

2000A and 3000A X-Series Oscilloscope Firmware Release Notes

Oscilloscope Firmware Version 02.10.2012022200

Release Date: Feb 28, 2012

File Names:

2000XSeries.02.10.2012022200.cab

3000XSeries.02.10.2012022200.cab

To upgrade your oscilloscope, download the appropriate .cab file, and load this complete file into the oscilloscope. Do not “unzip” the file.

This version of the oscilloscope firmware includes the items below:

Enhancements

For both the 2000 and 3000 families:

- DSOXDVM option has been added
 - This allows DVM measurements directly from your standard oscilloscope probe, or any probe. Readout is displayed in a large, easy to read DMM format. It runs continuously, independent of the oscilloscope waveform acquisitions and triggering system.
- Improved Network Printer support has been added. Supported protocols now include LPD, IPP, and HP JetDirect™ print protocols.
- USB Keyboard support has been added for filenames, labels, and similar string entry fields.
- Annotation capability has been added. This is accessible via the UTILITY menu, and can also use the new USB Keyboard as an input method.
- The waveform Math Divide operator is now standard on all oscilloscopes.

For the 3000X family:

- The measurement statistics are no longer reset at Main to Zoom timebase window changes.

Defects Addressed

For both the 2000 and 3000 families:

- FFT amplitude accuracy has been improved when using Vrms scaling.
- Waveform generator amplitude and offset accuracy is improved after a User Calibration is performed.

Oscilloscope Firmware Version 02.01.2011111500**Release Date: Nov 15, 2011****File Names:****2000XSeries.02. 01.2011111500.cab****3000XSeries.02. 01.2011111500.cab**

To upgrade your oscilloscope, download the appropriate .cab file, and load this complete file into the oscilloscope. Do not “unzip” the file.

This version of the oscilloscope firmware includes the items below:

Enhancements

For both the 2000 and 3000 families:

- Added a remote command to turn the menu off line
 - :SYSTem:MENU OFF
- For network printing, the allowed character set has been expanded to a number of non –alphanumeric characters.

For the 3000X family:

- Support for the 1 GHz models is included

Defects Addressed

For both the 2000 and 3000 families:

- Russian help is now fully updated for new SW Rev 2.00 capabilities

Oscilloscope Firmware Version 02.00.2011101301**Release Date: Oct 17, 2011****File Names:****2000XSeries.02.00. 2011101301.cab****3000XSeries.02.00. 2011101301.cab**

To upgrade your oscilloscope, download the appropriate .cab file, and load this complete file into the oscilloscope. Do not “unzip” the file.

This version of the oscilloscope firmware includes the items below:

Enhancements

For both the 2000 and 3000 families:

- For web server 'Get Image' functionality, users can now specify whether a white background or a black background is desired, via a new Invert Graticule check box on the web page.
- Waveform generator frequency accuracy boosted for frequencies below 6kHz.
- In Segmented acquisition mode, memory depth is now better matched to screen width for vernier timebase setting. This allows for reduced holdoff time between segments when at vernier settings.
- :MARKer:X1Position? and :MARKer:X2Position? now will return the sign (instead of absolute value) when the unit is Hz. Users will be able to know the real location of the marker.
- Entry knob assignment now more consistently remembers the softkey it was assigned when switching back into a menu.

For the 3000 family:

- Arbitrary Waveform Generator capability has been added to the DSOX3WAVEGEN option. This now allows users to create waveforms directly from the scope channel data, edit them, and save and recall arbitrary waveform data.
- DSOX3VID application is now available. This application allows advanced Video triggering.
- DSOX3AERO application is now available. This application allows serial triggering and decode for Mil-Std 1553 and ARINC 429 standards.
- DSOX3FLEX application is now available. This application allows serial triggering and decode for FlexRay[™] standard
- DSOX ADVMATH application is now available. This application expands the Waveform Math capability significantly by adding the following operators
 - Divide
 - Base 10 logarithm
 - Natural logarithm
 - Exponential
 - Base 10 Exponential
 - Absolute value
 - Linear equation - $A*x + B$
 - Magnify
 - Low Pass filtering
 - High Pass filtering
 - Measurement Trend
 - Chart mode for timing channels
 - Chart mode for timing channels with a state clock
- DSOXPWR application is now available. This application allows for Power measurements to be done in the DSO-X 3000 series oscilloscopes, including
 - Harmonics
 - Inrush current
 - Switching loss
 - Modulation



