



## Waveform Lab

Wednesday 3/5/03 - 2:00 to 4:00 PM



**Phasor Labs**

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Assume all waveforms are voltage waveforms recorded at cow contact with a 500 ohm resistor.

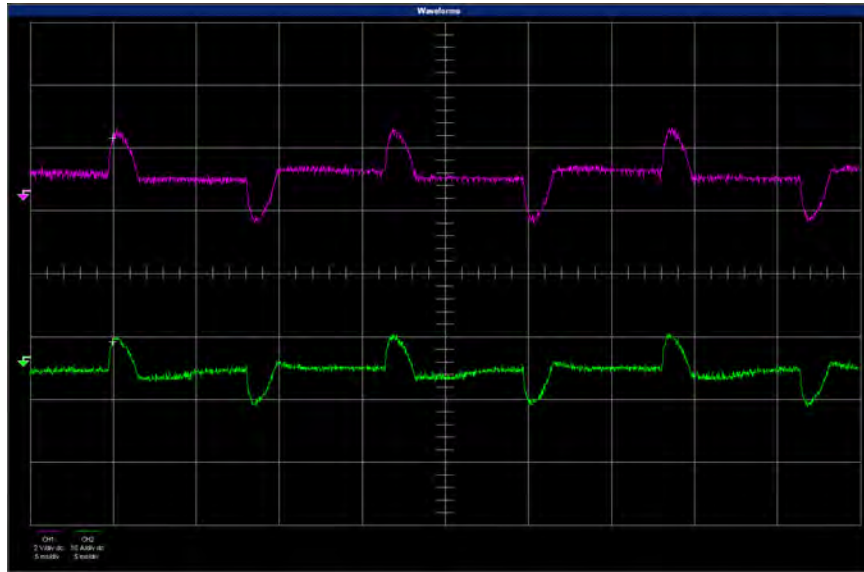
Using the sensitivity chart determine if the voltage applied is significant.

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2

2 v/div vert - 5 ms/div horiz - use upper trace

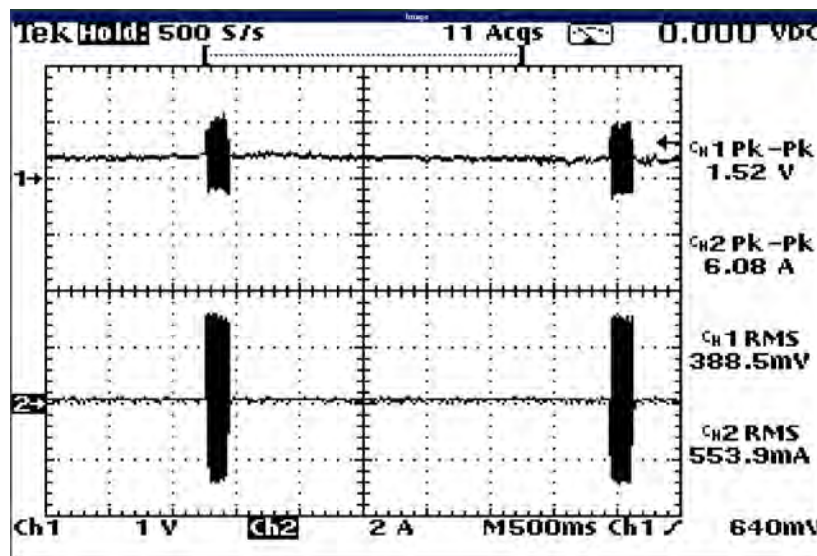


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1 v/div vert - 500 ms/div horiz - use upper trace

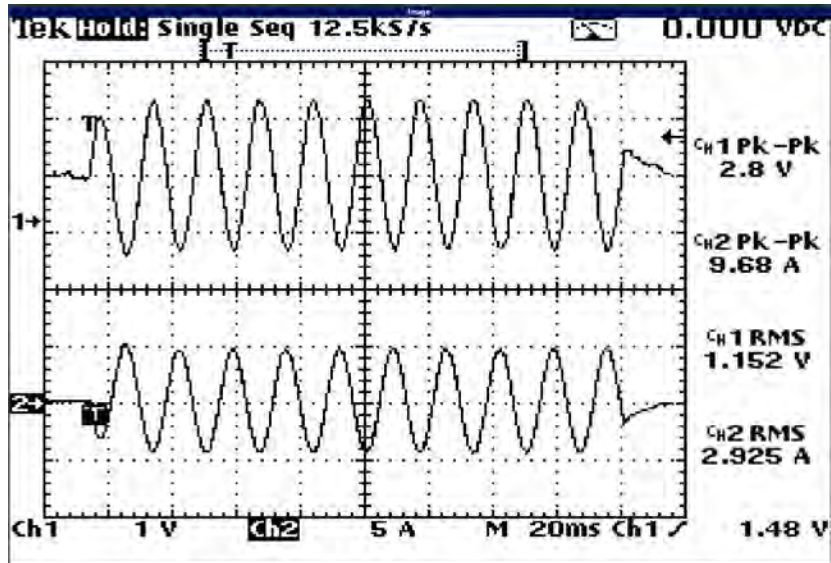


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1 v/div vert - 20 ms/div horiz - use upper trace

