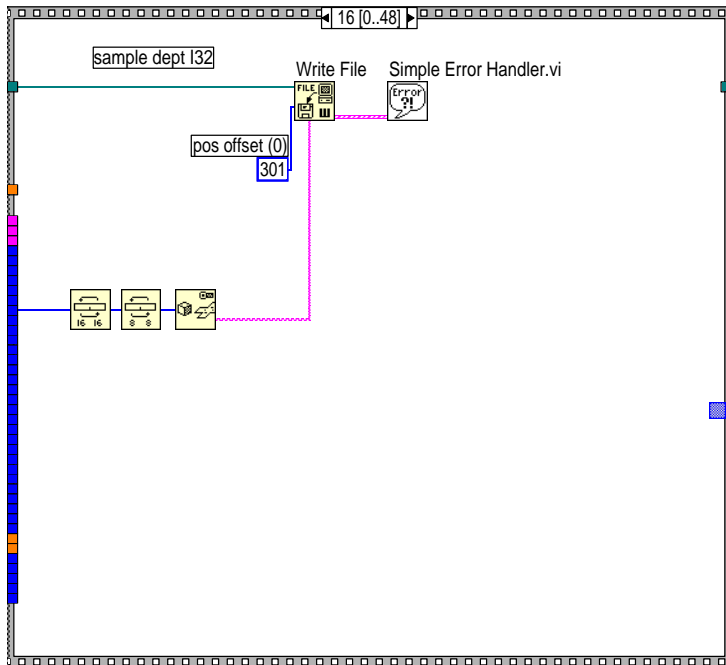
MyWriteSigwFilenameSub.vi



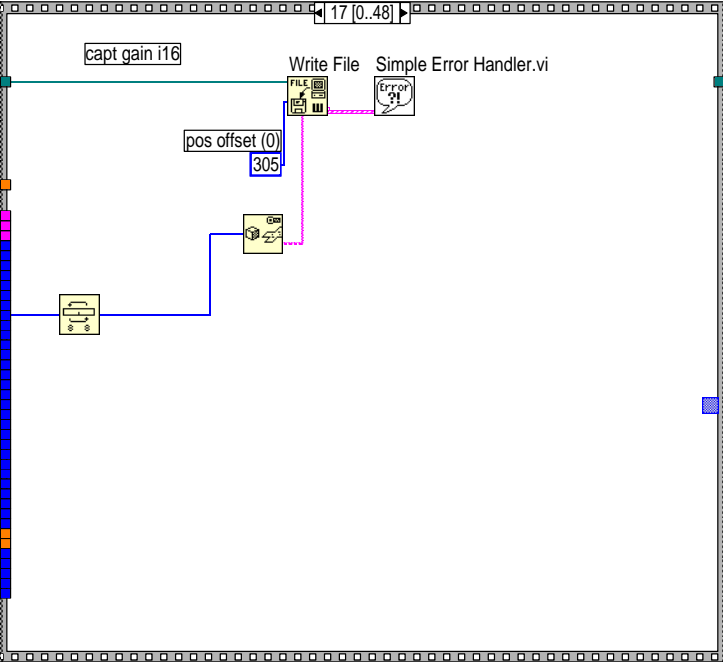
MyWriteSigwFilenameSub.vi



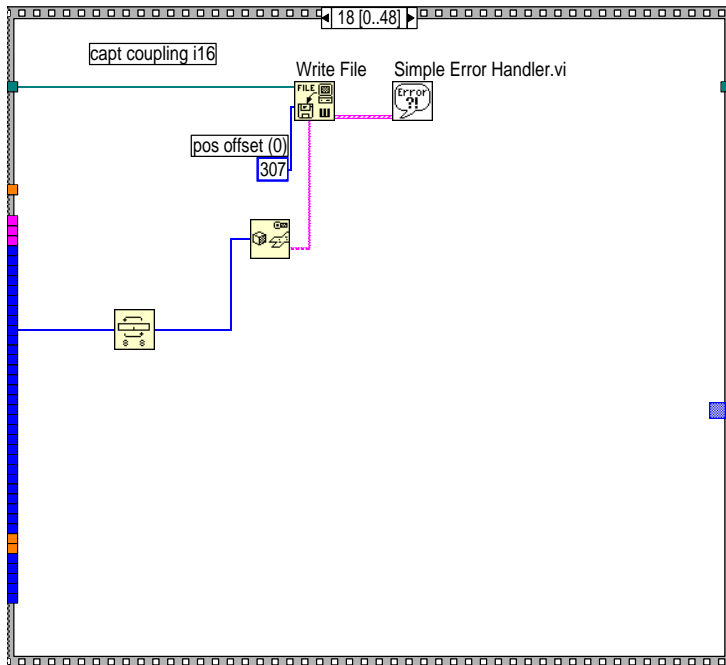
MyWriteSigwFilenameSub.vi



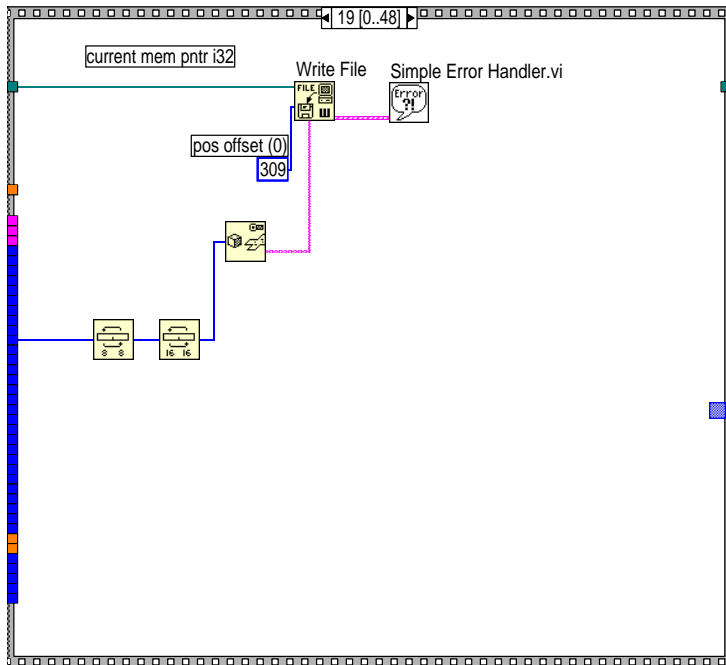
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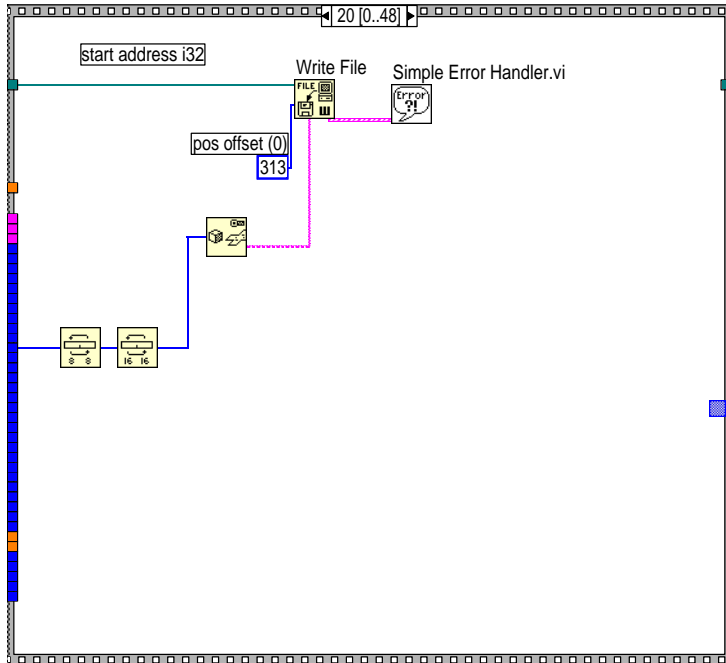
MyWriteSigwFilenameSub.vi



