

▶ Record Length

If I could...
...capture long-duration signals
in great detail...



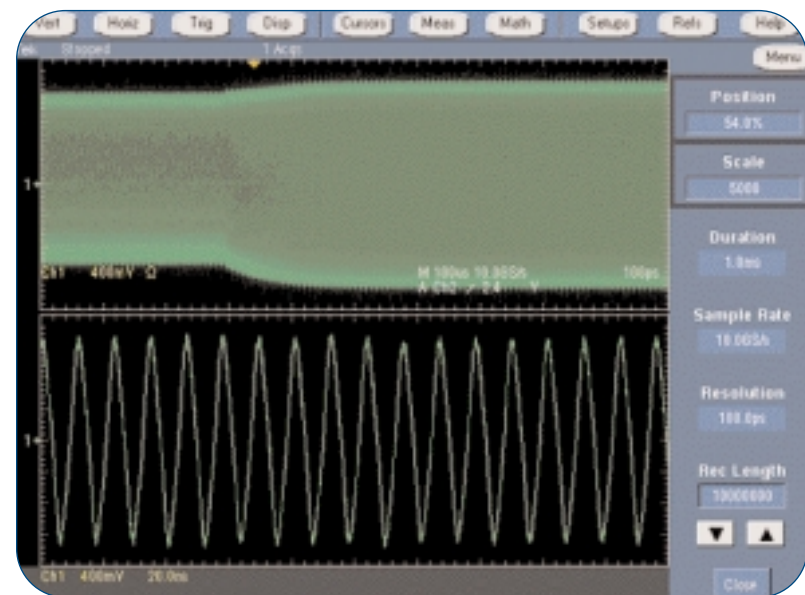
How Long Is Long Enough For You?

Record length, expressed as the number of points that comprise a complete waveform record, determines the amount of data that can be captured with each channel. Since an oscilloscope can store only a limited number of samples, the waveform duration (time) will be inversely proportional to the oscilloscope's sample rate.

$$\text{Time Interval} = \frac{\text{Record Length}}{\text{Sample Rate}}$$

Modern oscilloscopes allow you to select record length to optimize the level of detail needed for your application. If you are analyzing an extremely stable sinusoidal signal, you may need only a 500-point record length, but if you are isolating the causes of timing anomalies in a complex digital data stream, you may need a million points or more.

Tektronix oscilloscopes offer record lengths up to 32 million points, enabling you to tailor record length to your specific needs. In addition, many of our oscilloscopes allow you to add memory to increase the record length for specific applications.



▶ Capturing the high frequency detail of this modulated 85 MHz carrier requires high resolution sampling (100 ps). Seeing the signal's complete modulation envelope requires a long time duration (1 ms). Using long record length (10 MB), the oscilloscope can display both.