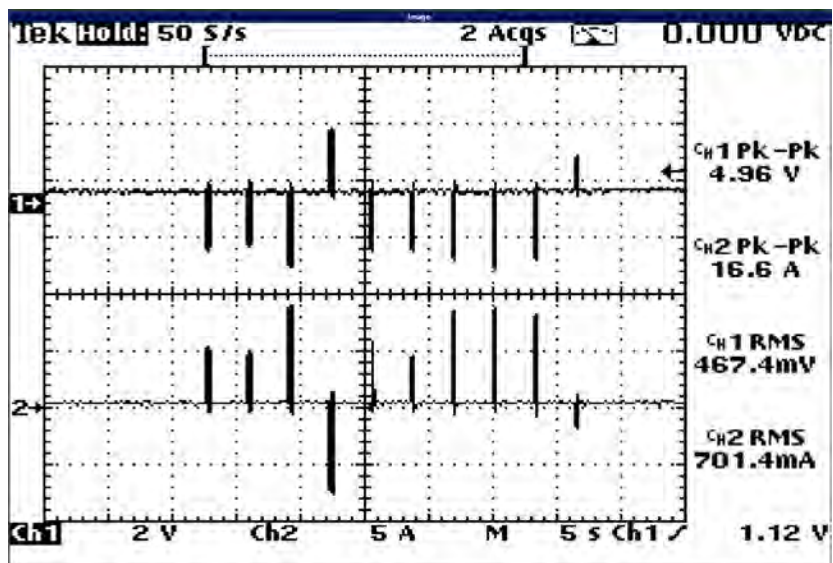


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5

2 v/div vert - 5,000 ms/div horiz - use upper trace

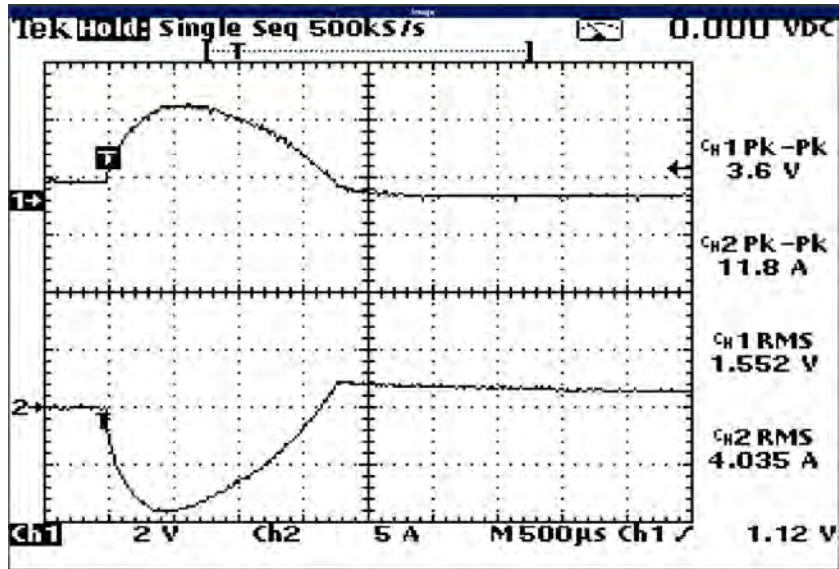


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2 v/div vert - 0.5 ms/div horiz - use upper trace

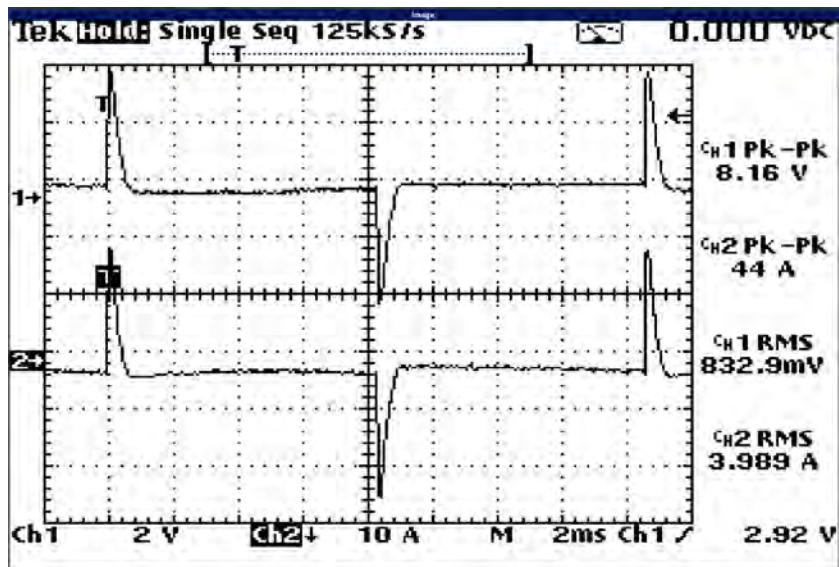


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2 v/div vert - 2 ms/div horiz - use upper trace

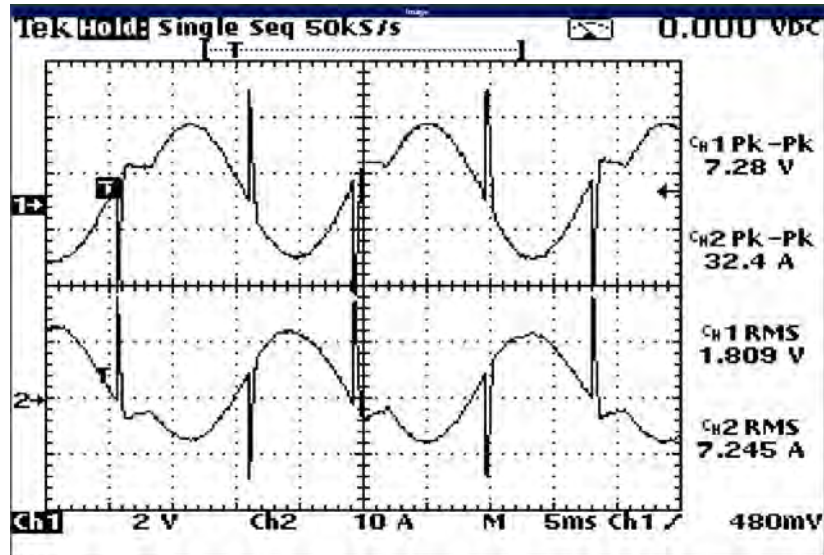


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2 v/div vert - 5 ms/div horiz - use upper trace

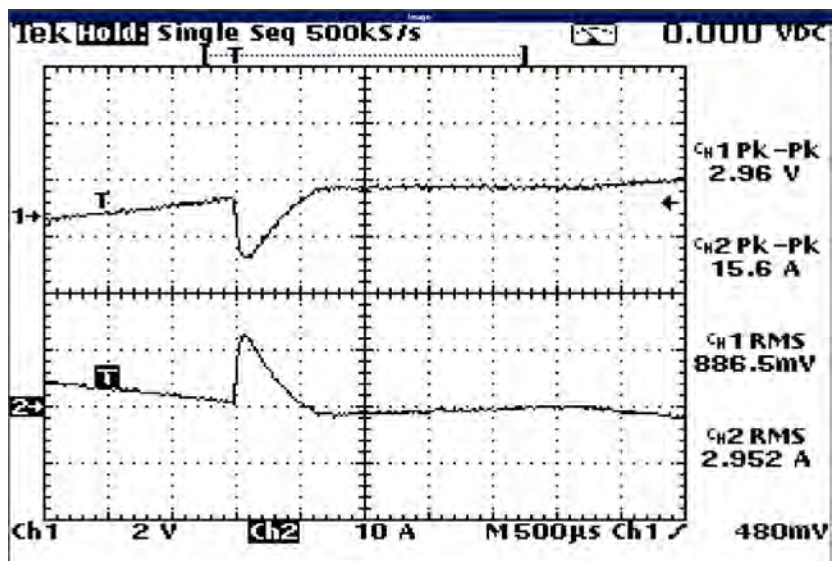


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2 v/div vert - 0.5 ms/div horiz - use upper trace

