Note: This release applies to all LeCroy X-Stream scopes except those with the XXL memory option. XXL scopes should continue using 2.9.1 software.

X-Stream™ DSO Version 3.1.0 Release Notes

	New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
WaveMaster *WavePro 7000 Series* *DDA* *SDA*	×			ET-PMT option	This release contains support for LeCroy's new Electrical Telecom Pulse Mask Test option. This option, which supports ANSI T1 and ITU standards, includes automatic pass/fail testing and user-definable masks for custom signals. Visit www.lecroy.com for more information.
	×			WaveRunner 6000 Series support	With this release LeCroy introduces its new line of affordable high-performance, Windows® based scopes. Visit www.lecroy.com for more information.
	×			SDA "A" models	LeCroy has enhanced its line of Serial Data Analyzers. The new SDA 3000A, SDA 5000A, and SDA 6000A models feature a 2.7 Gb/s serial pattern trigger. Visit www.lecroy.com for more information.
	×			autoexec at bootup	During bootup, the scope will check removable devices (floppy drive, USB key) on drives A to F for an autoexec.lss file, before it searches drive C. If found, the file will be executed automatically.
	×			X-Y cursors	You now have the capability to place cursors on an X-Y display.
	×			X-Y pass/fail testing	You can now do pass/fail testing on an X-Y display.
	×			controls for external monitor	A new dialog box was created to enable or disable an external monitor and to set its brightness. The dialog is accessible through the **Display** menu bar selection.
		×		USB results file names	The file names for USB results are auto incremented.
		×		Undo button	The Undo button at the top-right of the screen also functions for QuickZoom and Default Setup, in addition to Autosetup.

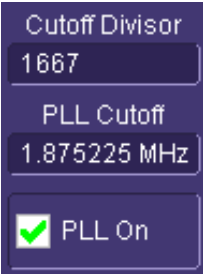|	New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
WaveMaster *WavePro 7000 Series* *DDA* *SDA*		×		dialog opening speed	The speed at which some dialogs open has been greatly increased.
			×	clipping of trace labels	Trace labels will no longer be clipped when the trace is zoomed.
			×	external clock description	The clock range for External Sample Clock has been changed to "3 MHz to 2 GHz."
			×	visibility of help markers	Help markers are now visible when **Use Print Colors** (white background) is chosen as the Hardcopy print mode.
			×	sparsing function	The last point is now correct when sparsing a waveform that has (sinx)/x interpolation.
			×	performance optimization setting	If you have elected to optimize your scope for analysis speed instead of display speed, this setting will no longer be retained after you recall the **Default Setup**. The selection will return to **Optimize For Display**.
		×		histogram population counter	The counter now counts beyond 2 Giga events.
			×	Clear Sweeps operation	Pressing the **CLEAR SWEEPS** button will now also clear statistics from measurements of custom math functions.
			×	STORE remote control command	This command can now be used to save a single channel to file.
			×	qualified trigger	The occasional instance of a qualified trigger (with pattern) triggering incorrectly has been eliminated.
			×	Pass/Fail markers	When Pass/Fail testing is turned off or exited, error markers will now consistently be erased.

