

# E2690B Oscilloscope Tools

Data Sheet



- Hidden Anomaly Locator automatically identifies a broad range of waveform fidelity problems and suggests possible causes.
- Make measurements instantly with Automeasure
- Make measurements across analog and digital domains (with Agilent mixed signal oscilloscopes)
- Quickly automate repetitive measurement sequences with TestScript
- Record measurements, then replay and analyze them

- Locate repetitive phenomena with repetition interval analysis tools
- Decompose jitter into random and deterministic jitter, including all components of jitter (Rj, Dj, Pj, DDj, DCD, and ISI)

## **Powerful tools for faster debug and better insight into your designs**

ASA's Oscilloscope Tools, licensed by Agilent Technologies from Amherst Systems Associates (ASA), are the most powerful suite of analysis, debug, collaboration, and automation tools for Agilent real-time oscilloscopes. ASA's

Oscilloscope Tools work in tandem with Agilent's mixed signal oscilloscopes (MSOs) to provide measurements never before possible.

Oscilloscope Tools are supported on Agilent Infiniium (DSO/MSO8000, DSO/MSO9000 and DSO/DSA90000), InfiniiVision (MSO and DSO5000, 6000, and 7000), in addition to the Agilent DSO3000.



**Agilent Technologies**

### Easy to use

When you launch Oscilloscope Tools, you immediately see a screen with measurement results (Figure 1). AutoMeasure automatically detects which scope channels have signals. It scales the signals and sets the analysis software up to make the most frequent set of measurements. You can access other measurement views by simply clicking the buttons. New users have access to powerful analysis and debug features without needing any in-depth knowledge about oscilloscopes.

### Powerful exploratory/debug features

Oscilloscope Tools offers the most comprehensive set of tools available for in-depth analysis of signal behavior.

Hidden Anomaly Locator (HAL) is like having a signal analysis specialist constantly watching your waveforms, looking for the first hint of a problem. HAL can

find a problem you didn't even know that you should look for, and provide you a list of possible causes and corrective measures. If HAL finds something you are aware of, or want to ignore for the moment, you can selectively ignore some aspects of signal behavior while letting HAL continue to watch other factors.

HAL consists of multiple agents, each of which looks for a particular signal pathology. While HAL comes with a variety of agents, there may be some special behavior that you want HAL to be on the lookout for. If so, you can create your own agent, and it will run along with the rest of HAL's agents.

Repetition interval analysis is useful for visualizing repetitive behaviors that are not readily visible in spectral analysis. Jitter modulation domain measurements create insight through spectral analysis of jitter.

With the powerful and flexible “Run Until” feature, Oscilloscope Tools will watch your system until a specified condition occurs, then allow you to analyze what caused the condition in detail.

TestScript lets you record repetitive sequences of measurements, button pushes, and limit comparisons. With TestScript, you can quickly automate repetitive measurement sequences, collect a series of measurements into a compliance test, or develop a series of tests into an entire compliance test suite. This allows you to develop your own proprietary application-specific measurements with minimum effort.

The record/playback console (Figure 2) allows you to collect full record-length acquisitions over hours or days, then replay and analyze them. Now you can visualize and analyze rare events that occur when you are out of the lab.

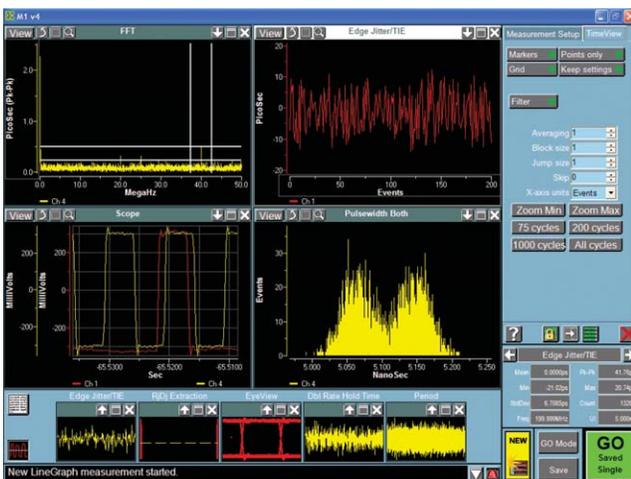


Figure 1. One mouse click launches measurements.