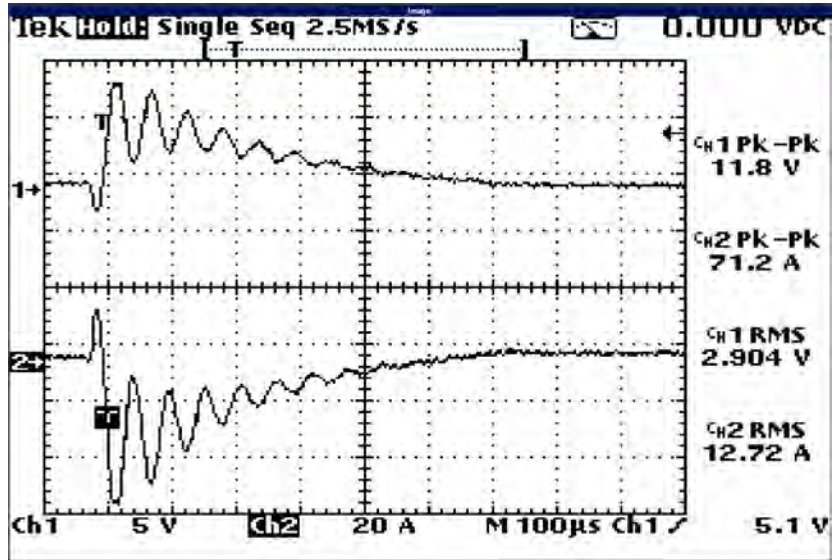


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5 v/div vert - 0.1 ms/div horiz - use upper trace

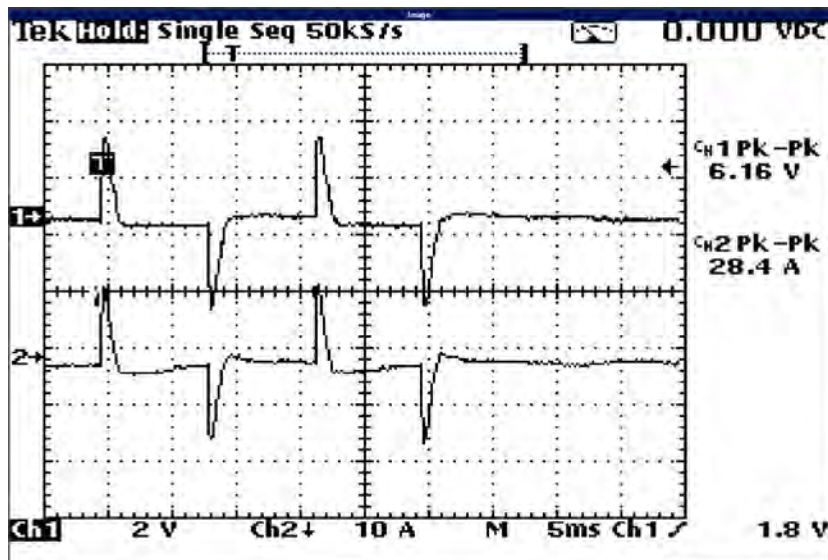


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2 v/div vert - 5 ms/div horiz - use upper trace

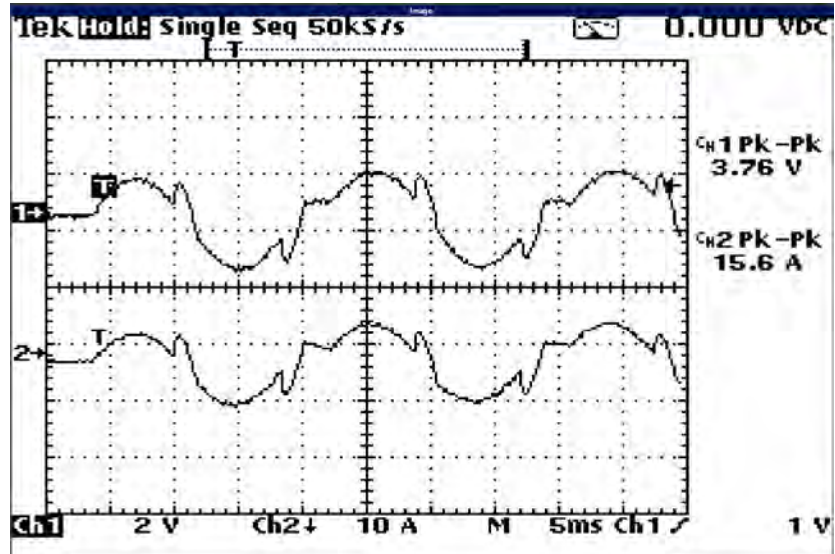


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2 v/div vert - 5 ms/div horiz - use upper trace