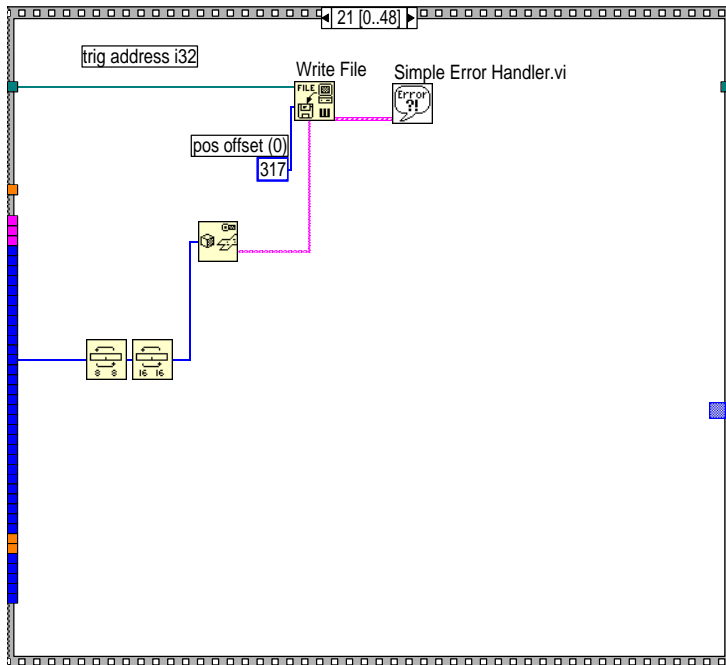
MyWriteSigwFilenameSub.vi



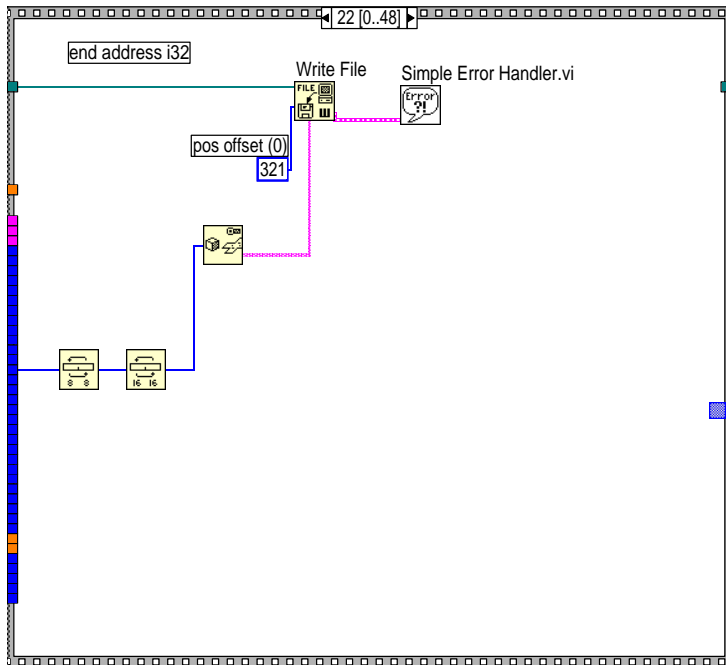
MyWriteSigwFilenameSub.vi



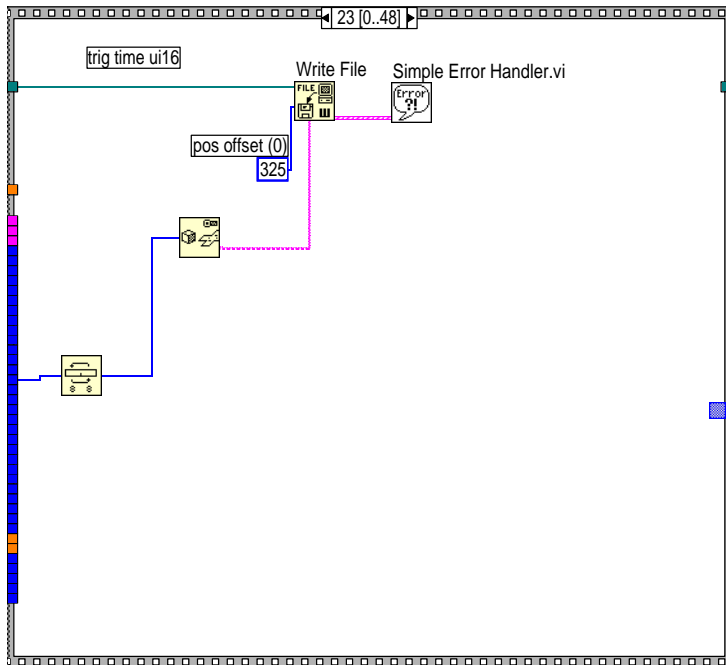
MyWriteSigwFilenameSub.vi



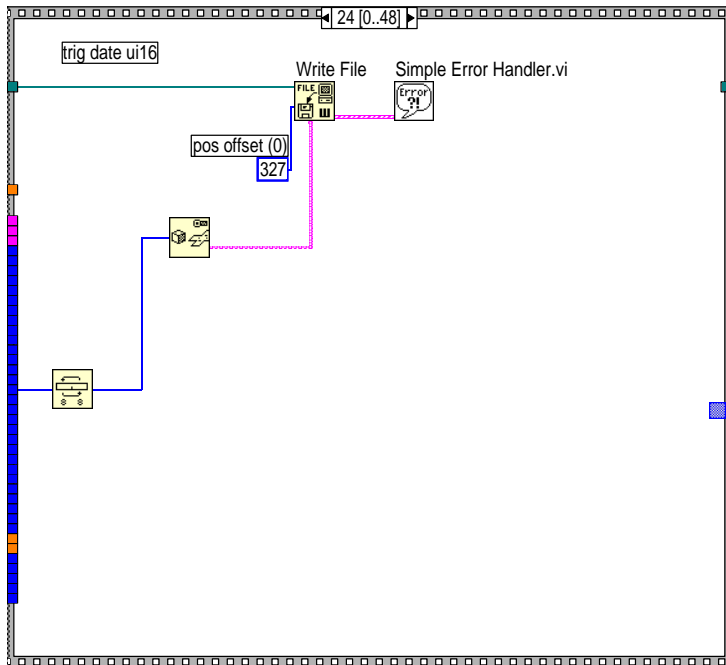
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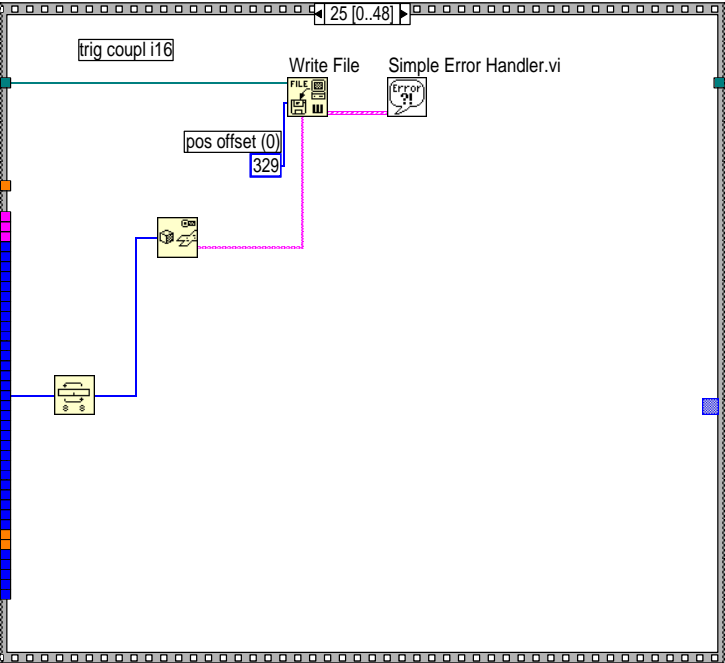
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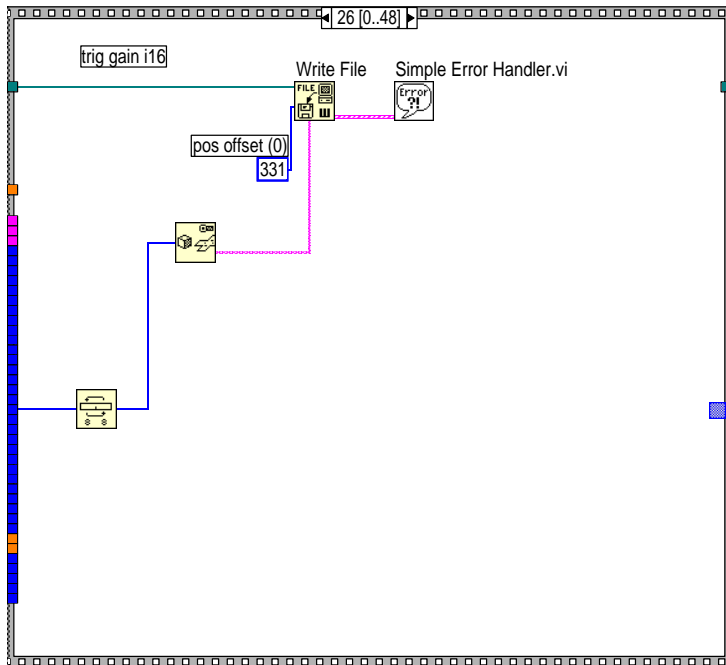
MyWriteSigwFilenameSub.vi