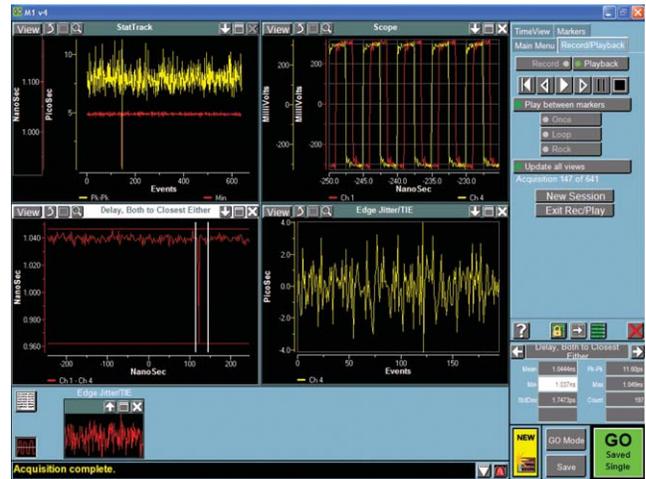


Figure 2. The record/playback console lets you capture and analyze events that occur when you are not present.

## Combining analog and digital insight

Oscilloscope Tools teams up with Agilent's mixed signal oscilloscopes to provide unprecedented debug and analysis power.

- View the logic state of a 16-bit-wide (max) bus with timing resolution of 1-ns or better on each channel
- View up to 4 analog channels and up to 16 timing analyzer signals simultaneously
- Visualize time relationships with the X-axis synchronized mode
- Quickly verify proper bus functional and parametric behaviors

Parallel and serial triggering on up to 20 channels and 4 states deep enables you to pinpoint errors and make qualified timing measurements.



**Figure 3.** Logic View allows you to visualize and analyze up to 16 digital signals and 4 analog signals simultaneously for maximum insight.

## Flexible formatting

With Oscilloscope Tools you have the flexibility and convenience of selecting Adobe pdf or Microsoft Excel for reports.

## A broad choice of decomposition algorithms

E2690B Oscilloscope Tools uses ASA's exclusive SEEj algorithm, along with a choice of 11 other MJSQ-sanctioned methods of decomposing jitter into its random and deterministic components. For in-depth technical information on SEEj and how it was validated, refer to ASA application note 05-2, 2005, available at [www.thejittersolution.com/SEEjCorrelation.htm](http://www.thejittersolution.com/SEEjCorrelation.htm).

## Subscription services

Software Subscription Services ensure that you will always have the most up-to-date version of Oscilloscope Tools. The subscription service provides immediate product feature enhancements and patches directly to your e-mail for a one-year period. Additional subscription terms are available directly from Amherst Systems Associates at [M1\\_Subscriptions@Amherst-Systems.com](mailto:M1_Subscriptions@Amherst-Systems.com).



**Figure 4.** An example of the powerful triggering capabilities of Oscilloscope Tools when used with Agilent's mixed signal oscilloscopes.

## A tool for every budget

Oscilloscope Tools comes in a variety of price points to match your oscilloscope and your budget. The following table shows which version to order for your oscilloscope.

| Oscilloscope Tools version | Agilent oscilloscopes supported  |
|----------------------------|--|
| Expert,                    | DS081304B<br>DS081204B<br>DS081004B<br>DS091304A<br>DS091204A                            |
| Specialist,                | DS080804B<br>DS080604B<br>DS080404B<br>DS090804A<br>DS090604A<br>DS090404A<br>DS080304B  |
| Professional,              | DS080204B<br>DS090254A<br>DS08104A   |
| Advisor,                   | MS08104A<br>DS07104A<br>MS07104A<br>DS08064A   |
| Guide,                     | MS08064A<br>DS07054A<br>MS07054A<br>DS07034A<br>MS07034A<br>All DSO 5000<br>All DSO 3000 |

For discontinued Agilent models, please refer to [www.amherst-systems.com](http://www.amherst-systems.com)

**System requirements when used with InfiniiVision Series oscilloscopes**

To use Oscilloscope Tools with Agilent 6000 series oscilloscopes, you will need a PC running Windows 2000 or Windows XP, in addition to a USB cable to connect the PC to the oscilloscope.