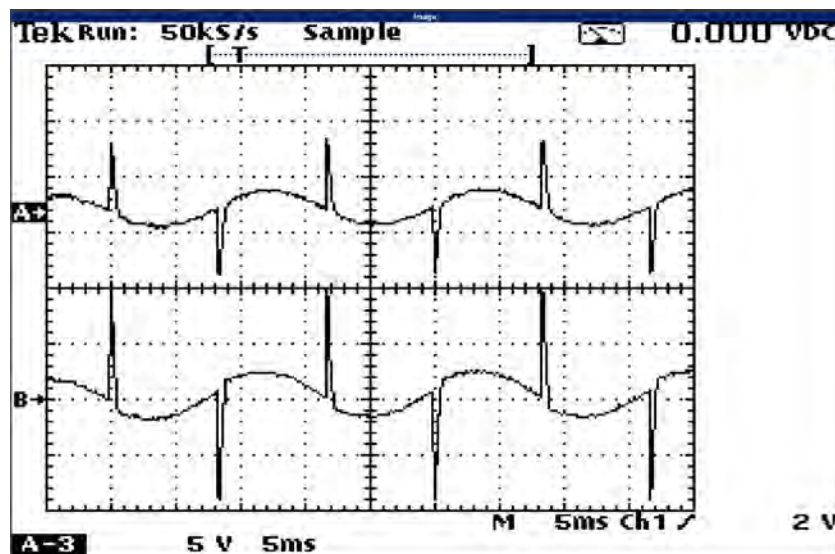


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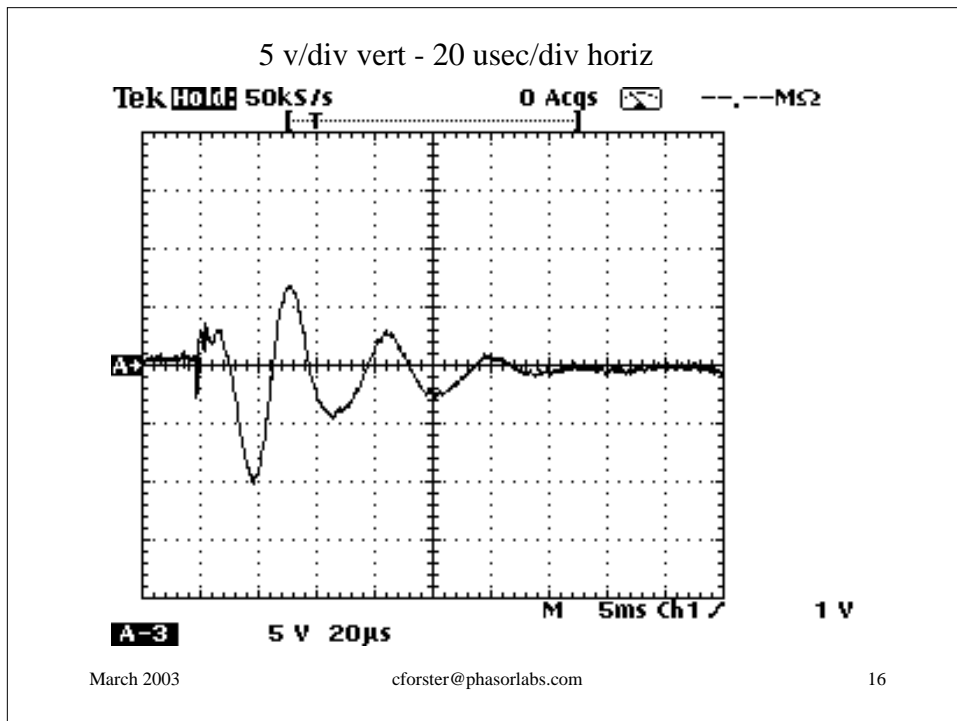
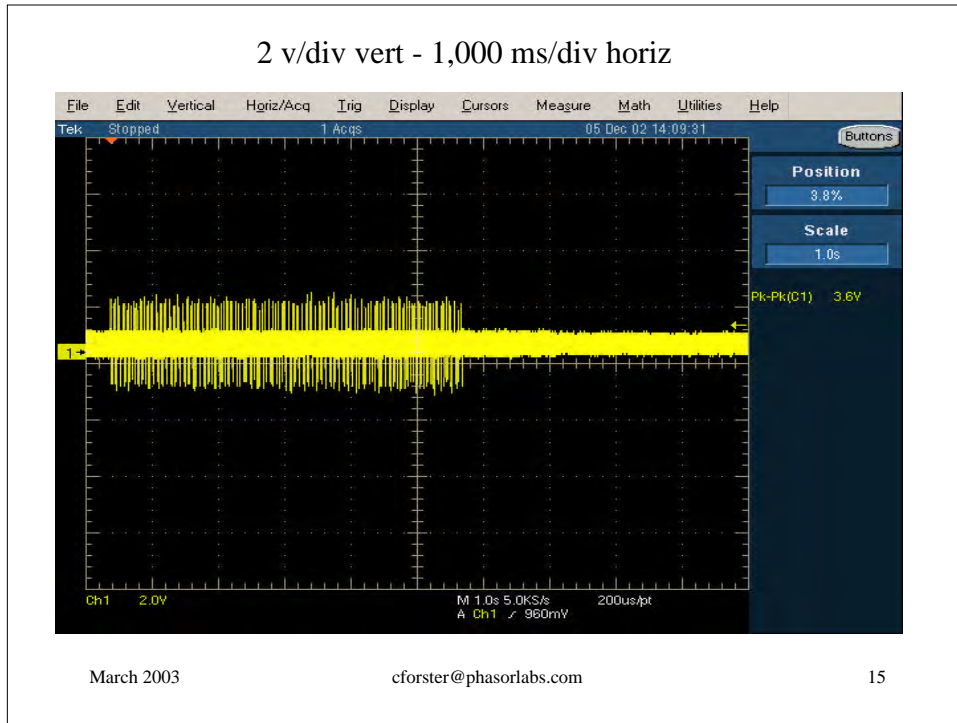
5 v/div vert - 5 ms/div horiz - use upper trace