- Power Quality
- Turn Off, Turn On
- Transient Response
- Output Ripple
- Power Supply Rejection Ratio
- Slew Rate
- This option also enables U1881-003, Agilent's PC based Power Measurement Application which also includes advanced report generation and SOA measurement capability.
- RS232 user defined baud rate extended down to 100 b/s.
- Serial Lister will now issue a warning if its capacity is reached.
- 113xA Probe offset calibration is now more accurate.
- :MEASure:STATistics:DISPlay {{ON | 1} | {OFF | 0}} has been added to allow remote control and query of the measurement statistics display state.

Defects Addressed

For both the 2000 and 3000 families:

- Auto triggering now starts up more reliably from the stopped state.
- When the X1 and X2 cursors are slaved together, the delta time between them is now constant as they move through the zoom window, and no longer changes at the zoom window boundary.
- The probe attenuation factor no longer increments after power cycles, in certain situations.
- Fixed logic cursor binary and hex values reporting 'don't care' when outside the zoom window.
- Reference memory is now plotted at correct skew in zoom window at non-zero delay settings.
- Certain instances where the first trigger event may have been missed have been corrected.
- An error message is no longer displayed when loading a mask while the trigger source is set to WaveGen.
- The Auto Mask feature will now cancel a previous request if it is still in progress when either the timebase scale or the delay are changed.

For the 3000 family:

- UART decode and trigger sampling at certain low baud rates have been corrected.
- Edge search indicators now indicate the correct position for roll mode waveforms.
- Search now works on waveforms acquired in High Resolution mode when stopped.
- Certain instances where a CAN serial trigger configured for standard length IDs would trigger on an extended ID have been corrected.
- Cursor placement on zoomed square root waveforms is improved in consistency and accuracy.

Oscilloscope Firmware Version 01.20.2011063000**Release Date: June 30, 2011****File Names:****2000XSeries.01.20.2011063000.cab,
3000XSeries.01.20.2011063000.cab**

This version of the oscilloscope firmware includes the items below:

Enhancements

For both the 2000 and 3000 families:

- 1 mV/div sensitivity is now supported on all analog channels.
- The web interface now supports an additional type of remote front panel that mimics the physical front panel as well as the scope GUI with live waveforms.
- A QR code has been included in the oscilloscope GUI - find it and check it out.
- Cursor functionality has been extended to allow for manual phase and ratio measurements.
- :MEASure:CLEar remote command now clears the :MEASure:ALL snapshot data from the screen.
- Saving invalid MATH data to Reference Memories is now prevented.
- :TRIGger:FORCe" command has been added.
- :DIGitize performance has been improved.

For the 3000 family:

- Waveform Generator now supports the following additional shapes: Sinc, Exponential Rise, Exponential Fall, Cardiac, and Gaussian Pulse.
- Measurement statistics now allow user selectable finite windowing (up to 2000 measurements) over which to calculate the statistics.
- For measurement statistics, relative standard deviation may be chosen as an alternative to the previous standard deviation result.
- For the integrate Math function, a DC offset adjustment is now included to zero out small DC components.
- For the FFT Math function, the FFT can now be plotted in Vrms as well as dB.
- OR triggering has been added. All channels, both analog and digital, can be included in the specification.
- Edge then Edge triggering has been added – This allows the scope to arm on a specified edge on any channel, then delay by time, and then trigger on the Nth edge on a specified channel.
- For the N2744A probe adapter, the P671X and P670X series of optical to electrical converters are now supported.