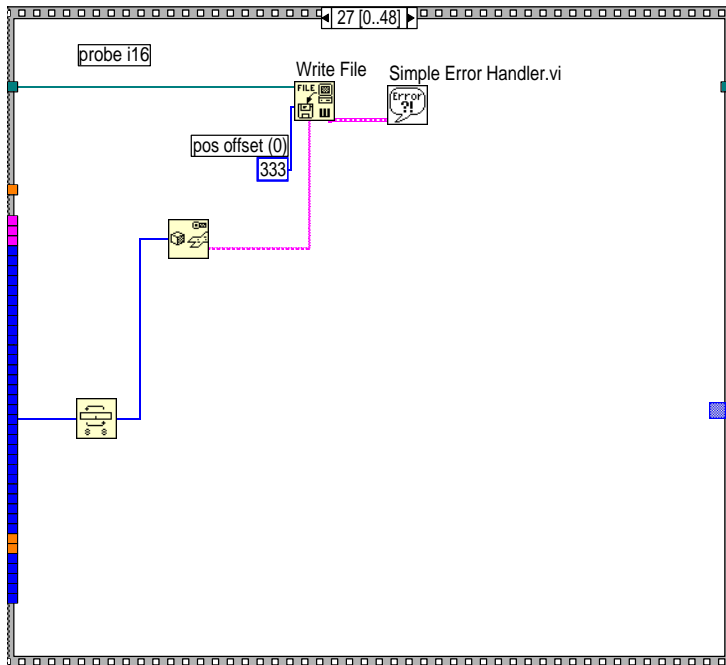
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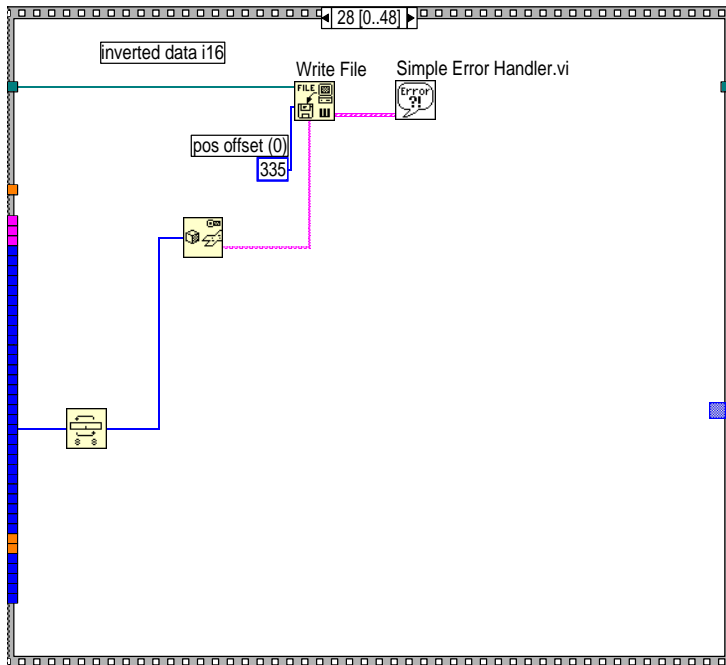
MyWriteSigwFilenameSub.vi



