

# Digital Power Management Analysis Application Software



## Key Features

### Applications

- Digital Multi-phase Power Management ICs (PMIC)
- Voltage Regulator Modules (VRM)
- Point-of-load (POL) switching regulators
- Low-dropout (LDO) regulators
- Half-bridge DC-DC converters
- Unregulated DC supplies
- Embedded system power rail debug and analysis
- Embedded system power delivery network (PDN) validation

### Capabilities

- Per-cycle parameters
- Per-cycle Waveforms
- Ripple
- Ringing
- Overshoot
- Droop
- Noise
- Settling Time

**Teledyne LeCroy Digital Power Management Analysis Application Software translates complicated multi-phase PMIC, VRM, POL, LDO and other DC rail behaviors into per-cycle measurements and displays per-cycle Waveforms to provide complete and fast understanding of power system behaviors.**

### Numeric Measurements Table

Various measurements can be selected for display in a mean value table. RMS, Sdev, Mean, Pk-Pk, Pk+, Pk- and Frequency are supported. Mean values are calculated over a user-defined cyclic period. Touch a mean value and a per-cycle Waveform is instantly displayed.

### Per-cycle Waveforms

Understanding power system behaviors over time is key to cause-effect analysis. These waveforms make it simple to identify and quantify behavior changes during transient load events.

### Zoom+Gate Dynamic Analysis

Capture long acquisitions and Zoom+Gate with instant table value updates and views of DC power/voltage rail and load current behaviors.

### Customized Source Names

Rename sources for all measurements to something specific to your design (e.g., POL1, VrailA, 1.5Vdc, etc.). These names are carried into the Numerics table and per-cycle Waveform displays.

### Compatibility

The application package is compatible with Teledyne LeCroy HDO6000A, HDO8000, and WavePro HD 12-bit up to 8 GHz (HD4096) and HDO9000 10-bit up to 4 GHz (HD1024) models.

# COMPLETE AND FAST UNDERSTANDING

## Numerics Table for Mean Values

A simplified and concise table displays rows (sources) and columns (measurements) with a single mean value in each cell for multiple measurements. The source names can be renamed for your specific needs.

Numerics	RMS	Sdev	Mean	Pk+	PkPk	Freq
900mV	899.554 mV	6.013 mV	899.534 mV	925.01 mV	34.30 mV	506.2268 kHz
700mV	700.219 mV	4.143 mV	700.207 mV	720.82 mV	25.82 mV	506.2268 kHz
1.5V	1.498788 V	5.923 mV	1.498776 V	1.51836 V	31.78 mV	506.2268 kHz
1.2V	1.199963 V	4.021 mV	1.199956 V	1.21541 V	22.62 mV	506.2268 kHz
Vrail	999.484 mV	3.432 mV	999.478 mV	1.01215 V	19.28 mV	506.2268 kHz
Irailin	2.7343 A	18.9 mA	2.7342 A	3.158 A	160 mA	506.2268 kHz
12Vin	12.0159 V	39.8 mV	12.0158 V	12.632 V	1.028 V	506.2268 kHz

## Per-cycle Waveforms Show Dynamic Behaviors

Just touch the Numerics table mean value to get a per-cycle Waveform display of the measurement value over time. This provides an intuitive view of the system behavior that makes it easy to understand complex dynamic behaviors.

The image to the right shows acquired voltage and current signals on the left and per-cycle Waveforms on the right. Each per-cycle Waveform is comprised of over 2500 measurement values.



## Zoom+Gate Dynamic Analysis

Use Zoom+Gate to isolate the acquisition and per-cycle Waveform view to a specific area of interest. Change location and zoom ratio and the table instantly updates to gate the measurement values to just the area of interest.



## Ordering Information

### Product Description

#### Recommended High Definition Oscilloscopes and Options

Product Description	Product Code
Digital Power Management Analysis Software Option for HD06000A Oscilloscopes	HD06K-DIG-PWR-MGMT
Digital Power Management Analysis Software Option for HD08000A Oscilloscopes	HD08K-DIG-PWR-MGMT
Digital Power Management Analysis Software Option for HD09000 Oscilloscopes	HD09K-DIG-PWR-MGMT
Digital Power Management Analysis Software Option for WavePro HD Oscilloscopes	WPHD-DIG-PWR-MGMT

### Customer Service

Teledyne LeCroy oscilloscopes and probes are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, our digital oscilloscopes are fully warranted for three years and our probes are warranted for one year. This warranty includes:

- No charge for return shipping
- Long-term 7-year support
- Upgrade to latest software at no charge



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Local sales offices are located throughout the world.  
Visit our website to find the most convenient location.