**Other related products available directly from ASA**

**M1 Reader**

M1 Reader has all of the capabilities of the Oscilloscope Tools except for the ability to collect data directly from an oscilloscope. M1 Reader is an off-line analysis tool designed to analyze data saved by Oscilloscope Tools. This tool enables other team members to apply inexpensively the full set of advanced capabilities to analyze the same data remotely or at a different time. M1 Reader makes your scopes more accessible to a larger number of users, because they can perform analysis back at their desks, on the next lab bench or on the other side of the world, making the scope available for others to take new acquisitions. M1 Reader facilitates teamwork by allowing geographically dispersed teams to collaborate more effectively. M1 Reader is available directly from ASA at [www.thejittersolution.com](http://www.thejittersolution.com).

**M1 Waveform Viewer**

lets you inexpensively capture, view, analyze, save, and report waveforms taken from any scope, then use those waveforms anywhere just as you would if you were at your scope.

**M1 Client-Server**

With M1 Client-Server, multiple copies of M1 can communicate directly with one another. One copy could be on an individual engineer's PC, another on a shared server, and multiple copies on all your team's oscilloscopes.

**M1 Labview**

M1 LabView is designed to operate in the National Instruments LabView environment. This tool allows you, for example, to perform complete jitter analysis on simulated waveforms, before committing your design to hardware. It also enables you to compare measurement results from prototype hardware to simulation results. M1 LabView is available directly from ASA at [www.thejittersolution.com](http://www.thejittersolution.com).

**About Amherst Systems Associates**

Amherst Systems Associates (ASA) has been an innovator and a leader in the field of clock and jitter timing analysis for the past 23 years.

## Ordering information

### U.S. and Canada versions

#### E2690B Oscilloscope Tools

(one and only one option listed below must be ordered)

|            |                    |
|------------|--------------------|
| Option 001 | Scope Expert       |
| Option 002 | Scope Specialist   |
| Option 003 | Scope Professional |
| Option 004 | Scope Advisor      |
| Option 005 | Scope Guide        |

#### E2693B 1-Year Subscription Service for Oscilloscope Tools

(one and only one option listed below must be ordered)

|            |   |
|------------|---|
| Option 001 | Subscription service for Scope Expert       |
| Option 002 | Subscription service for Scope Specialist   |
| Option 003 | Subscription service for Scope Professional |
| Option 004 | Subscription service for Scope Advisor      |
| Option 005 | Subscription service for Scope Guide        |

### International versions

#### N5385B Oscilloscope Tools

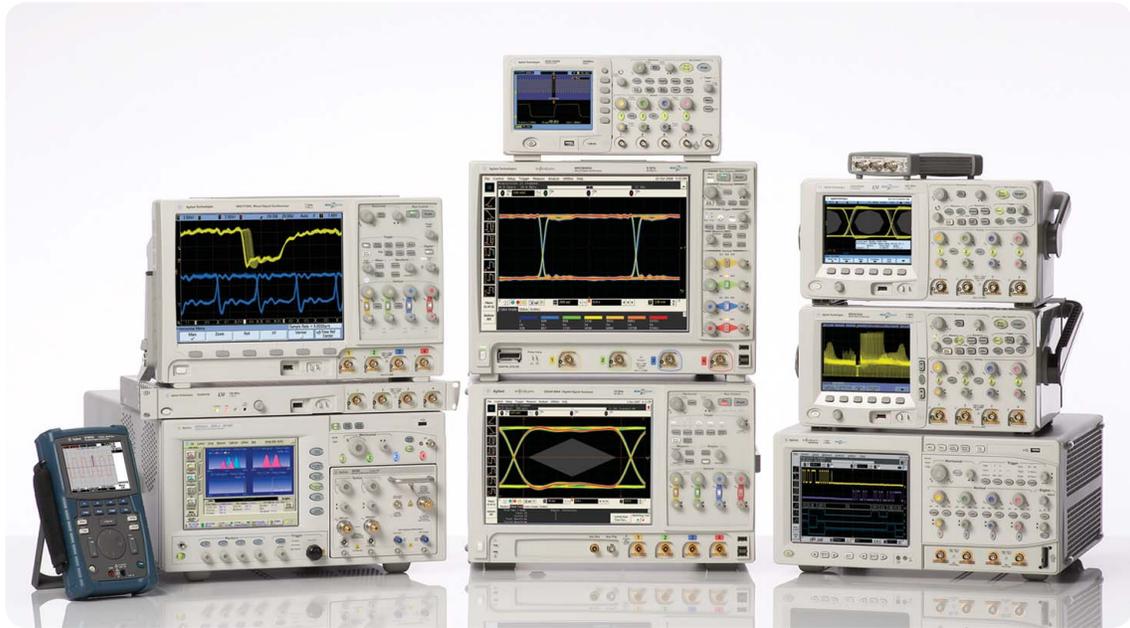
(one and only one option listed below must be ordered)

|            |                    |
|------------|--------------------|
| Option 001 | Scope Expert       |
| Option 002 | Scope Specialist   |
| Option 003 | Scope Professional |
| Option 004 | Scope Advisor      |
| Option 005 | Scope Guide        |