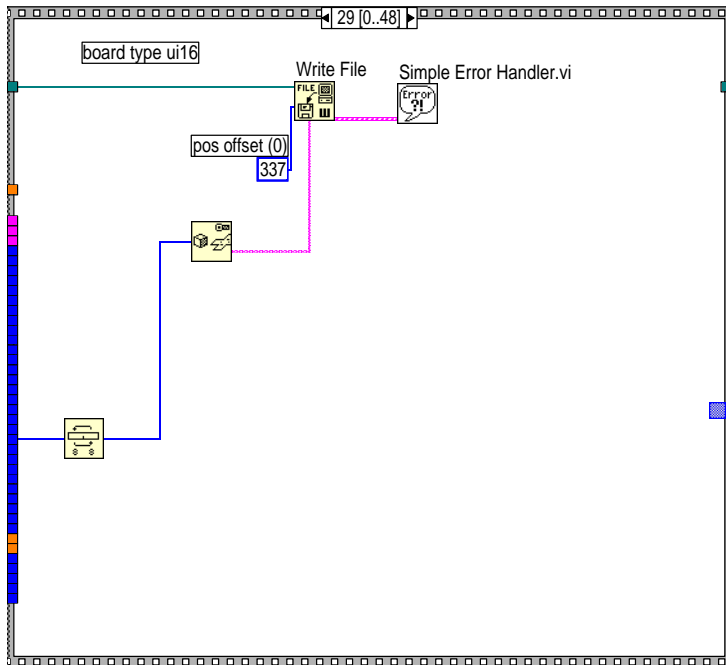
MyWriteSigwFilenameSub.vi



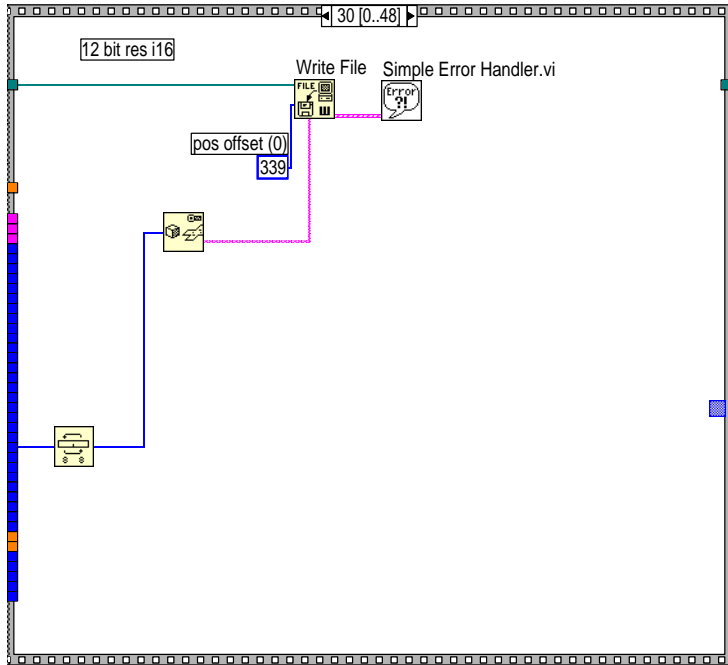
MyWriteSigwFilenameSub.vi



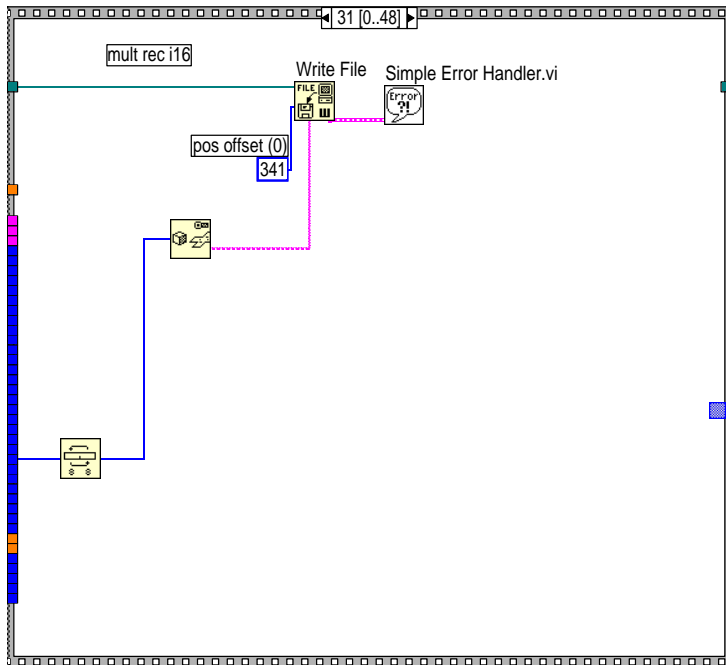
MyWriteSigwFilenameSub.vi



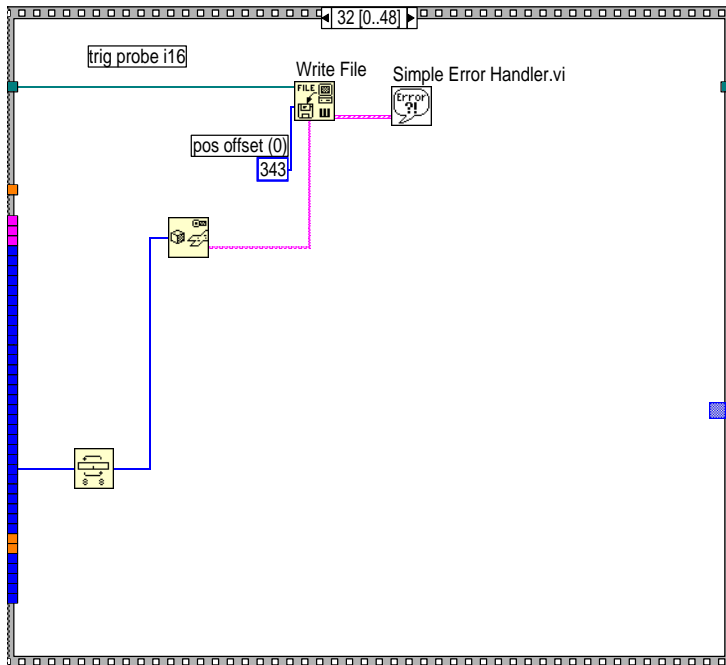
MyWriteSigwFilenameSub.vi



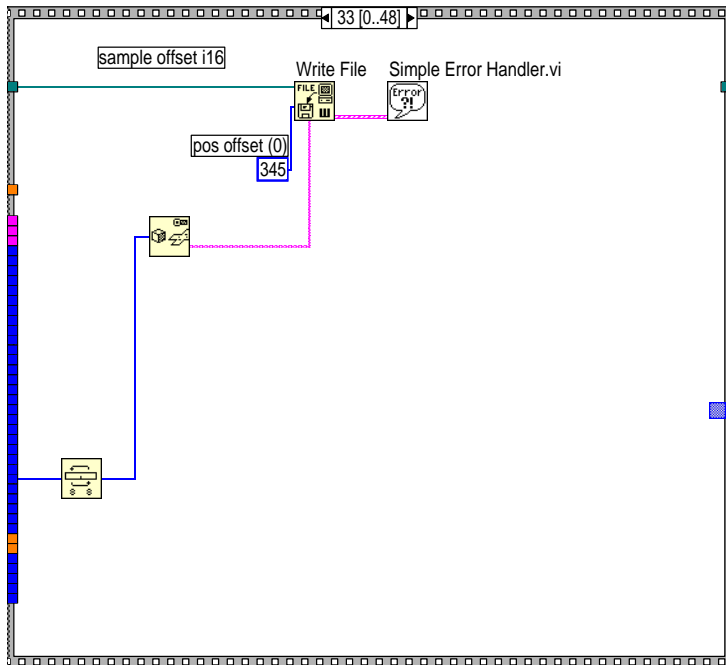
MyWriteSigwFilenameSub.vi



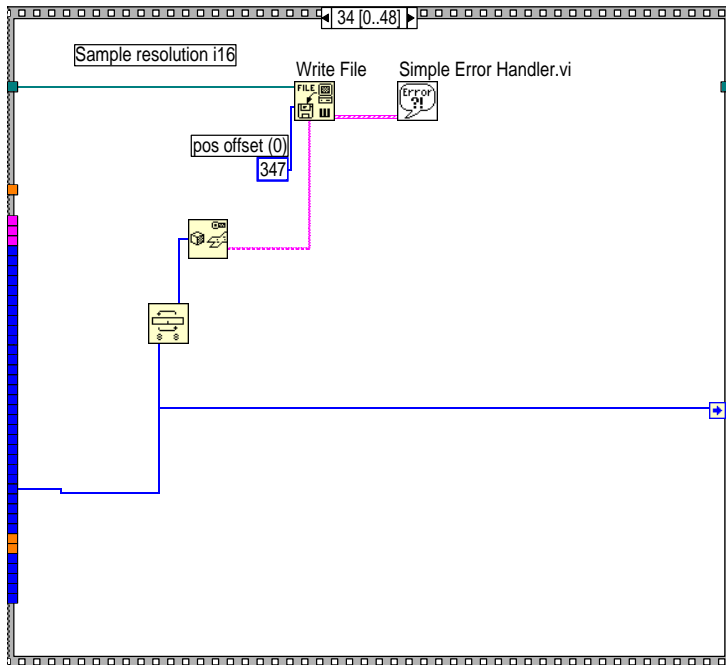
MyWriteSigwFilenameSub.vi



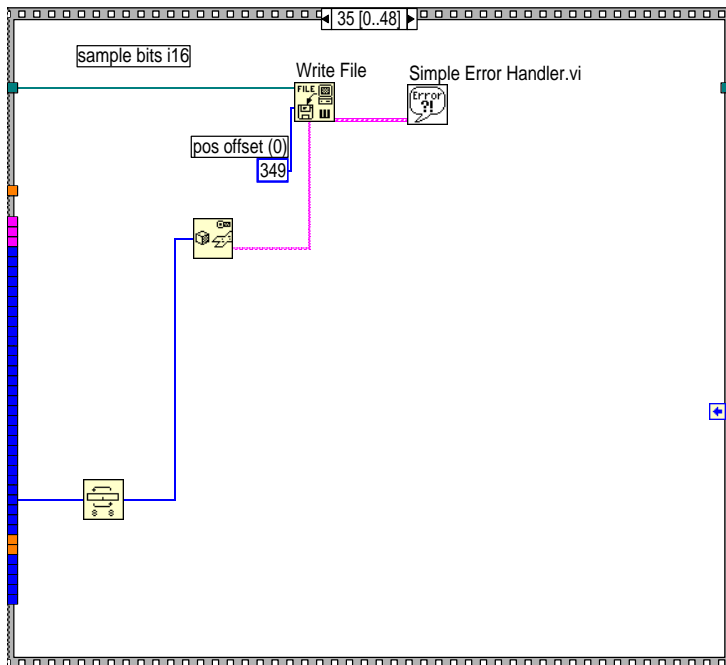
MyWriteSigwFilenameSub.vi



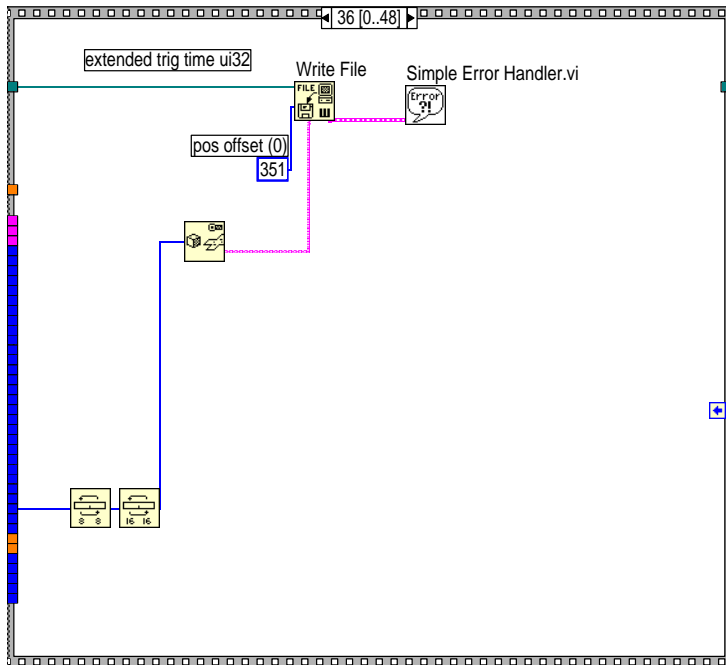
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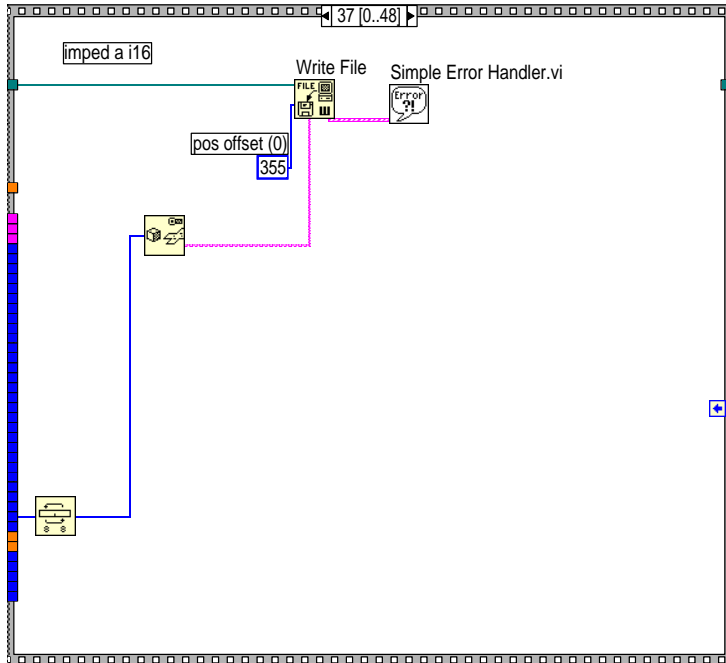
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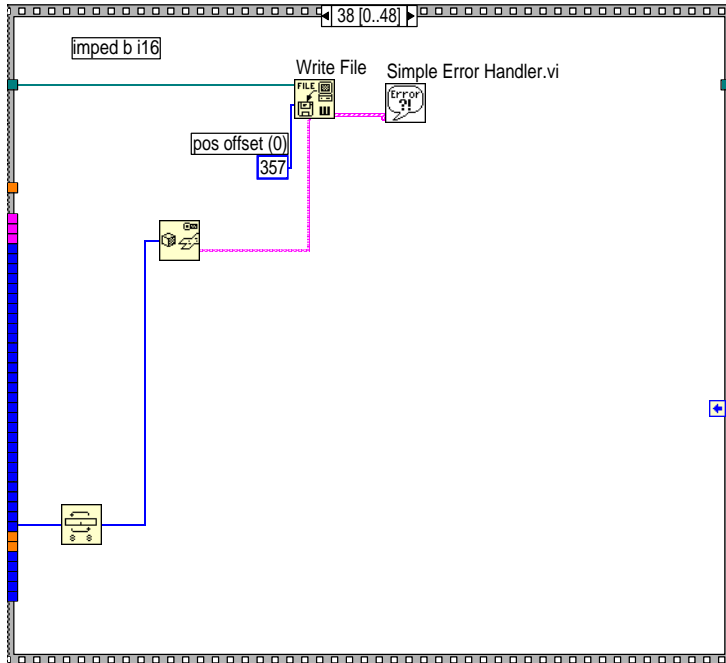
MyWriteSigwFilenameSub.vi



