

# Quick Reference Guide



## WaveJet™ Series

To get started quickly, take a few moments to read through this guide. Additional information can be found in the Getting Started Manual.

On-line help also contains more information on using the oscilloscope.

# Understanding Display Information

## Trigger Position Indicator

Color coded to the triggered signal. Zero delay is the center of the grid.

## Bottom Status Bar

Displays important information about the trigger and cursors.

## Trace Descriptors

Displays Volts/Div, Offset, and Coupling of each channel and math trace.



## Top Status Bar

Displays important information about the acquisition mode and timebase settings.

## Grid Area

Portion of the display where waveforms are shown.

## Trigger Level Indicator

Color coded to the triggered signal.

## Message Line

Provides information about the sample rate, memory length, and frequency counter.

## Volts/Division

## Channel Number

## Channel Coupling

## Offset

1: 200mV	2: 100mV	3: 100mV	4: 100mV
DC1MΩ	DC1MΩ	DC1MΩ	DC1MΩ
ofs	-112mVofs	-292mV	Empty

## Trace Descriptors

## Time/Division

## Trigger Delay

## Trigger Status

## Sweep Counter

## Intensity

## Top Status Bar

M 500μs 0.0000s Stop 4/ 4 88%

## Bottom Status Bar

Δt=1.01ms 1/Δt=990Hz Edge 1 DC 284mV

## Cursor Readouts

## Trigger Type and Slope

## Trigger Source

## Trigger Coupling

## Trigger Level

## Message Bar

LeCroy f:1.00100kHz 20MS 100k points RTC:2006/01/31 15:13:00

## Message Section

Any necessary message will be displayed here

## Frequency Counter

Displays frequency of triggered signal

## Sample Rate

## Number of Sample Points

## Clock Readout

Choose between Real Time Clock and Trigger Time Stamp

# Vertical and Horizontal Controls

## Press Knob

to toggle between zero delay and new setting.

## Light On

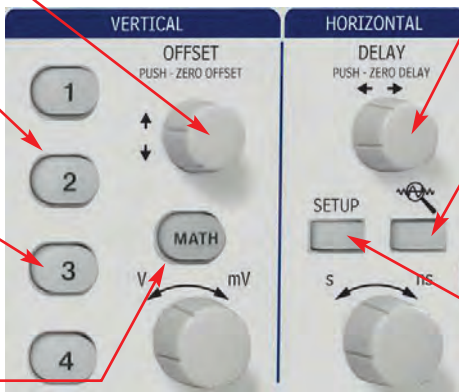
Indicates that the vertical controls will adjust that channel (the active channel).

## Light Off

Channel may or may not be displayed, vertical channels will not adjust that channel.

## Math

Turns on the Math trace and accesses the Math menu.



## Press Knob

to toggle between zero delay and new setting.

## Quick Zoom

Press to turn on zoom traces in a separate grid.

## Setup

Press to access the Timebase Setup menu.

## If All Channel Lights are Off

Then the horizontal and vertical controls are "active" for a Math trace or zoom trace. If the Zoom light is on then the horizontal controls will adjust the zoom trace. If the Math light is on both the horizontal and vertical controls will adjust the Math trace.

### Trace Off

2: 100mV  
DC50Ω  
ofs 50.0mV

### Trace On

2: 100mV  
DC50Ω  
ofs 50.0mV

### Trace Active

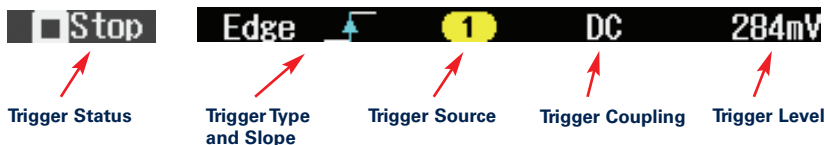
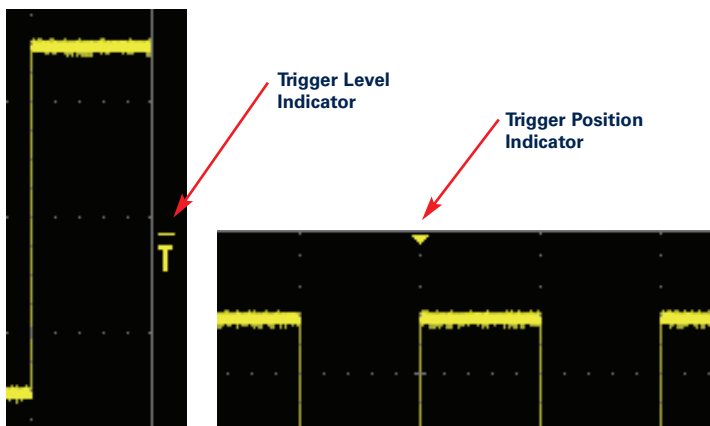
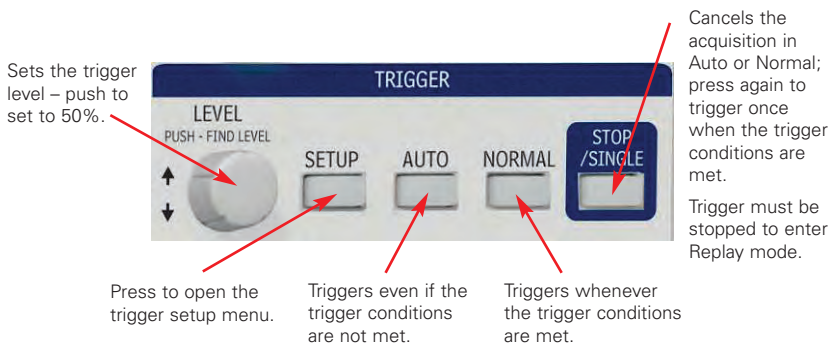
2: 100mV  
DC50Ω  
ofs 50.0mV