#### N5388B 1-Year Subscription Service for Oscilloscope Tools

(one and only one option listed below must be ordered)

|            |   |
|------------|---|
| Option 001 | Subscription service for Scope Expert       |
| Option 002 | Subscription service for Scope Specialist   |
| Option 003 | Subscription service for Scope Professional |
| Option 004 | Subscription service for Scope Advisor      |
| Option 005 | Subscription service for Scope Guide        |



## Agilent Technologies Oscilloscopes

Multiple form factors from 20 MHz to >90 GHz | Industry leading specs | Powerful applications



### Agilent Email Updates

[www.agilent.com/find/emailupdates](http://www.agilent.com/find/emailupdates)

Get the latest information on the products and applications you select.



### Agilent Direct

[www.agilent.com/find/quick](http://www.agilent.com/find/quick)

Quickly choose and use your test equipment solutions with confidence.



[www.agilent.com/find/open](http://www.agilent.com/find/open)

Agilent Open simplifies the process of connecting and programming test systems to help engineers design, validate and manufacture electronic products. Agilent offers open connectivity for a broad range of system-ready instruments, open industry software, PC-standard I/O and global support, which are combined to more easily integrate test system development.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

Pentium® is a U.S. registered trademark of Intel Corporation.

## Remove all doubt

Our repair and calibration services will get your equipment back to you, performing like new, when promised. You will get full value out of your Agilent equipment throughout its lifetime. Your equipment will be serviced by Agilent-trained technicians using the latest factory calibration procedures, automated repair diagnostics and genuine parts. You will always have the utmost confidence in your measurements.

Agilent offers a wide range of additional expert test and measurement services for your equipment, including initial start-up assistance onsite education and training, as well as design, system integration, and project management.

For more information on repair and calibration services, go to

[www.agilent.com/find/removealldoubt](http://www.agilent.com/find/removealldoubt)

## [www.agilent.com](http://www.agilent.com)

For more information on Agilent Technologies' products, applications or services, please contact your local Agilent office.

The complete list is available at:

[www.agilent.com/find/contactus](http://www.agilent.com/find/contactus)

### Americas

|               |                |
|---------------|----------------|
| Canada        | (877) 894-4414 |
| Latin America | 305 269 7500   |
| United States | (800) 829-4444 |

### Asia Pacific

|           |                |
|-----------|----------------|
| Australia | 1 800 629 485  |
| China     | 800 810 0189   |
| Hong Kong | 800 938 693    |
| India     | 1 800 112 929  |
| Japan     | 0120 (421) 345 |
| Korea     | 080 769 0800   |
| Malaysia  | 1 800 888 848  |
| Singapore | 1 800 375 8100 |
| Taiwan    | 0800 047 866   |
| Thailand  | 1 800 226 008  |

### Europe & Middle East

|                |                     |
|----------------|---------------------|
| Austria        | 01 36027 71571      |
| Belgium        | 32 (0) 2 404 93 40  |
| Denmark        | 45 70 13 15 15      |
| Finland        | 358 (0) 10 855 2100 |
| France         | 0825 010 700        |
| Germany        | 07031 464 6333      |
| Ireland        | 1890 924 204        |
| Israel         | 972-3-9288-504/544  |
| Italy          | 39 02 92 60 8484    |
| Netherlands    | 31 (0) 20 547 2111  |
| Spain          | 34 (91) 631 3300    |
| Sweden         | 0200-88 22 55       |
| Switzerland    | 0800 80 53 53       |
| United Kingdom | 44 (0) 118 9276201  |

Other European Countries:

[www.agilent.com/find/contactus](http://www.agilent.com/find/contactus)

Revised: October 1, 2008

Product specifications and descriptions in this document subject to change without notice.

© Agilent Technologies, Inc. 2009  
Printed in USA, June 1, 2009  
5989-3525EN