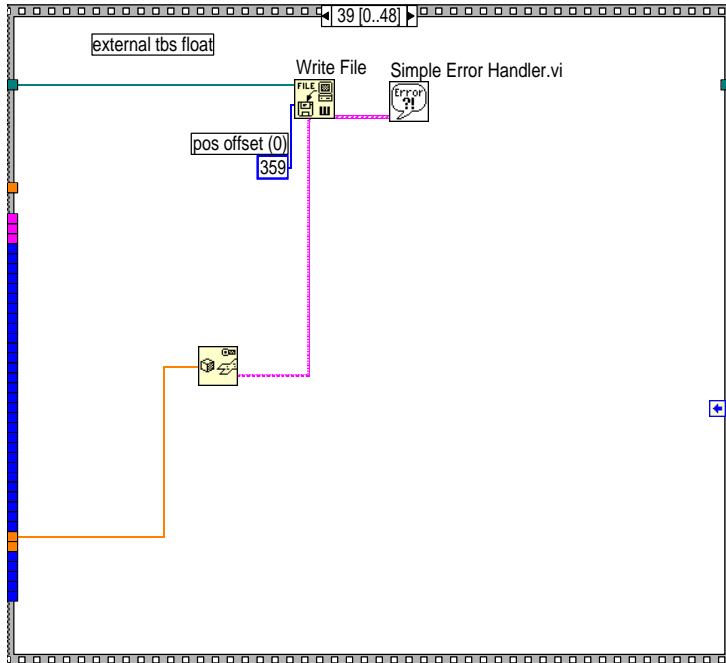
MyWriteSigwFilenameSub.vi



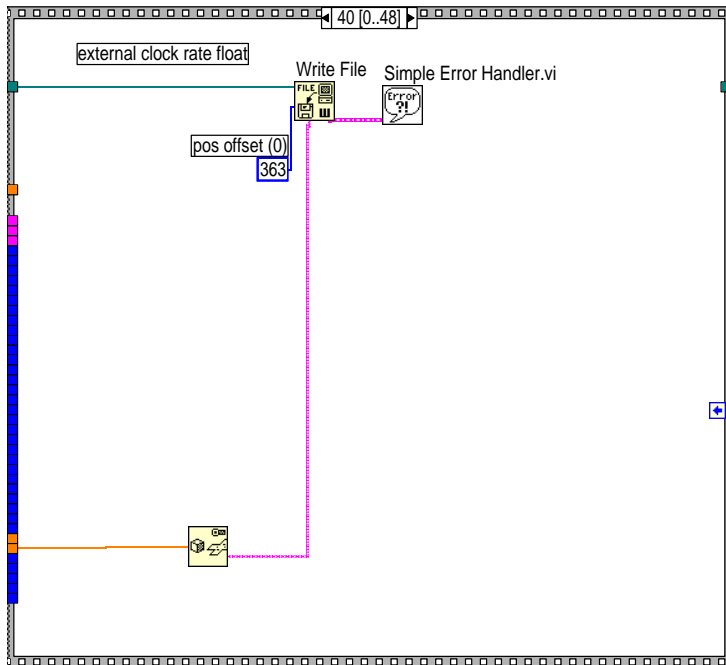
MyWriteSigwFilenameSub.vi



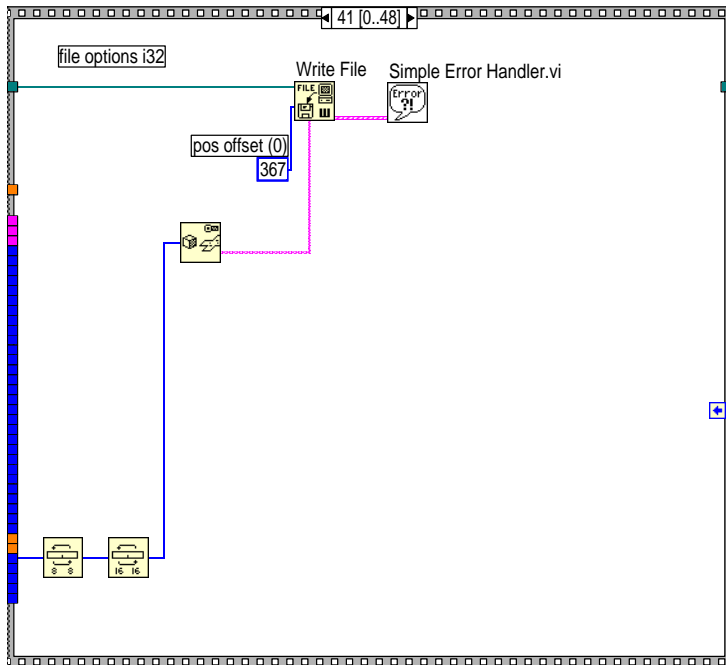
MyWriteSigwFilenameSub.vi



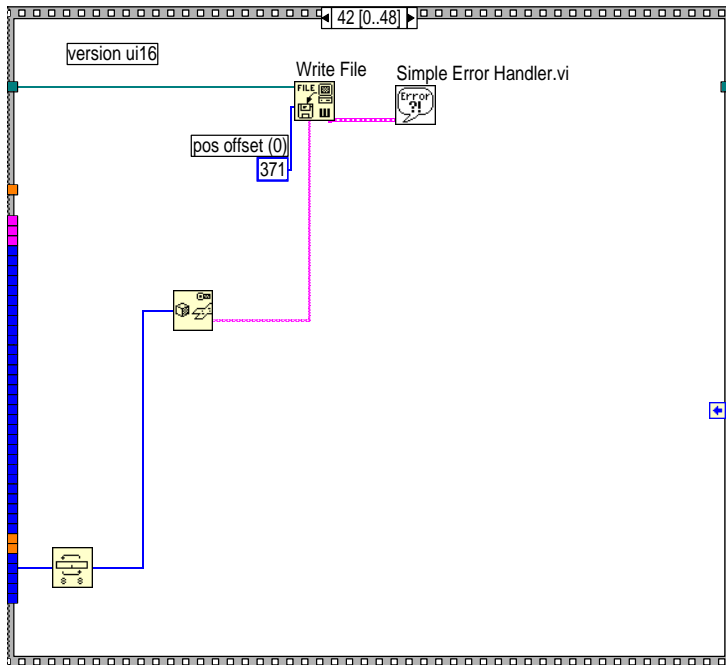
MyWriteSigwFilenameSub.vi



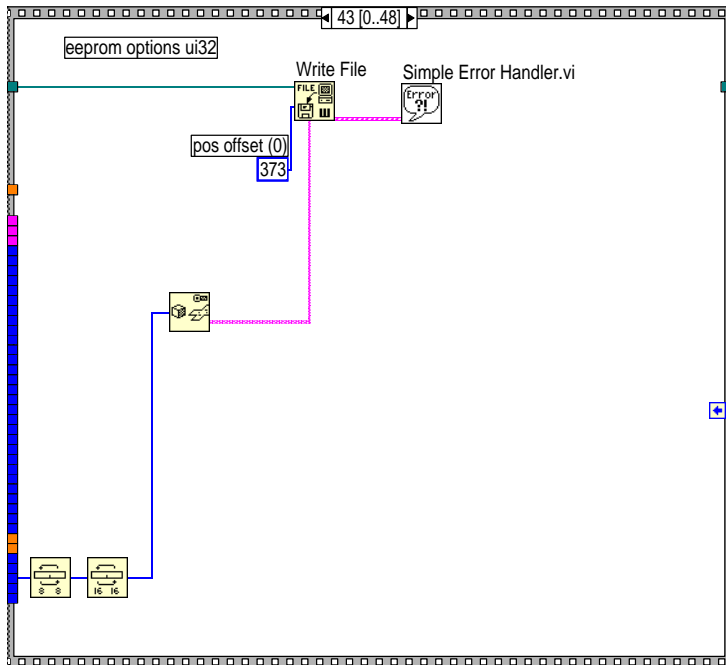
MyWriteSigwFilenameSub.vi



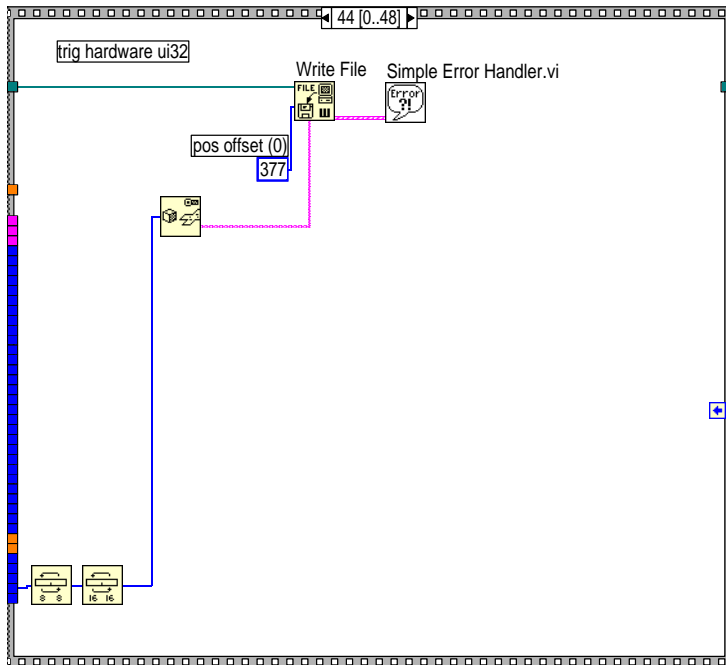
MyWriteSigwFilenameSub.vi



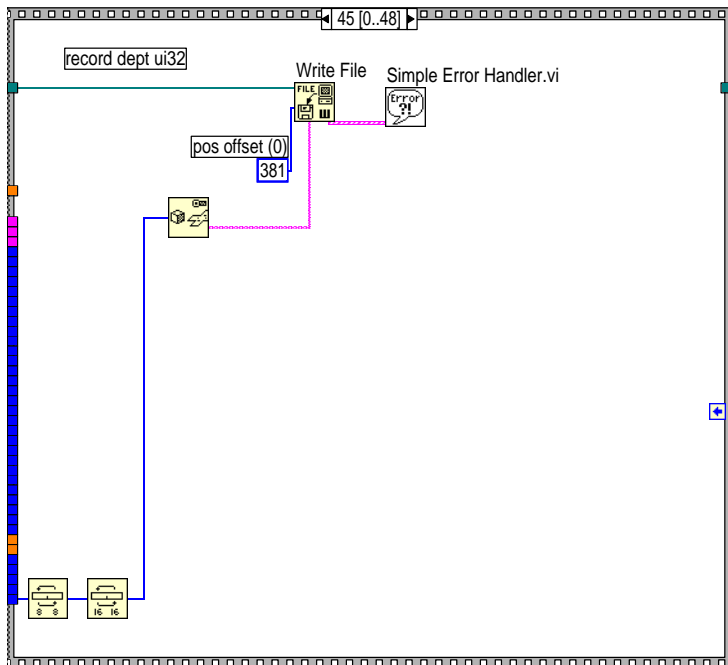
MyWriteSigwFilenameSub.vi



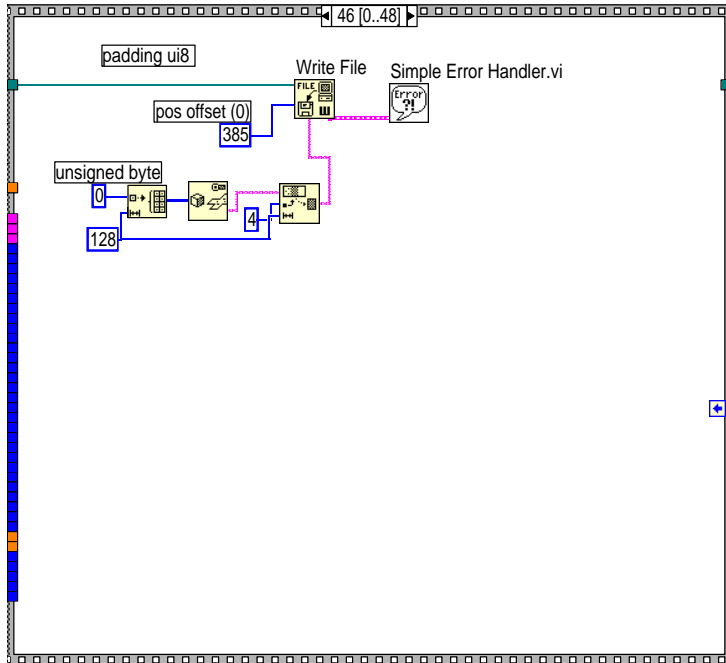
MyWriteSigwFilenameSub.vi



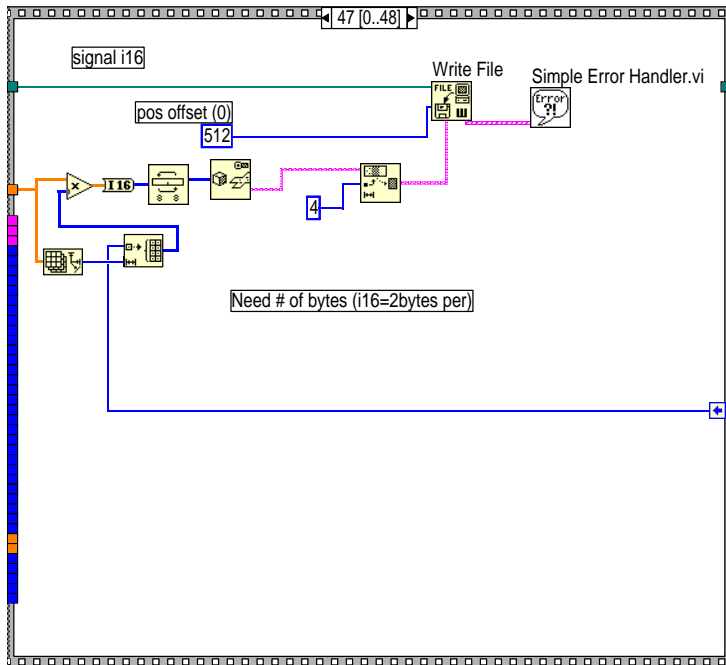
MyWriteSigwFilenameSub.vi



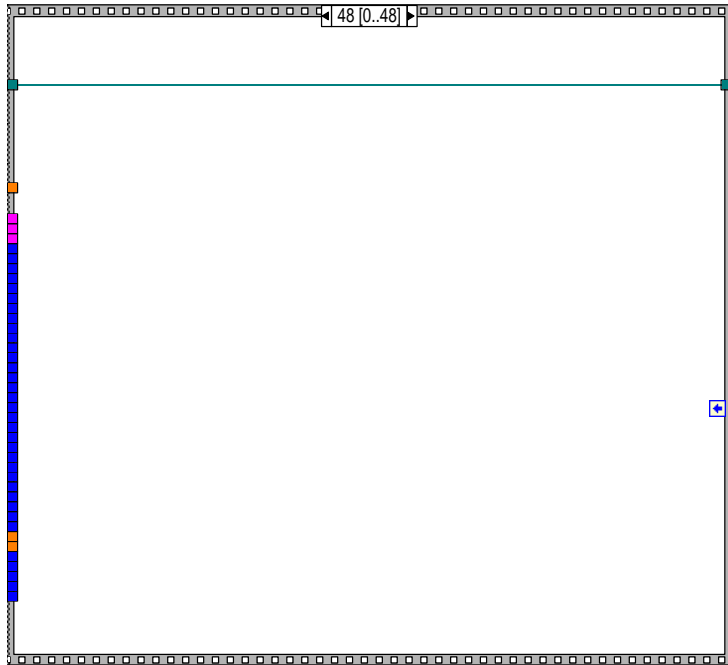
MyWriteSigwFilenameSub.vi



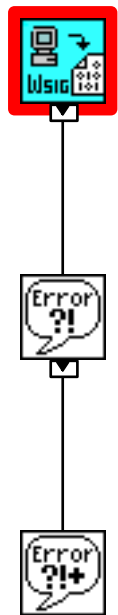
MyWriteSigFilenameSub.vi



MyWriteSigwFilenameSub.vi



Position in Hierarchy





List of SubVIs

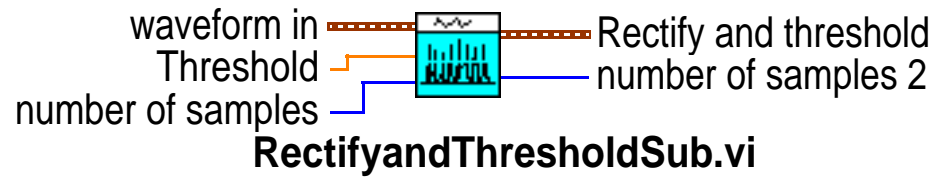


Simple Error Handler.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Utility\error.lib\Simple Error

RectifyandThresholdSub.vi

Connector Pane



Input waveform is rectified and clipped. The output is the original amplitude for any data point above the threshold (ie clipped amplitude + threshold) or zero for any data below the threshold.

Front Panel

waveform in

t0	Y
08:00:00 PM	0
12/31/03	0.00
dt	0.00
1.000000	0.00
	0.00
	0.00

Rectify and threshold

t0	Y
08:00:00 PM	0
12/31/03	0.00
dt	0.00
1.000000	0.00
	0.00
	0.00

Threshold

0.00

number of samples 2

0

number of samples

0



Controls and Indicators

 **number of samples**

 **waveform in**

 **t0**

 **dt**

 **Y**

 **dt**

 **error**

The error cluster contains error or warning information.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

 **status**

The status boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

RectifyandThresholdSub.vi



code

The code number identifies the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



source

The source string describes the origin of the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



hi res t0



attributes



Threshold



Rectify and threshold



t0



dt



Y



dt



RectifyandThresholdSub.vi

**error**

The error cluster contains error or warning information.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**status**

The status boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**code**

The code number identifies the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**source**

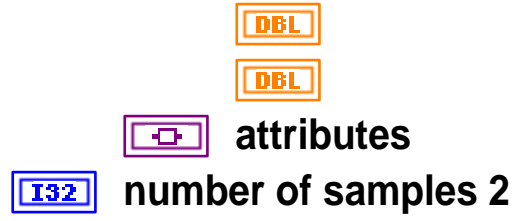
The source string describes the origin of the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**hi res t0**

