

Version 8.6.0 Release Notes – LC & LT Scopes Only

	New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
All DSOs	x			new remote commands for probes and diff. amps	<p><b>PRx:ATTENUATION</b> sets/reports the input attenuator to provide attenuation of the system to the probe tip; and sets the gain/attn. control mode to manual, where x = input channel number. (Applies to all 18xxA, AP033; AP034 query only.)</p> <p><b>PRx:AUTOZERO</b> initiates an autozero cycle. (Applies to all 18xxA, AP015, AP033/34, ADP30x.)</p> <p><b>PRx:BWL &lt;UPPER BANDWIDTH&gt;</b> sets the upper and lower bandwidth limits (upper limit only: 1855A, ADP305; upper and lower limits: 1820A, 1822A).</p> <p><b>PRx:COUPLING &lt;+COUPLING, -COUPLING&gt;</b> sets the input coupling of the + and – inputs. (Applies to all 18xxA, AP033/34, ADP30x.)</p> <p><b>PRx:GAIN</b> sets the gain of the amplifier and sets the gain/attn. control mode to manual. (Applies to all 18xxA, AP033.)</p> <p><b>PRx:INPUTR</b> sets the input resistance of both inputs. (Applies to all 18xxA.)</p> <p><b>PRx:OFFSET</b> sets the Precision Voltage Generator voltage or the probe offset voltage. (Applies to all 18xxA, AP033/34, ADP30x.)</p> <p><b>PRx:PVGMODE</b> sets the mode of the Precision Voltage Generator. (Applies to all 18xxA.)</p> <p><b>PRx:VDIV</b> sets the scale factor to the probe tip and sets the gain/attn. control mode to Auto. (Applies to all 18xxA, AP033/34, ADP30x.)</p>

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	New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
	x				<p>The following queries have also been added:</p> <p><b>PROBE_NAME?</b> reads the probe name. (Applies to all 18xxA, AP015, AP033/34.)</p> <p><b>PROBE_CAL?</b> executes a complete auto-calibration of the probe and reports its success. This is similar to an autozero command. (Applies to AP015, AP033/34.)</p> <p><b>PROBE_DEGAUSS?</b> executes a degauss of the probe and reports on its success. (Applies to AP011 and AP015.)</p> <p><b>PROBE_SERIALNUM?</b> returns the probe's serial number. (Applies to all 18xxA, AP015, AP033/34.)</p> <p><b>PROBE_INFOTEXT?</b> returns informative text as quoted string. (Applies to all 18xxA, AP015, AP033/34.)</p>
All DSOs (cont.)	x			new remote commands	<p><b>CURSOR_READOUT, CRRD &lt;volts, dBm&gt;</b> switches the time cursor amplitude readout from volts to dBm.</p> <p><b>OFFSET_CONSTANT, OFCT &lt;volts, divisions&gt;</b> allows you to keep the offset fixed, either in divisions or volts, for gain changes.</p> <p><b>COOP &lt;pre-transmit states&gt;,&lt;HI, LO&gt;,&lt;turnaround delay in microseconds&gt;</b> This communications options command allows you to switch between NI's high-speed and low-speed timing, to control the delay for polling continuance/ acceptance of a GPIB transfer, and to set a turnaround delay that must be in the range of 30 to 40 μs for proper operation with the EKS optical GPIB extender.</p>
	x			autoexec file	<p>Files designated "autoexec.dso" that are stored on the hard drive are now recognized and executed during boot-up. These files can also be executed remotely using command</p> <p><b>EXECute DISK,&lt;device&gt;,FILE,'&lt;filename&gt;'</b></p> <p>Files with extension <b>.dso</b> can be selected and executed through RECALL SETUP menu → soft button 4 → DO EXECUTE xxxxxxxx.dso.</p>

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**Version 8.6.0 Release Notes – LC & LT Scopes Only (Continued)**

	New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
All DSOs (cont.)			x	AP033/AP034 coupling	The scope now automatically recognizes a change in coupling, when the AC coupler is connected, and adjusts itself accordingly.
	x			math limits	You can now speed up processing greatly by performing calculations on a limited time range only, bounded by cursors.
DDA-120		x		histograms in printouts	Monochrome printouts from the internal printer now show overlapped histograms more clearly.
LCXXX			x	unexpected slash	The rare occasion when a slash (/) would appear in a number pair when a waveform is stored in ASCII format, or in a query response, has been eliminated.
LSA1000			x	sequence mode trigger and timing	Inconsistencies in time stamps caused by interleaving ADCs have been corrected.
WAVERUNNER			x	screen dumps to internal printer	All relevant data is now printed.

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## Version 8.6.0 Release Notes – Software Options for LC & LT Scopes Only

	New Feature	Enhancement	Software Correction	ITEM	DESCRIPTION
AORM		x		low n clock extraction	For incorrectly equalized waveforms, you now have the ability to enter the smallest pulse width (lowest n) so that the clock can be properly extracted.
		x		track clock option	The DEFINE remote command was expanded to allow for clock frequency tracking when the clock source is the input waveform. This function is also accessible from the “ORDATA” menu.
		x		negative clock default	For clocks extracted from data, by default data will be seen to coincide with the negative going slope of the clock.
		x		setup wizard expanded	You can now set the pit top; the PLL_BW parameter is now updated.
			x	delta pit-to-clock parameters	Scope lock-up caused by four ORM parameters using clock or data has been corrected.
		x		cleared statistics	A change in clock period (no longer considered a user setting) will not clear statistics.
		x		ORDATA label	The ORDATA trace label has been expanded to OR_CLK, OR_SL, OR_RF, OR_EQ, OR_LV, and OR_TH for greater clarity. The remote command, however, remains unchanged.
Digital Filter Package	x			FIR filters	This new software option provides a set of finite impulse response filters that let you examine important signal components by filtering out undesired spectral components, such as noise. Included is a custom design feature that lets you reconstruct corrupted signals by applying matched (mirror) filters to compensate for known distortions.
JitterTrack			x	reciprocal of JiterTrack of frequency	This will no longer produce a flat line for frequency, nor spurious results for the period.
MASK TESTER	x			attenuation factor	This is now set automatically for STS-3E test.