Math descriptor is not displayed when trace is turned off

M: 20dBm  
1FFT 25.0MHz  
pos 0.00dBm

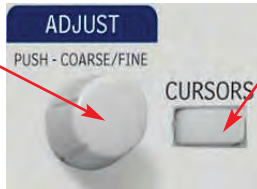
M: 20dBm  
1FFT 25.0MHz  
pos 0.00dBm

# Trigger Controls



# Using Cursors

Use the Adjust knob to position the cursors. Press the knob in to select between cursors or to set the two cursors to track together.



Press to turn cursors on, toggle through the cursor types, and then turn the cursors off. Choose between Time, Amplitude, Time & Amplitude, and Value at Cursor.

When light is on the Adjust knob controls the cursor position.

$\Delta t = 1.01\text{ms}$      $1/\Delta t = 990\text{Hz}$

Horizontal cursor information is located in the bottom status bar directly below the waveform grid.

1: 100mV  
DC1M $\Omega$   
 $\Delta V$     325mV

Vertical cursor information is located in the trace descriptor.

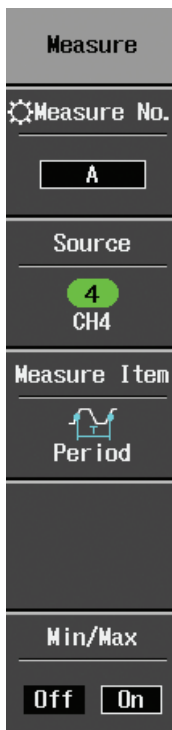
When Time & Amplitude cursors are used the readout is displayed for both cursor types.

$\Delta t = 2.45\text{ns}$		$1/\Delta t = 408\text{MHz}$	
1: 100mV		2: 100mV	
DC1M $\Omega$		DC50 $\Omega$	
$\Delta V$	325mV	$\Delta V$	325mV

# Setting Up Measurements



Press the front panel Measure button to access the Measure menu and turn the measurement parameters on. Press it again to turn the parameters off.



Up to 4 measurements can be displayed at a time, select between measurement lines A, B, C, D.

Selects the source for your measurement, it can be any of the 4 channels or the Math trace.

Select between any of the 26 Automatic measurements.

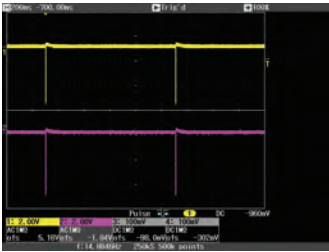
Display or hide the minimum and maximum statistics.

Measurement Source	Measurement Parameter	Last Value Measured	Maximum Measured Value	Minimum Measured Value
A: 4	Period	6.782 $\mu$ s	6.782 $\mu$ s (Max)	6.782 $\mu$ s (Min)
B: 4	+Pulse Width	1.978 $\mu$ s	1.980 $\mu$ s (Max)	1.978 $\mu$ s (Min)
C: 4	+Overshoot	5.60%	7.20% (Max)	2.40% (Min)
D: 1	Tr 10-90%	3.580ns	9.500ns (Max)	2.920ns (Min)

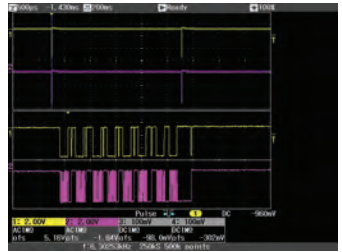
# Zoom Your Signals



Press the front panel Quick Zoom button to zoom all displayed traces including Math.



Original display before pressing the Quick Zoom button.

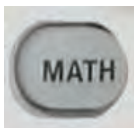


After Quick Zoom is pressed the zoom traces are displayed in a separate grid.

Use the delay and Time/Division control to change the zoom factor and portion of the waveform you are zooming.