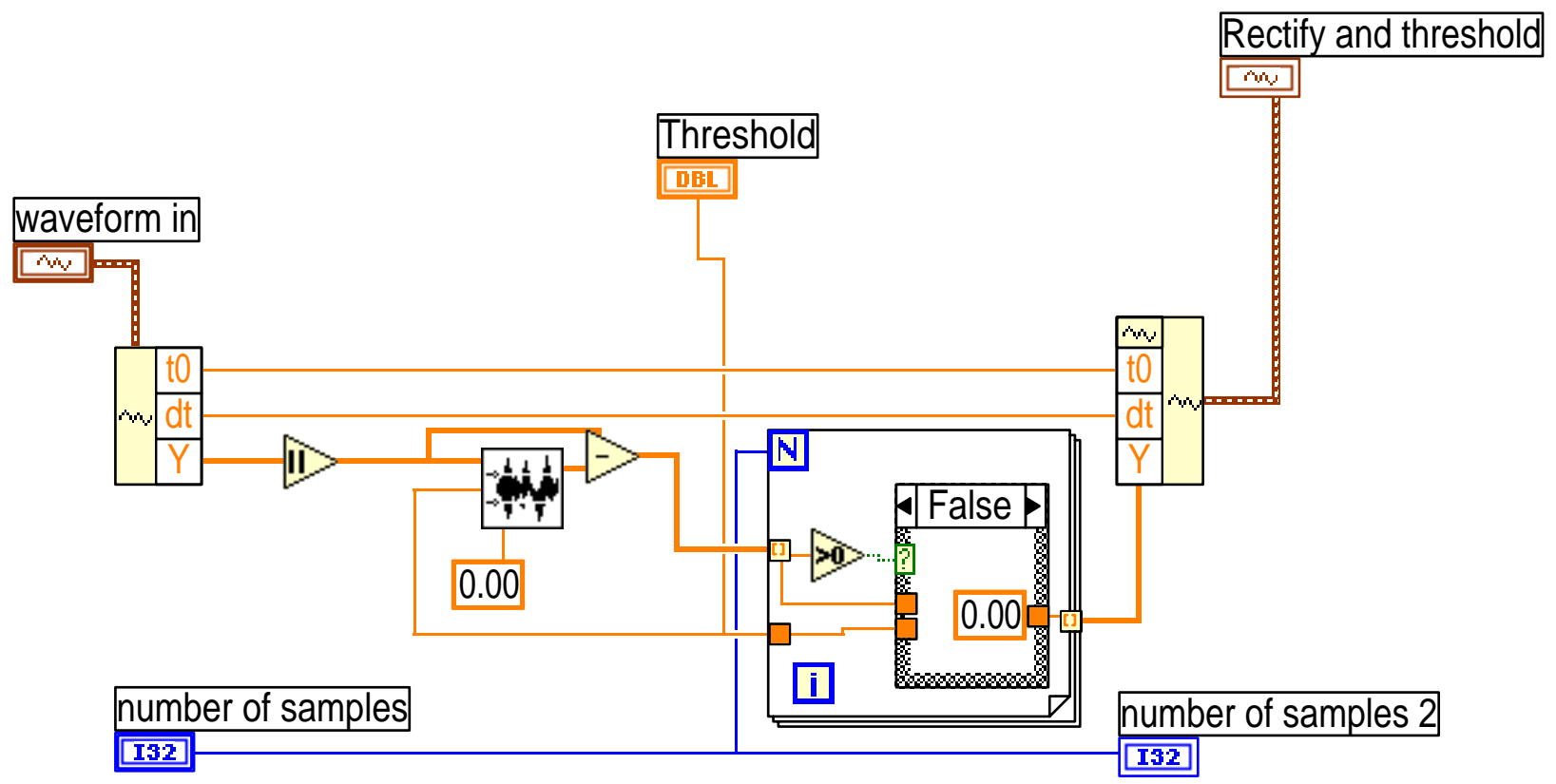


RectifyandThresholdSub.vi



RectifyandThresholdSub.vi

Block Diagram

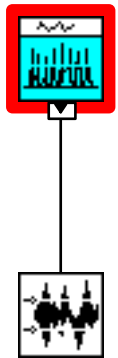


RectifyandThresholdSub.vi



RectifyandThresholdSub.vi

Position in Hierarchy



RectifyandThresholdSub.vi



List of SubVIs



$Y[i]=\text{Clip}\{X[i]\}.$ vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Analysis\2dsp.lib\Y[i]=Clip{X[i]}.vi

SmartZeroPadderSub.vi

Connector Pane



This sub VI pads a waveform with zeros out to the next highest power of two, but only if the original number of data points is not a power of two. It allows FFT routines to use the fastest algorithms.

Front Panel

waveform in

t0	Y
08:00:00 PM	0.00
12/31/03	0.00
dt	0.00
1.000000	0.00
	0.00
	0.00

number of samples

0

waveform out

t0	Y
08:00:00 PM	0.00
12/31/03	0.00
dt	0.00
1.000000	0.00
	0.00
	0.00



Controls and Indicators



waveform in



t0



dt



Y



dt



error

The error cluster contains error or warning information.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.



status

The status boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**code**

The code number identifies the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**source**

The source string describes the origin of the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**hi res t0****attributes****waveform out****t0****dt****Y****dt**

**error**

The error cluster contains error or warning information.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**status**

The status boolean is either TRUE (X) for an error, or FALSE (checkmark) for no error or a warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**code**

The code number identifies the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**source**

The source string describes the origin of the error or warning.

The pop-up option Explain Error (or Explain Warning) gives more information about the error displayed.

**hi res t0**



SmartZeroPadderSub.vi

DBL

DBL

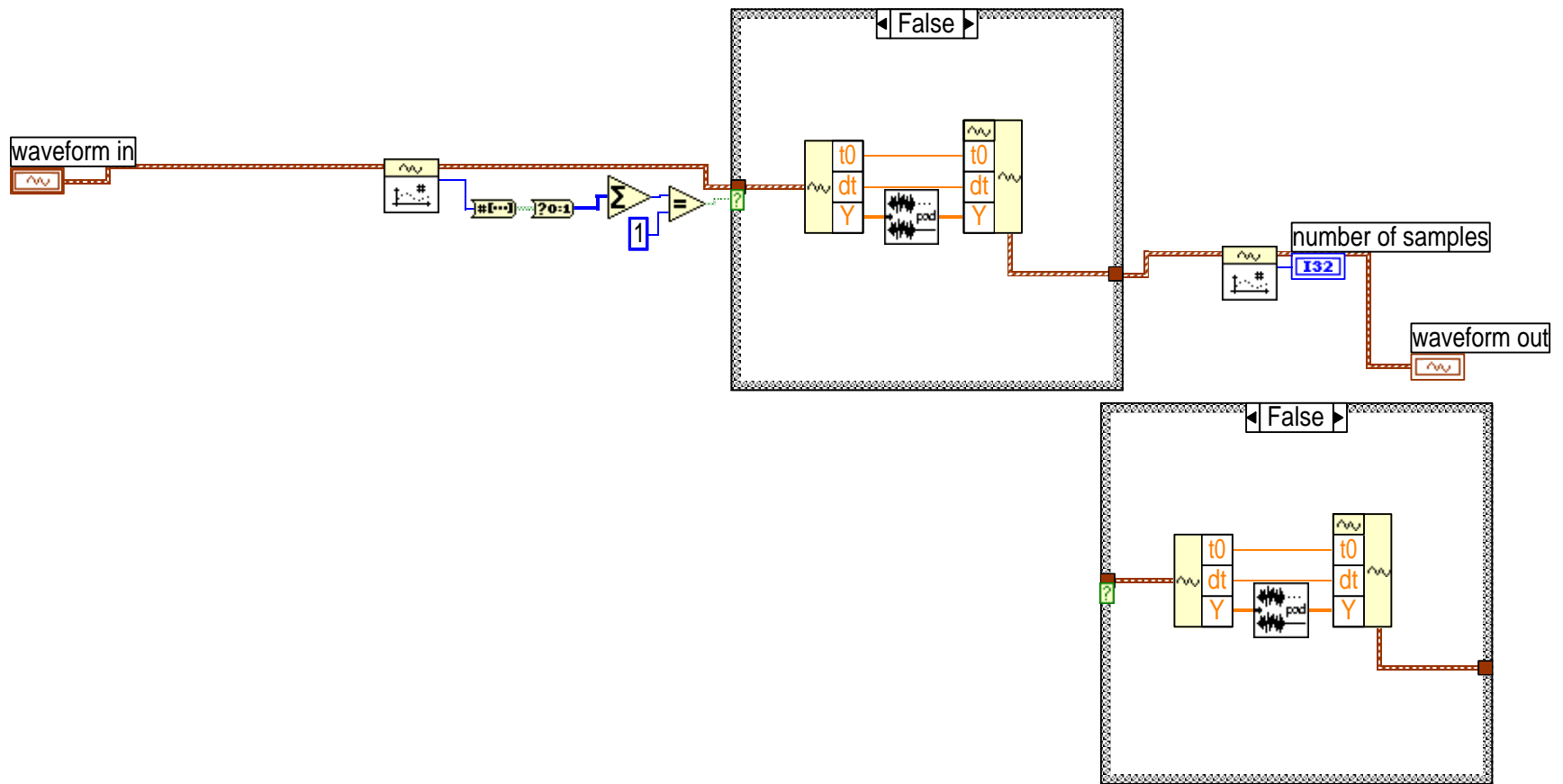
 **attributes**

I32

number of samples

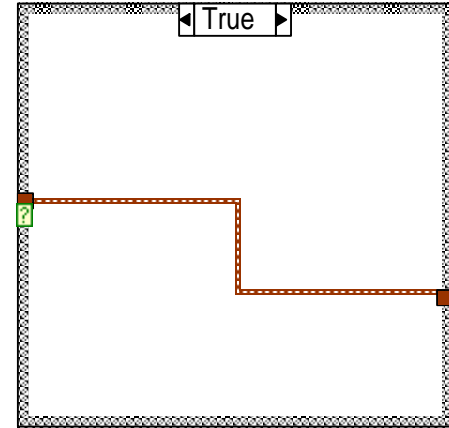
number of samples is the number of data elements in the waveform.

Block Diagram



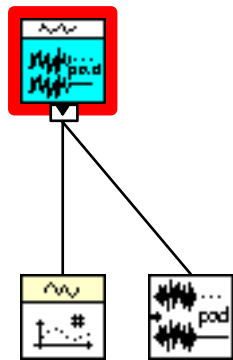


SmartZeroPadderSub.vi



SmartZeroPadderSub.vi

Position in Hierarchy





List of SubVIs



Number of Waveform Samples.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Waveform\WDTOps.lib\Number of Waveform Samples.vi



Zero Padder.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Analysis\2dsp.lib\Zero Padder.vi



peekbyte.vi

Connector Pane



peekbyte.vi

Reads any file byte by byte. It allows one to step through the file by changing "pos offset(0)". The corresponding decimal, binary, ASCII and Hexadecimal representation of the byte is displayed. Useful for troubleshooting programs that read and write binary files created by other non-LabView applications.