New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
WaveMaster *WavePro 7000 Series* *DDA* *SDA*		×	clear sweeps and number of sweeps	When the scope is operating in Sequence mode and Pass/Fail testing is turned on, pressing **CLEAR SWEEPS** did not consistently reset the number of sweeps. This problem has been corrected.
		×	scaling of O/E converter	Miscaling of the O/E converter has been corrected.
		×	on-line Help search feature	This feature will no longer accept a press of the enter key as part of the search string.
		×	MATLAB and automation	MATLAB could not read parameter statistics via automation due to the use of quotes. These occurrences have been eliminated.
		×	display of cursor measurements	Cursor measurement results will no longer be clipped at the lower far-right edge of the screen.
		×	storing waveforms > 80 MB	Spurious error messages indicating lack of memory space for storing files bigger than 80 MB have been eliminated.
AP-1M with WaveMaster DDA SDA		×	incorrect offset for gain change	When an AP-1M Hi-Z adapter is in use, the offset could occasionally be incorrect when the gain was changed within a narrow range of V/div settings. These occurrences have been eliminated.
WavePro 7000 Series		×	vertical coupling changes	By design, the probe coupling would change to the default setting (AC-1M) whenever a PP005 probe was disconnected from the scope. However, the scope will now retain the last setting.
SDA	×		Clock jitter dialog	A new dialog has been added that, when Clock is selected from the main SDA setup dialog, offers **Bathtub**, **Jitter Filter**, **TIE Histogram**, and **N-cycle vs. N** buttons. Key jitter parameter measurements (Tj, Rj, Dj) are also enabled, along with "effective" parameters (Rje, Dje).
		×	Find Frequency operation	This function now reports the correct frequency and bit rate for a clock signal treated as NRZ data.

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New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
		×	pattern length field	Instances where changing from **Basic** to **Dj Breakdown** jitter measurements caused the pattern length to be reset to the default value have been eliminated.
		×	BER testing on pattern read from file	Occasionally during BER testing, a pattern read from file was erroneously assumed to be PRBS.
		×	PLL frequency and change of Signal Type	The correct PLL frequency will be consistently reported for each change of **Signal Type**. **PLL Cutoff** frequency field was relabeled for clarity. Cutoff Divisor 1667 PLL Cutoff 1.875225 MHz ✔ PLL On
		×	incorrectly initialized Tj values	Occasionally total jitter values were incorrectly initialized. This problem has been corrected.
		×	hysteresis for Hold Time parameter	Data hold parameter measurements are now consistently correct for large amounts of hysteresis.
		×	overflow of pattern averager	The pattern averager could possibly overflow for large data sets, manifested in erroneous Dj measurements. This problem has been corrected.
		×	bit rate multiplier for DVI testing B.R Multi 1.000 Find Bit Rate	The external clock function now has an option that enables it to recover a clock from the signal, and allows you to select a multiplier between the clock signal and the recovered clock output.

SDA (row label spanning the left)

	New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
SDA SDM		×		improved SDA dialogs	The SDA setup dialogs have been configured more intuitively. Level controls have been centrally located, and controls to Find Pattern and show Rje and Dje have been added.
		×		eye mask support	Support for FibreChannel, RapidIO, and InfiniBand has been greatly expanded.
			×	mask reset after signal mode change	When the signal mode is changed, the mask will now also be reset.
			×	dark calibration and ER measurements	Dark calibrations for the O/E converter could occasionally cause incorrect Eye Ratio measurements. These instances have been eliminated.
DDA			×	Analog Compare mode	The compare now consistently aligns the reference to the head properly.
ENET		×		Mode 1 and Mode 4 tests	These tests have been made more robust.
USB2		×		tier control	A **Tier** control has been added for Intel® standard signal quality tests. The tier value (1 to 6) represents the number of concatenated hubs between host and DUT, plus the host and DUT. The greater the number of hubs through which a signal can pass without loss of quality, the better the DUT. Signal failure at tier values less than 4 (two hubs plus host and DUT) indicates a failed DUT.
			×	units for Inrush test	Inrush test result now reports the correct units (Coulombs).
DFP2		×		performance of FIR and IIR filters	The operation of these filters has been greatly speeded up.
JTA2			×	Golden PLL controls	A control to set a Golden PLL was erroneously displayed in the TIE dialog for JTA2 option. It has been removed.
GPIB			×	turning off Remote control	The occasional scope crashes after a GPIB card is installed, and remote control is turned off in the Utilities dialog, have been eliminated.

	New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
PMA2 *XDEV*			×	clipped CustomDSO dialog	The problem of the scope's displaying an incomplete CustomDSO dialog when the PMA option is in use has been corrected.
XMAP *XDEV*			×	alignment of trace edges	The misalignment of edges between a waveform and a math trace created by script math processors has been corrected.