# Setting Up Math



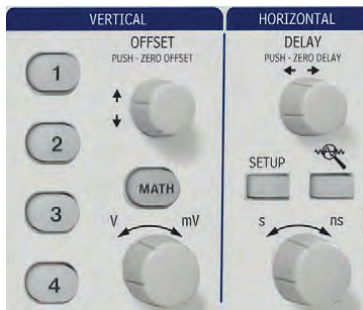
Press the front panel Math button to turn on the Math trace and access the Math menu.



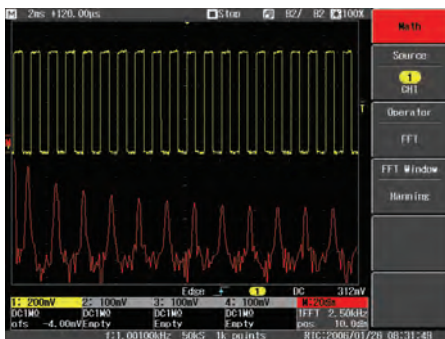
Selects the source for the math trace, it can be any of the 4 channels.

Select between the 4 available Math functions: sum, difference, product, ratio, FFT

Select FFT Window Type



When the Math light is on, use the horizontal and vertical controls to adjust the scale and position of the Math trace.



## Setting Up Reference Waveforms

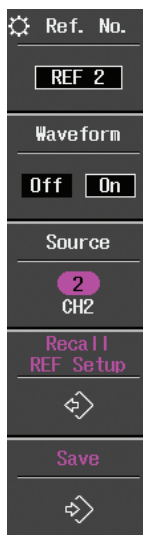
The Math trace appears on the display with Math trace descriptor box.



# Saving Reference Waveforms



Press the front panel REF button to access the Reference Waveform menu.



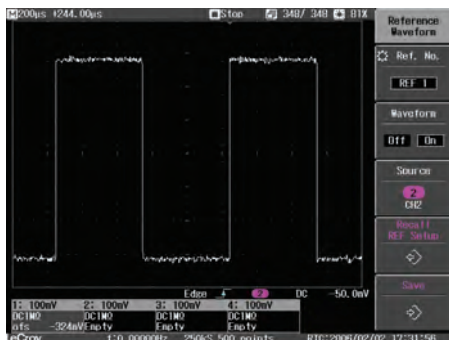
Select between 5 different Reference waveforms.

Turn the Reference waveform on or off.

Select the source for the waveform to save; select from 4 channels and the Math trace.

Recalls the oscilloscope settings from when the Reference waveform was originally saved.

Saves the waveform to Reference memory.



Reference Waveforms are displayed in white on the waveform grid.

# Documenting Results

WaveJet provides a front panel USB port for a quick and easy way to save waveforms, screen captures, and setups.



Connect a USB memory device to the front panel USB port.



Press the front panel Print button to store a screen capture to a USB memory device.  
Set user preferences in the Utilities menu to select file type, file name, and background color.



Press the front panel Save/Recall button to access the Save/Recall Menu.  
In this menu save waveforms to USB memory in either ASCII or binary formats, and save and recall setup files from internal memory or from USB memory.  
The Save/Recall menu is where the selection to recall the Default Setup is located.

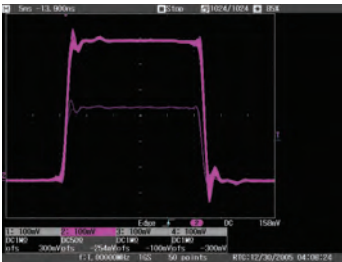
# Using Replay



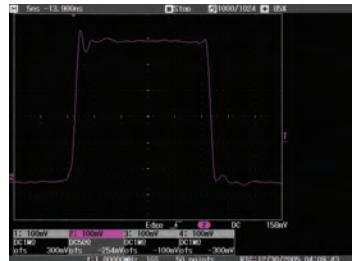
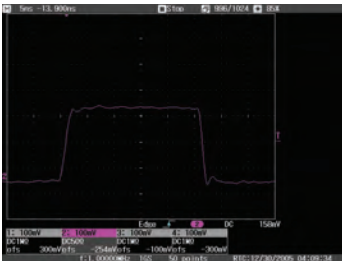
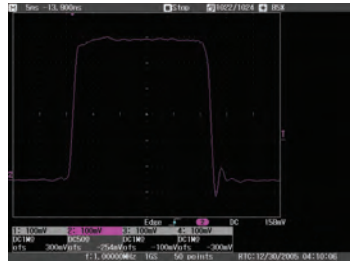
Stop the trigger, then press the Intensity knob to turn on Replay mode; the light will turn on.

Once in Replay, rotate the knob to look back at the history of acquisitions to isolate runts, glitches, or other abnormalities.

The display shows a runt pulse along with a lot of variation in overshoot and undershoot.



Activate Replay to view each acquisition individually on the display.



Up to 1024 acquisitions can be viewed with Replay.

Rotate the knob to scroll through each acquisition.

# Thank You for Purchasing a WaveJet™ Oscilloscope

To offer comments or suggestions about the product, please feel free to email the Product Manager at [WaveJet@lecroy.com](mailto:WaveJet@lecroy.com)

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