Front Panel

Filename

open mode (0)

EOF offset

Decimal

Binary

ASCII













Hexadecimal

pos offset (0)

STOP

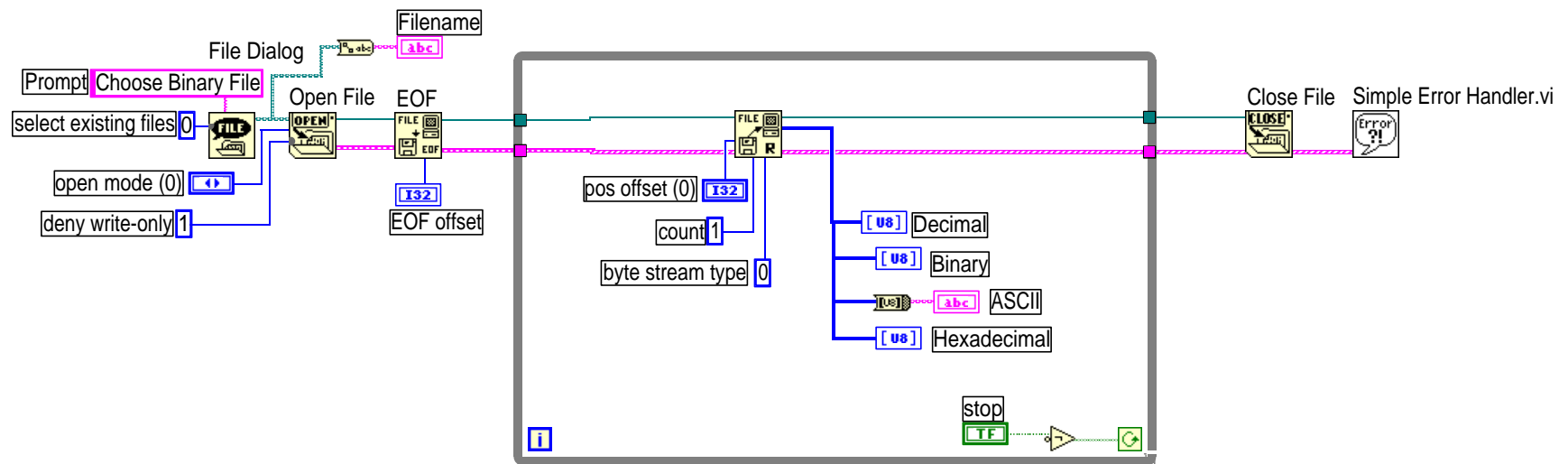
peekbyte.vi

Controls and Indicators

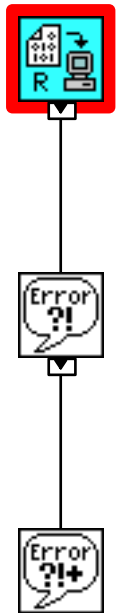
-  **open mode (0)**
-  **pos offset (0)**
-  **stop**
-  **EOF offset**
-  **Decimal**
 -  **byte stream type**
-  **Binary**
 -  **byte stream type**
-  **ASCII**
-  **Hexadecimal**
 -  **byte stream type**
-  **Filename**

peekbyte.vi

Block Diagram



Position in Hierarchy





peekbyte.vi

List of SubVIs



Simple Error Handler.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Utility\error.lib\Simple Error



peekword.vi

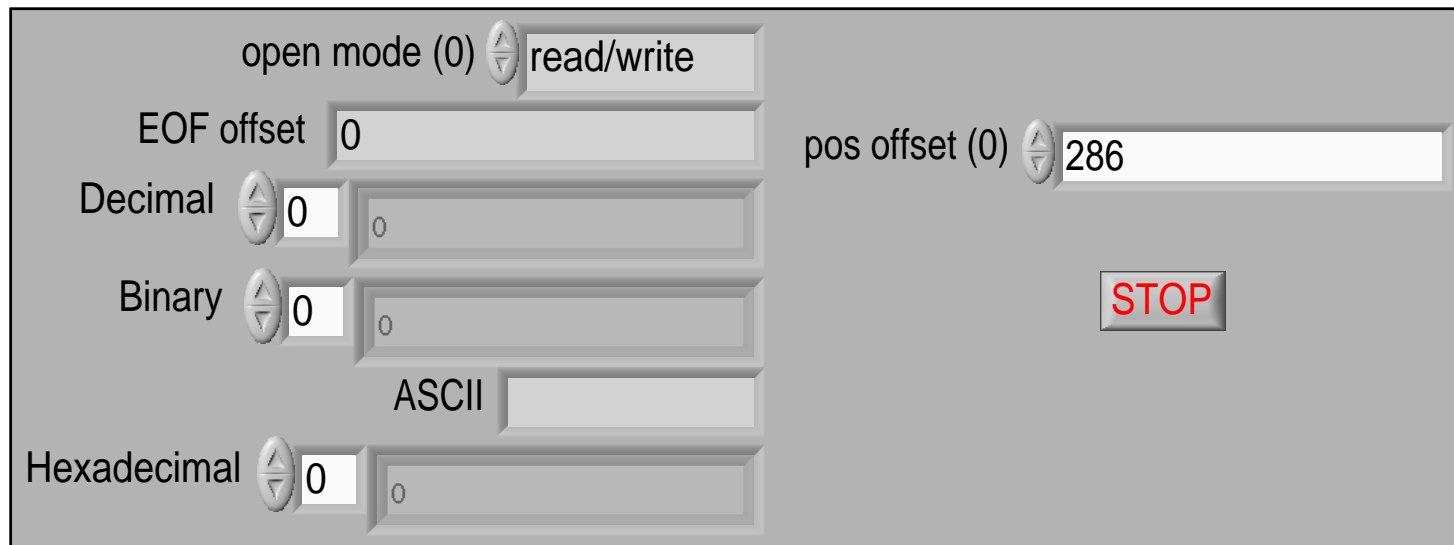
Connector Pane



peekword.vi

Reads any file word by word (2 byte). It allows one to step through the file by changing "pos offset(0)". The corresponding decimal, binary, ASCII and Hexadecimal representation of the word is displayed. Useful for troubleshooting programs that read and write binary files created by other non-LabView applications.

Front Panel














The front panel features several controls for file operations:

- open mode (0)**: A dropdown menu currently set to **read/write**.
- EOF offset**: A numeric control set to **0**.
- pos offset (0)**: A numeric control set to **286**.
- Decimal**: A numeric control set to **0**.
- Binary**: A numeric control set to **0**.
- ASCII**: A text control with the label **ASCII**.
- Hexadecimal**: A numeric control set to **0**.
- STOP**: A red button with the text **STOP**.



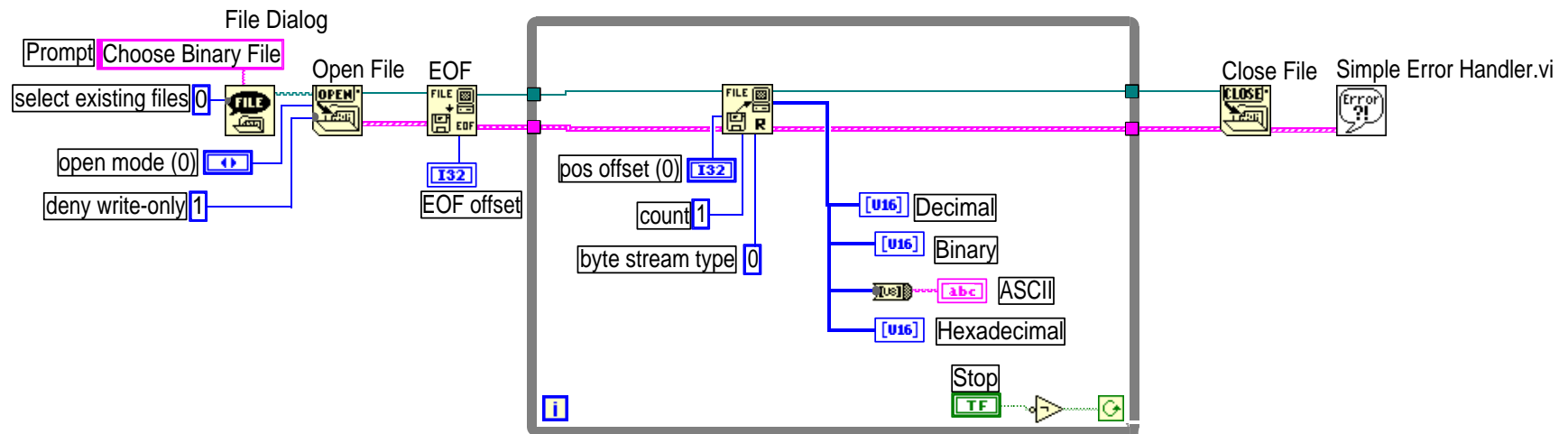
peekword.vi

Controls and Indicators

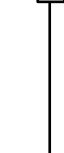
-  **open mode (0)**
-  **pos offset (0)**
-  **Stop**
-  **EOF offset**
-  **Decimal**
 -  **byte stream type**
-  **Binary**
 -  **byte stream type**
-  **ASCII**
-  **Hexadecimal**
 -  **byte stream type**

peekword.vi

Block Diagram



Position in Hierarchy





peekword.vi

List of SubVIs



Simple Error Handler.vi

C:\Program Files\National Instruments\LabVIEW 6\vi.lib\Utility\error.lib\Simple Error