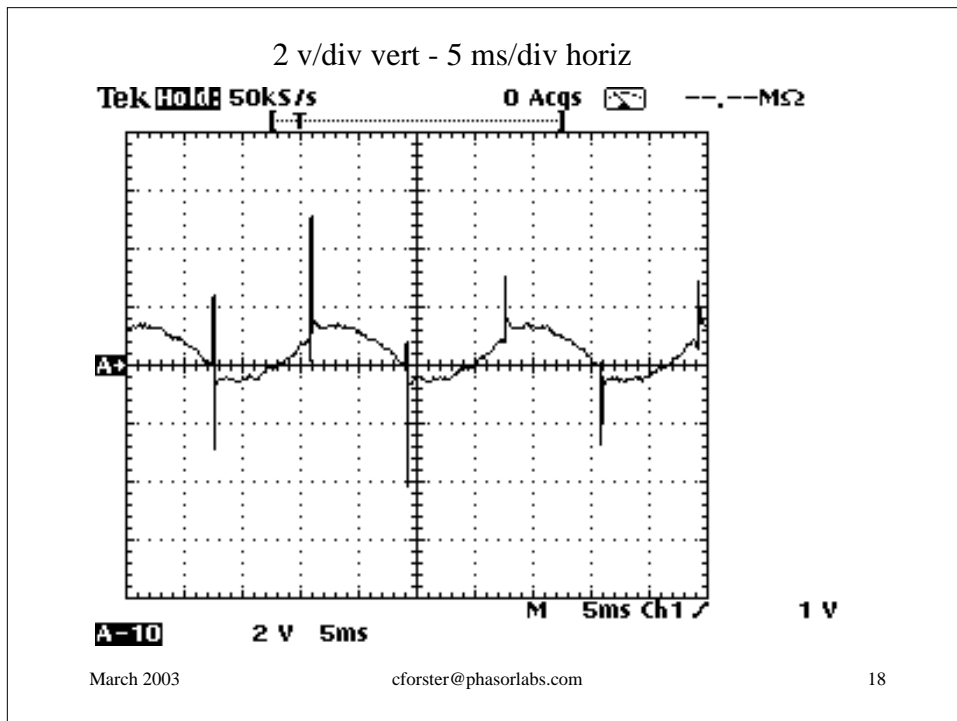
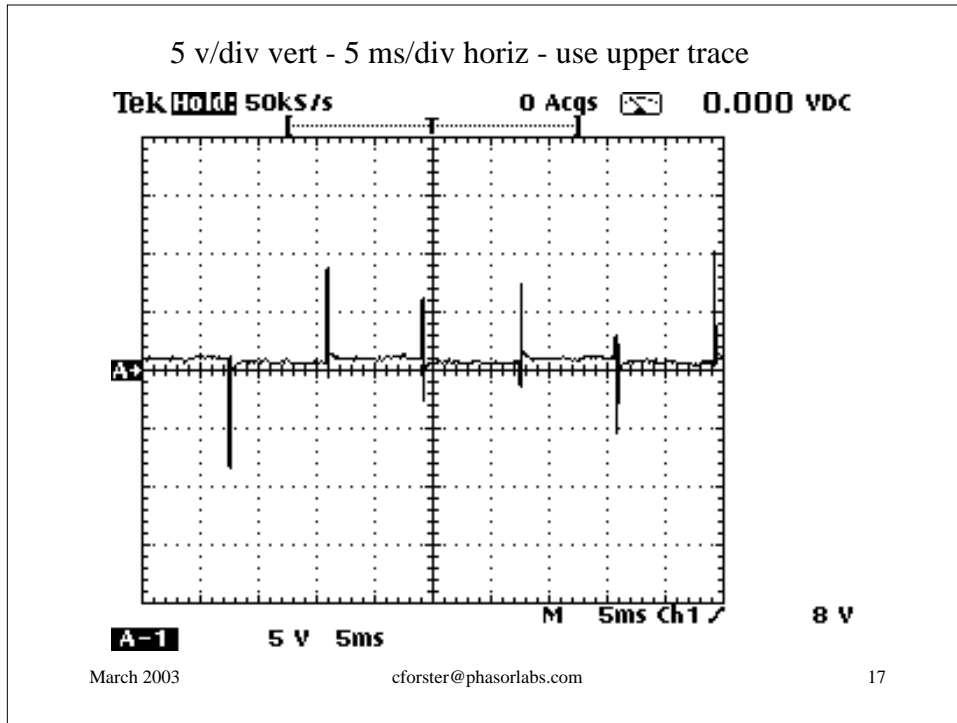
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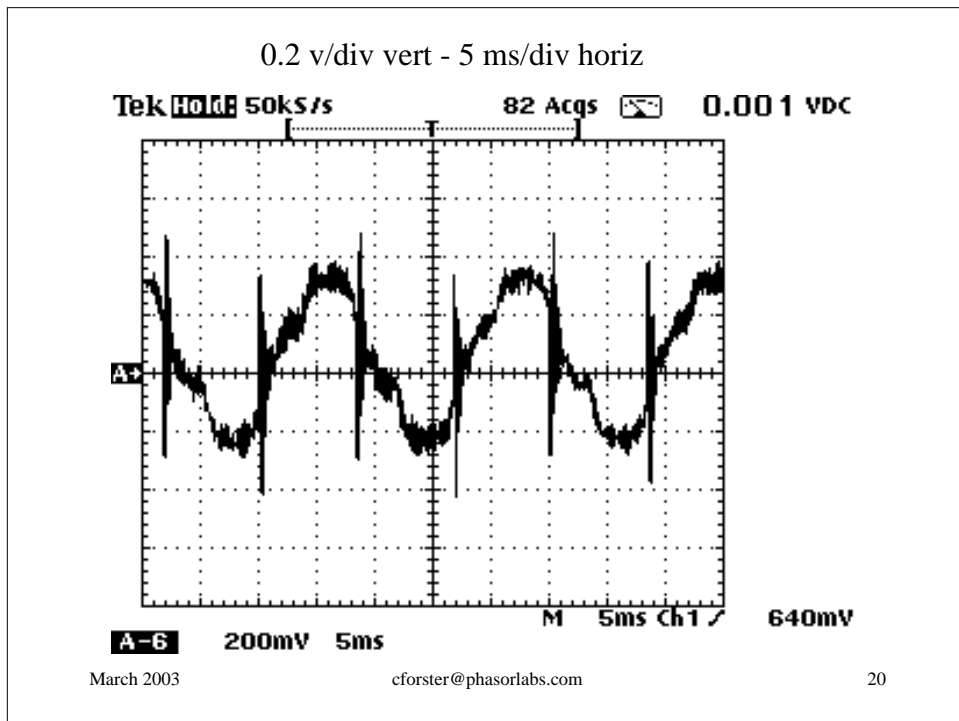
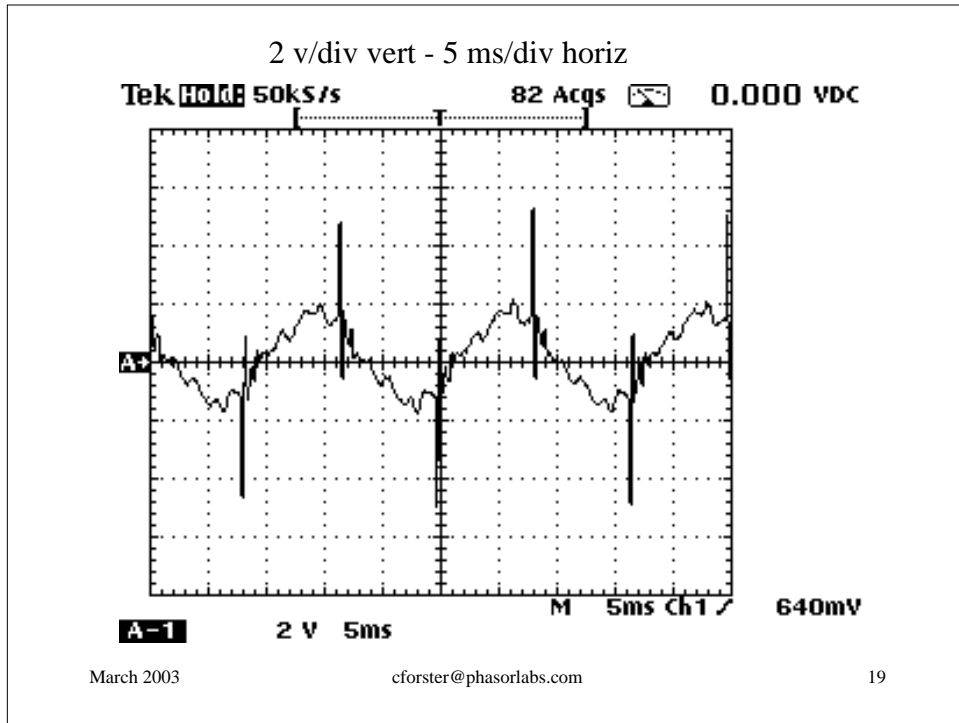
