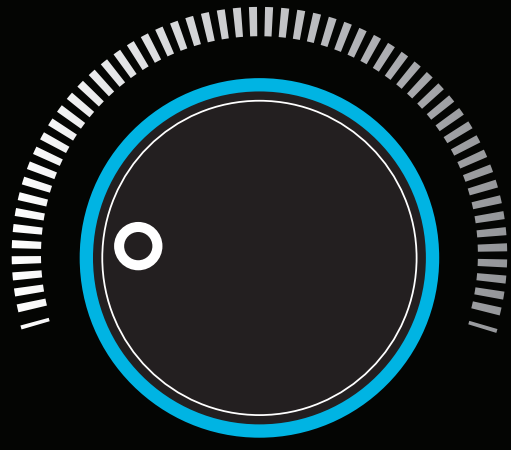


# The Journey of a Signal:

## Inside your Oscilloscope

An oscilloscope shows changes in an electrical signal over time. Simply connect your device, and the signal appears on the display, a waveform showing voltage versus time. It seems to happen instantaneously. But in reality, a complex process is underway to convert your signal to the waves you see on the screen.

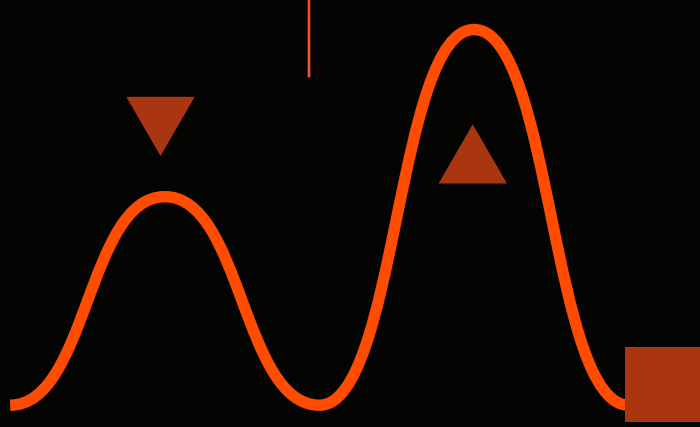
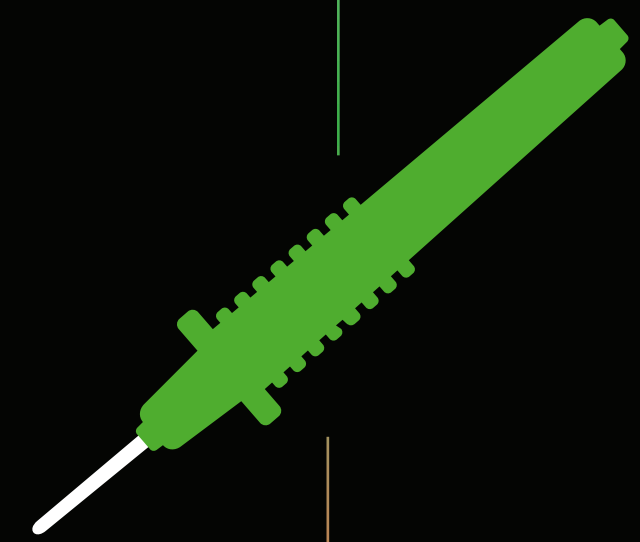


### Get Ready

Connect the probe to the device. Set trigger levels and horizontal and vertical scaling by turning the knobs on the front.

### The Journey Begins

The signal travels through a series of resistors and capacitors inside the probe and is fed into the oscilloscope.

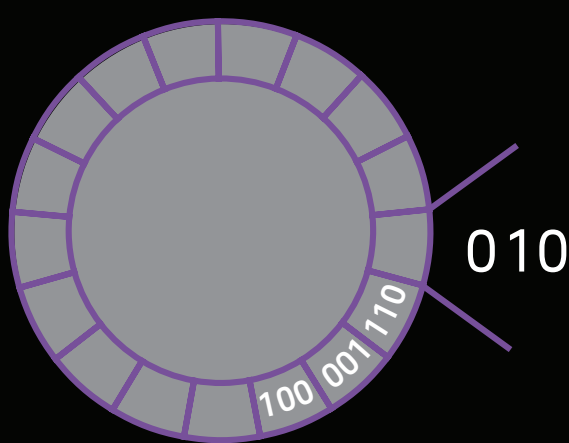
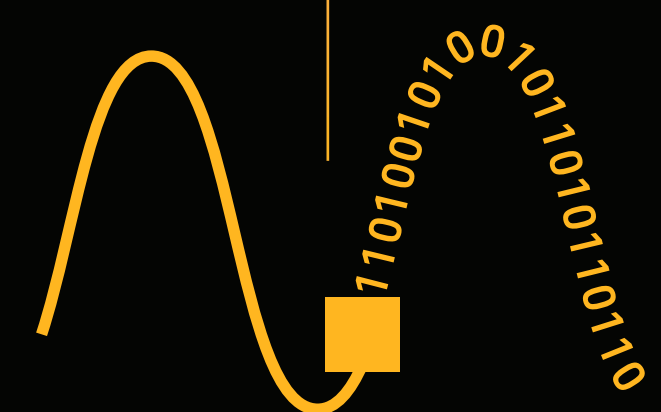


### Inside the Scope

The signal enters the scope and travels through the analog input signal conditioning block. It's made bigger or smaller, depending on its size, to be within the dynamic range of the analog to digital converter (ADC).

### Convert and Trigger

The analog signal is converted into digital data (ones and zeros) in the ADC block. At the same time, the trigger block compares the signal to the specified trigger conditions.

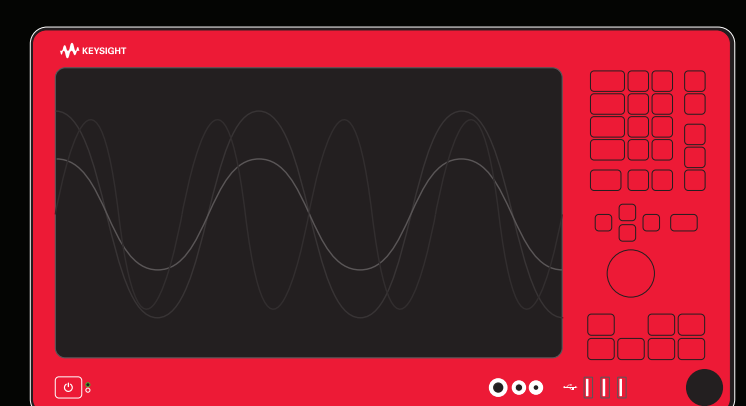


### Acquire Data

Trigger conditions tell the time base block when to capture digital data and save it in circular acquisition memory.

### Waveform Display

The digital signal processing block (DSP) analyzes the digital data and reconstructs it into a waveform that is displayed on the screen.



[Continue the journey // Click to download the eBook: 6 Essential Tips for Getting the Most Out of Your Oscilloscope](#)