Defects Addressed

- USB termination character issue is resolved allowing program to selectively use this capability when communicating with oscilloscope.
- ASCII XY file data for digital channels is improved when saving analog and digital channels. It now gives valid data for data after the trigger point.
- :WAVEform:DATa header information is corrected for the amount of ASCII data bytes transmitted. It formerly assumed one too few bytes per data point.
- Horizontal plot placement of under sampled digital channels is improved and much more consistent across delay and time/div settings.
- When only logic channels are on, the full memory can now be used.
- The Nth Edge Burst trigger mode's Edge control now works correctly for values > 32767.

Oscilloscope Firmware Version 01.10.2011042700

Release Date: April 27, 2011

File Names:

**2000XSeries.01.10.2011042700.cab,
3000XSeries.01.10.2011042700.cab**

Defects Addressed

- Corrected LXI XML identification document

Oscilloscope Firmware Version 01.10.2011031600

Release Date: Mar 16, 2011

File Names:

**2000XSeries.01.10.2011031600.cab,
3000XSeries.01.10.2011031600.cab**

This version of the oscilloscope firmware includes the items below:

Enhancements

- Waveform Math functions with two operands (+, *, -) are now enabled between Ch1 and Ch3 or 4, and also between Ch2 and Ch3 or Ch4.
- For I2S triggering specification, binary trigger patterns may now include 'don't care' states for individual bits in the trigger pattern specification.
- Waveform intensity is much better matched and balanced across a range of operating conditions.
- Measurement threshold range has increased to 0% - 100% from 5% - 95%
- Web interface page for launching the Remote Front Panel functionality has improved graphics.

- Waveform update rate is improved at 1 ms/div.
- Display of waveforms while stopped is improved for pan & zoom when acquired in high resolution mode.
- Improved user interface responsiveness when changing Lister search criteria for deep records.
- Delay readout is now displayed when adjusting delay while in Roll mode.
- Recall setup via the web interface now signals user if an issue is detected during recall.
- Loading of data files (.msk, .h5) is improved for Chrome™ browser.
- Installation of application SW licenses via the web now prompts the user to reboot with a “please cycle power” message.
- For the N2744A probe adapter, the P5205 and P5210 high-voltage differential probes are now supported.
- User defined screen saver text entry now handles spaces.
- Measurement statistics are now reset when turning on the Mask Measure on Error feature.
- Automatic labels assigned to serial sources now indicate which serial bus the source is associated with.
- CAN baud rate now supports up to 5 Mbits/s
- LXI improvements for compliance

Defects Addressed

- Instrument more robustly handles mask file import from mask files created for Infiniium oscilloscopes.
- Temporary delay readout is now erased correctly.
- Scope now displays an advisory during Autoscale if the instrument is un-calibrated.
- Display blinks less during power up sequence.
- When using the N2744A probe adapter, offset is now defaulted to 0.0V for probes without offset control.
- Fixed offset error in waveform data saved in high resolution mode.
- Calibration time (hours field) now no longer changes on subsequent presses of ‘Cal Status’ key in Utility-> Service menu.
- Progress bar now shows several more steps when saving CSV and ASCII waveforms.
- Zoom mode graticule tick marks are better positioned.
- When attempting to save an 8-bit BMP file from the web browser (Internet Explorer™) the instrument will now save the data.
- The acquisition is no longer reset at save menu format changes.
- Web saving of lister data is now more robust when lister is not on.
- Improved automatic scaling of vertical settings for the square root math function.
- When using cursors, Math units will not stick at ‘Hz’ after you change operator from FFT.



Oscilloscope Firmware Version 01.01.2010010700

Release Date: Jan. 10, 2011

File Names: 2000XSeries.01.00.0001.cab, 3000XSeries.01.00.0001.cab

This version of the oscilloscope firmware includes the items below:

Enhancements

- Self test is improved for more efficient manufacturing of product.

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Oscilloscope Firmware Version 01.01.0000

File Name: 2000XSeries.01.00.0000.cab, 3000XSeries.01.00.0000.cab

This version of the oscilloscope firmware includes the items below:

- Initial release.