
4 Operation

HANDLING THE PROBE

Exercise care when handling and storing the probe. Always handle the probe by the probe body or compensation box. Avoid putting excessive strain or exposing the probe cable to sharp bends.

CONNECTING THE PROBE TO THE TEST INSTRUMENT

The HFP2500 probe has been designed for use with LeCroy's WavePro™, Waverunner™ and LC oscilloscopes equipped with the ProBus interface. When you attach the probe output connector to the oscilloscope's input connector, the oscilloscope will recognize the probe, provide proper termination and activate the probe control functions in the user interface.

CONNECTING THE PROBE TO THE TEST CIRCUIT

To maintain the high performance capability of the probe in measurement applications, care must be exercised in connecting the probe to the test circuit. Increasing the parasitic capacitance or inductance in the input paths may introduce a "ring" or slow the rise time of fast signals. Input leads which form a large loop area will pick up any radiated electromagnetic field which passes through the loop and may induce noise into the probe input.

Using one of the available accessories makes the HFP2500 probe with its small profile and low mass head ideally suited for applications in dense circuitry.

OPERATION WITH A LECROY OSCILLOSCOPE

When the HFP2500 probe is connected to any LeCroy oscilloscope, the displayed scale factor and measurement values will be automatically adjusted.

Control through the oscilloscope's interface can be found in the 'Coupling' menu of the channel to which the probe is connected.

Turning the **Volts/Div** knob will control the oscilloscope's scale factor to give full available dynamic range up to 2 V/div.

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OFFSET

The HFP2500 has true offset capability. This allows you to remove a DC bias voltage from the input signal while maintaining DC coupling. By using probe offset rather than the 'position' control on the oscilloscope, the full dynamic range of the probe remains centered around the offset level, preventing the oscilloscope from being overdriven and causing inaccurate measurements.

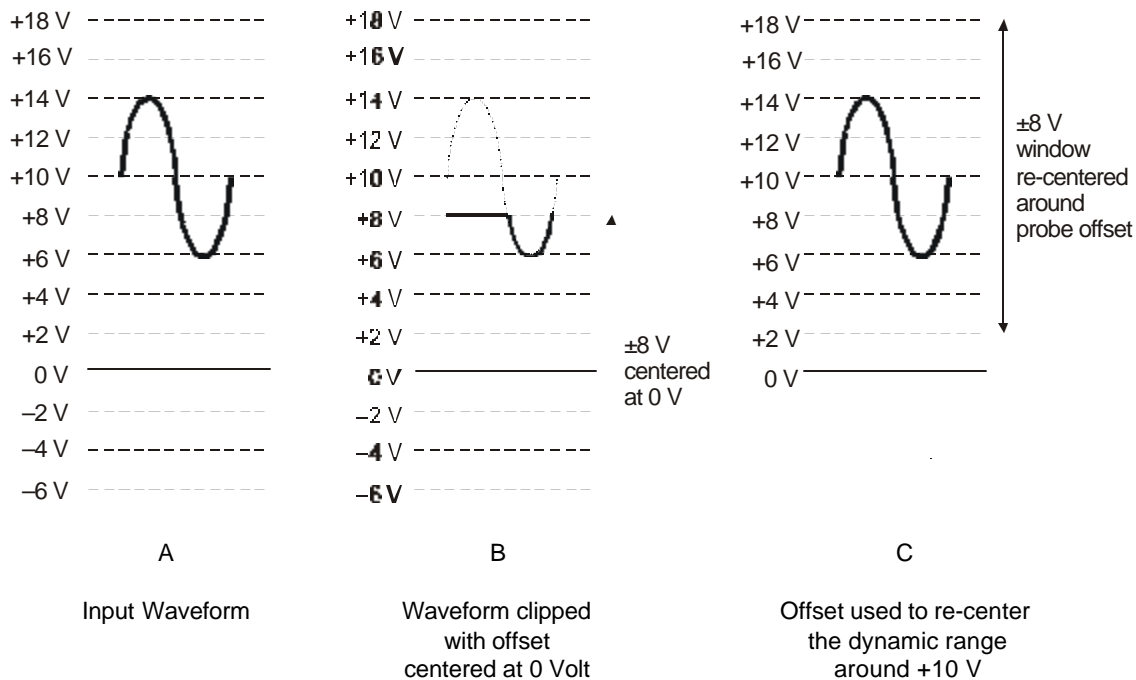


Figure 4-1. Dynamic Range and Offset Effects.

With ± 8 V dynamic range and ± 12 V offset, the HFP2500 has a measurement range of ± 20 V.

When the HFP2500 is used with a LeCroy oscilloscope equipped with ProBus interface, the probe offset is controlled with the channel **OFFSET** knob.

Note:

At higher frequencies the maximum linear input voltage is reduced. Refer to Section 9, Specifications, for the derating curve.

Note:

Probe offset is controlled with the channel OFFSET knob in oscilloscopes with software version 8.7.0 or higher. The current offset is displayed above the graticule for a few seconds after a change has been made.

USE WITH NON-LECROY INSTRUMENTS

The HFP2500 can be used with other instruments with the optional ADPPS power supply. The output of the ADPPS must be terminated into 50 Ω .

AutoColor ID feature and probe offset will be disabled when the probe is used with an ADPPS adapter.

When used with an ADPPS adapter, the probe's performance will be limited to 1 GHz and offset is only possible by using the oscilloscope's internal offset control.

Because the probe offset is not being used, the linear operating range is limited to ± 8 Volt.

USE WITH OLDER LECROY INSTRUMENTS

When used with LeCroy instruments with software version lower than 8.7.0, the oscilloscope will provide the correct scale factor but no AutoColor ID. Probe offset is also disabled.

Because the probe offset is not being used, the linear operating range is limited to ± 8 Volt.

With V/div settings greater than 2 V/div, it is possible to display clipped waveforms on screen.

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