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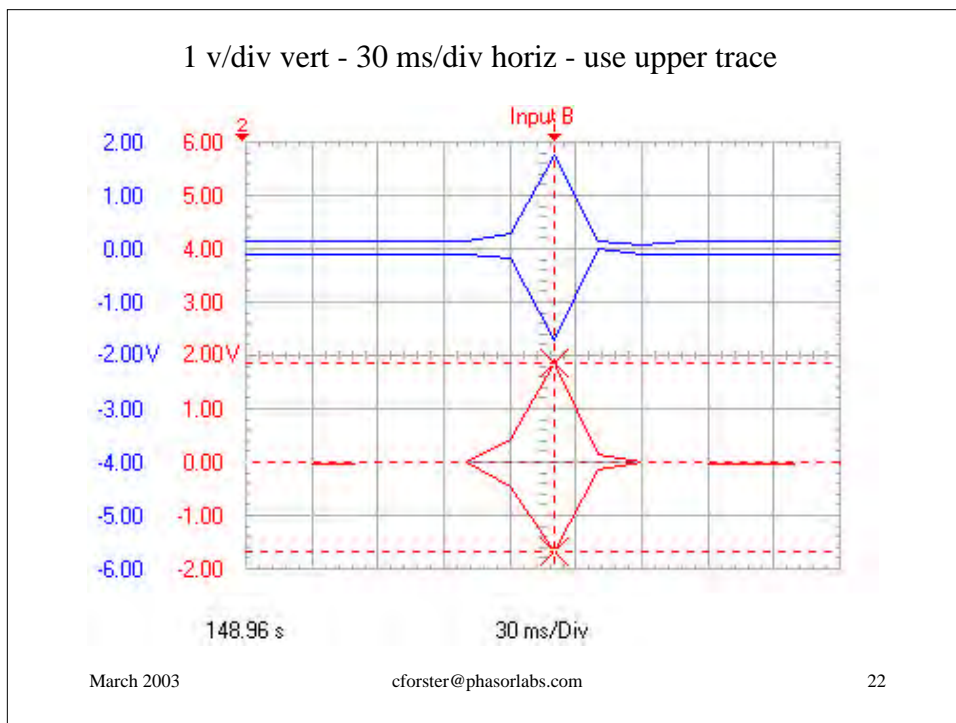
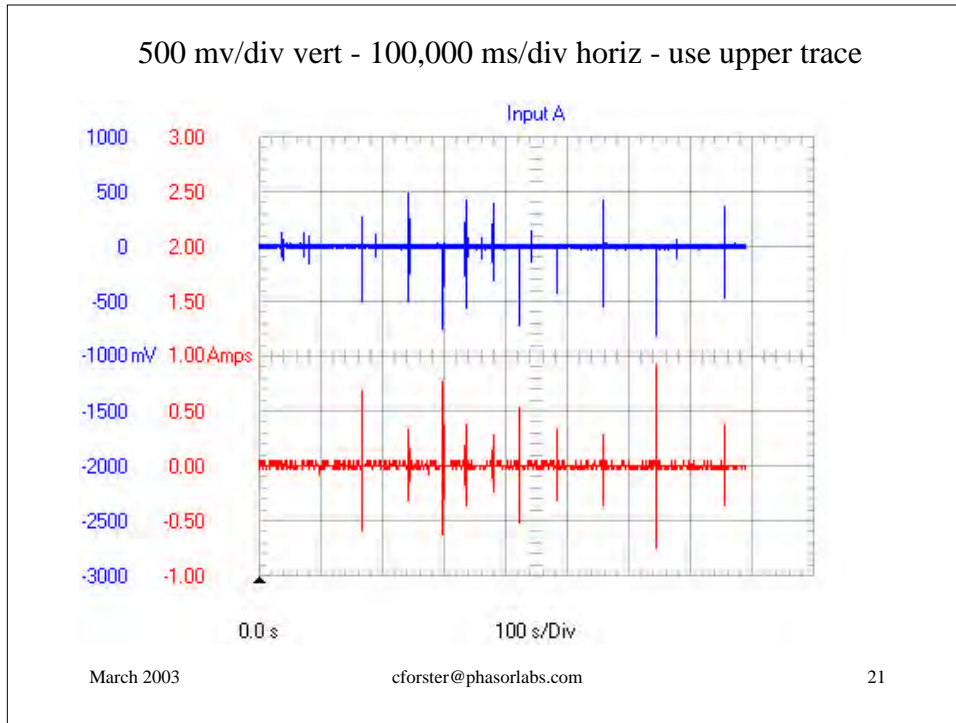
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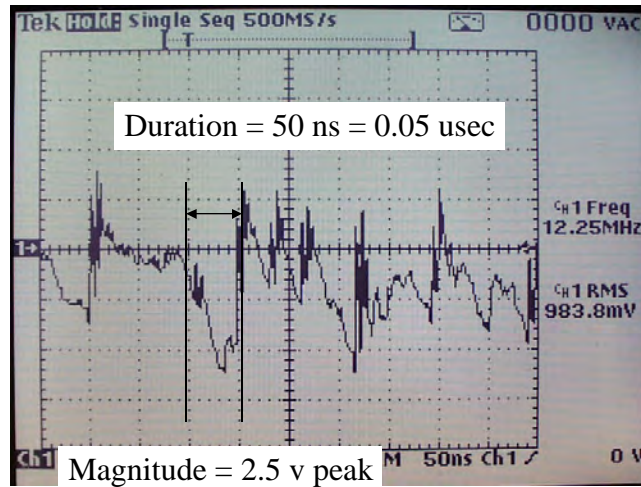






## Is this “Duration”?

Here is an impulse burst similar to that caused by secondary load switching



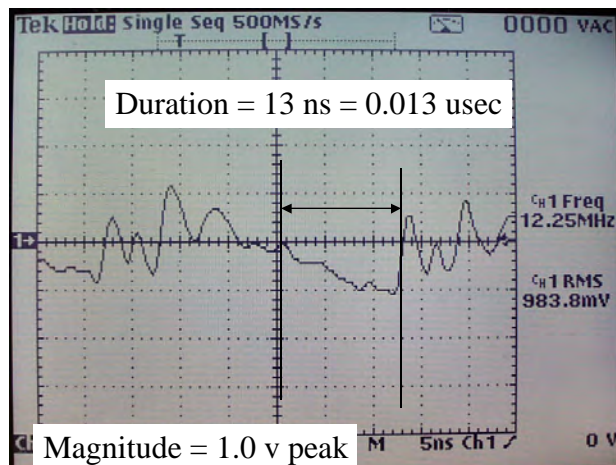
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## Or is this “Duration”?

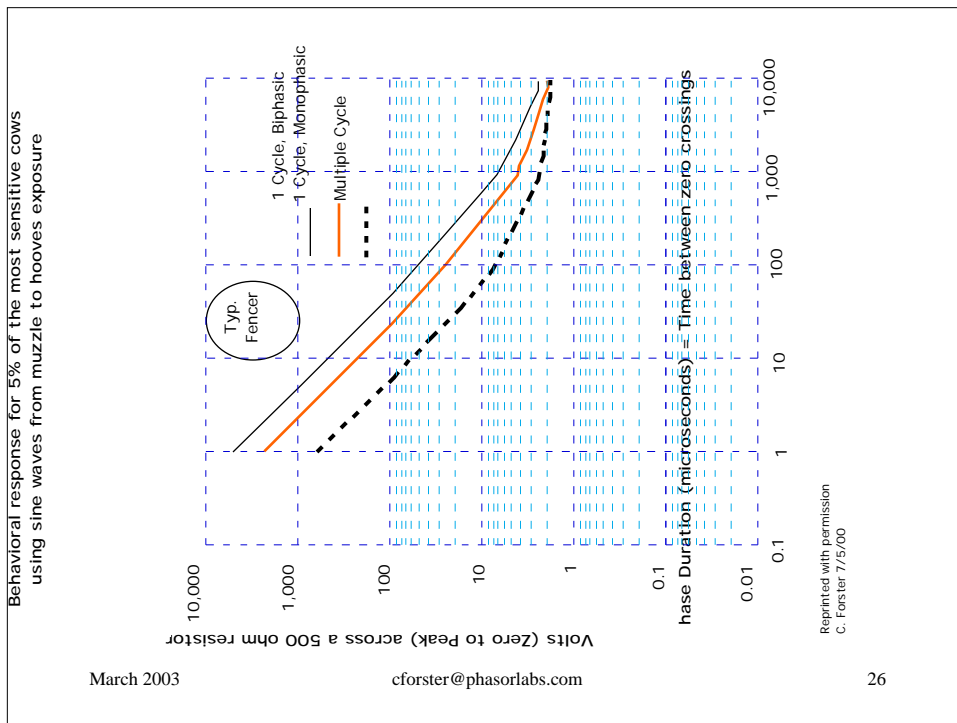
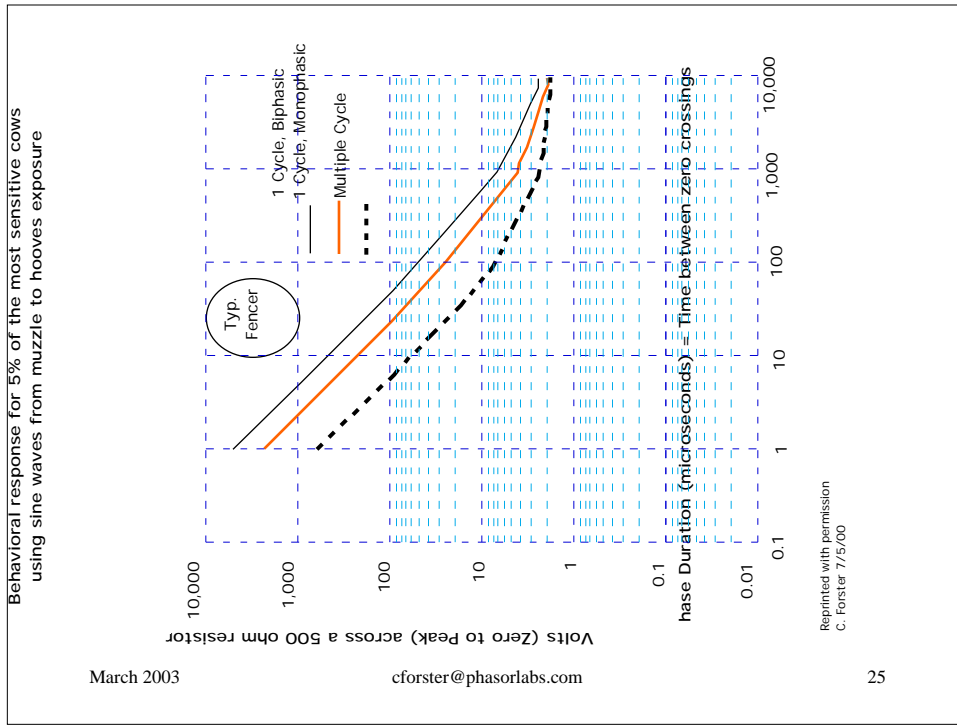
Here is part of the **SAME** impulse burst expanded 10 times

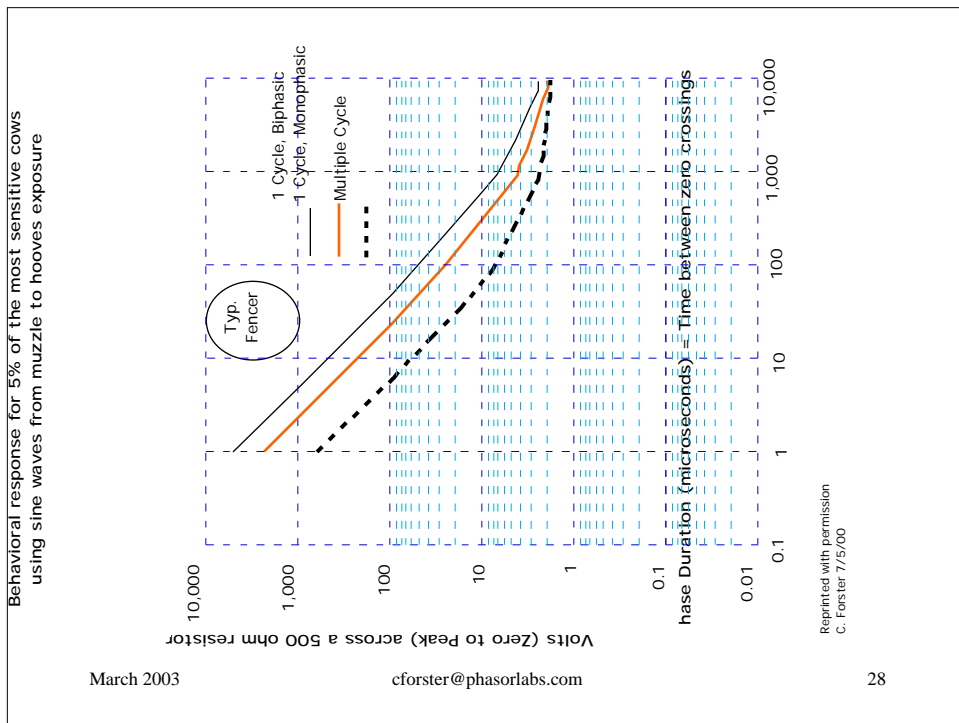
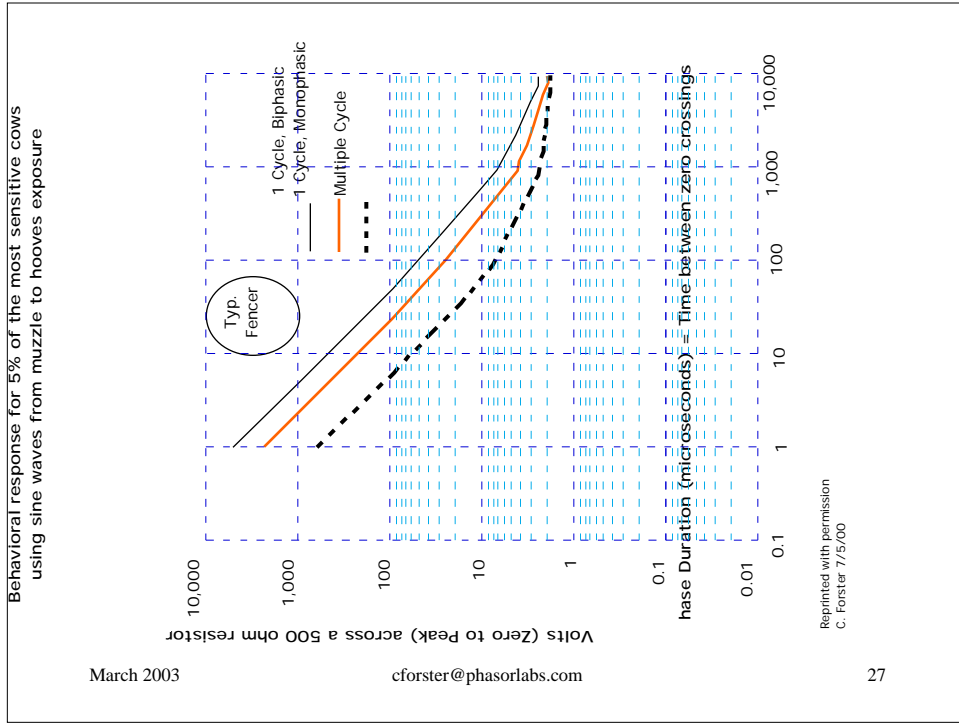


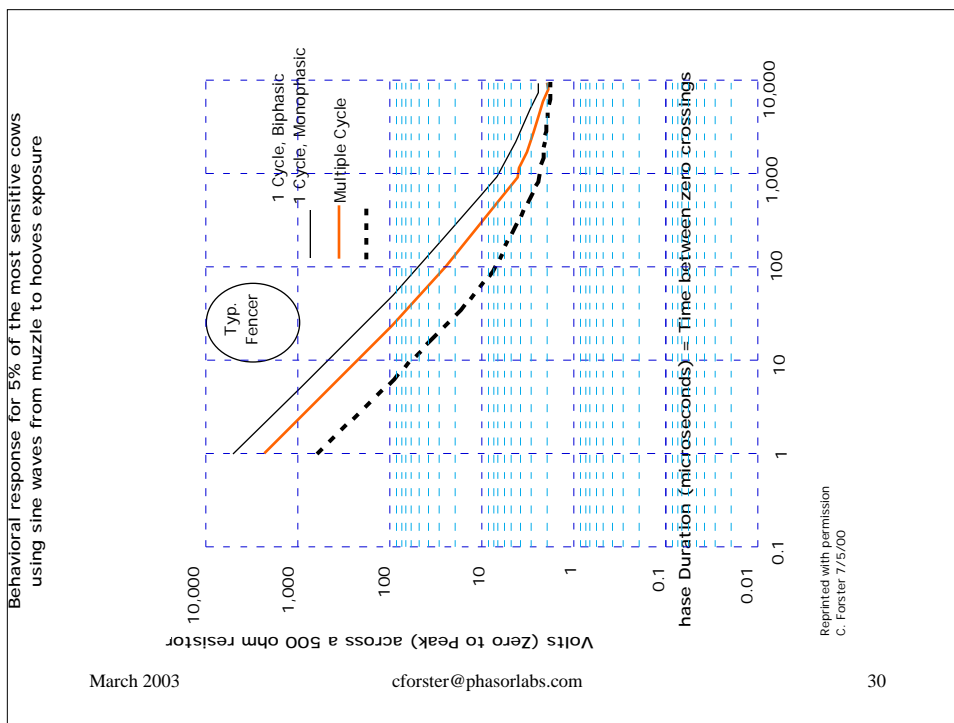
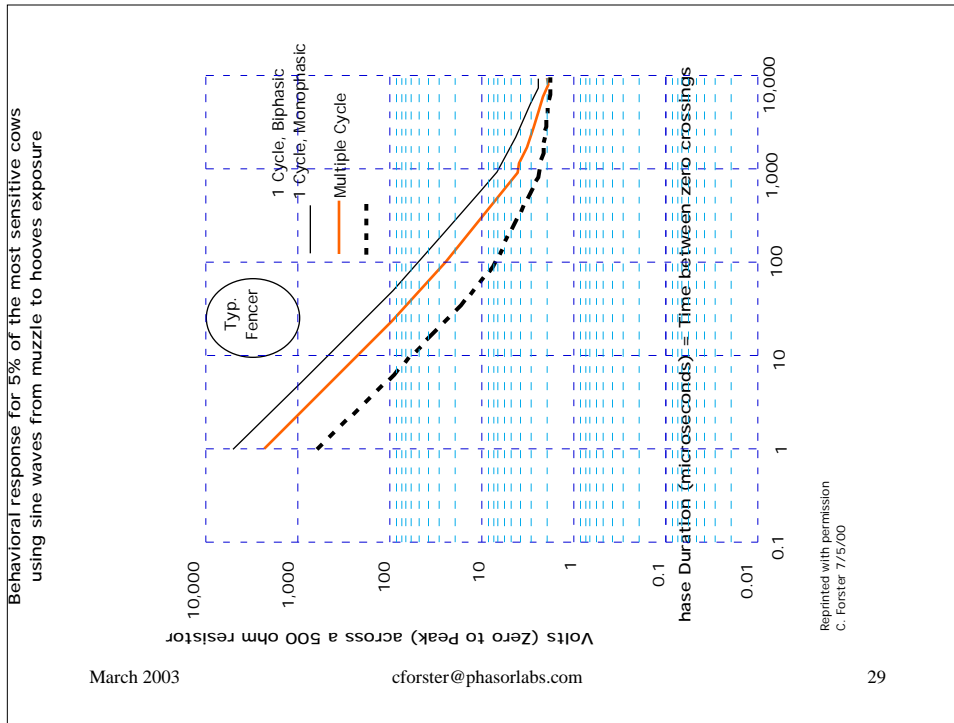
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## Some conversion factors:

1 second =  
1,000 milliseconds =  
1,000,000 microseconds =  
1,000,000,000 nanoseconds =  
1,000,000,000,000 picoseconds



## Some conversion factors:

0.001 second =  
1 milliseconds =  
1,000 microseconds =  
1,000,000 nanoseconds =  
1,000,000,000 picoseconds

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## Some conversion factors:

0.000001 second =  
0.001 milliseconds =  
1 microseconds =  
1,000 nanoseconds =  
1,000,000 picoseconds

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## Periods for sine waves:

1 Hertz = 1,000 milliseconds

60 Hertz = 16.7 milliseconds

1 kHz = 1 millisecond

1,000 kHz = 1,000 microseconds

1 MHz = 1 microsecond

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## Periods for sine waves:

1 MHz = 1 microsecond

10 MHz = 0.1 microsecond

10 MHz = 100 nanoseconds

100 MHz = 10 nanoseconds

200 MHz = 5 nanoseconds

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**Thanks!**

If you have any questions  
contact me:

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