Model 7265 DSP Lock-in Amplifier Firmware History since Rev 7.1

Purpose

This document summarizes the changes made to the ***SIGNAL RECOVERY*** (formerly EG&G/PerkinElmer) Model 7265 Dual Phase DSP Lock-in Amplifier's operating firmware since revision 7.1

7265 Firmware History

The table below lists the major firmware revisions. Revision numbers missing from the sequence were not formally released.

Revision	Date	Changes Included
10.5	25th February 2011	External reference-unlock detection Improved operation of virtual reference.
10.3 & 10.4		Internal development versions.
10.2	26th January 2011	Improved the accuracy of the synchronous time constant filter length computation to give smoother response. Changed the way the reference period is determined when in internal reference mode. Fixed bug that would cause instrument to freeze in synchronous time constant mode when oscillator frequency (internal reference) set to 0.107 Hz and time constant set to 100 seconds.
10.1	16th March 2009	Modification to power-on sequence to check for correct operation of DSP.
9.9 & 10.0		Internal development versions.
9.8	3rd November 2006	Updated the way that phase calibration parameters are used on instruments built with the latest host and reference boards
9.7	28th September 2006	Supports use of display panel from a different supplier
9.6	23rd May 2006	Added new commands XER, YER, XYER (ER for extended resolution). These are fixed point commands only, full-scale being +/-100,000, with operation linear to +/-300,000
9.5	22nd March 2006	New firmware to support updated host and reference boards. Backward compatible with older instruments.
9.3 & 9.4		Internal development versions.
9.2	29th November 2005	Fixed bug in triggered ADC modes which caused lock-up when digitized ADC 1 value changed to zero between two sample points within the main interrupt routine, causing a divide by zero error.
9.1	13th October 2005	Firmware now ensures that the Fast X and Fast Y output calibration is flat with frequency, and operates in both “signal recovery” and “vector voltmeter” modes, and in all reference modes. Full benefit from this update is only obtained in instruments built or recalibrated after this date. This release also includes a fix for a bug in the Oscillator Frequency sweep, whereby if the start frequency were set below 1 kHz and the stop frequency above 65 kHz, the lock-in stopped measuring the input signal when the oscillator was > 63 kHz.
8.9	5th August 2005	**DO NOT USE** - Instrument does not work properly in Dual Reference or Dual Harmonic Modes

Revision	Date	Changes Included
8.8	17th July 2005	Fixed bug whereby Reference 2 phase setting and some other instrument settings in the dual reference/dual harmonic modes were not being saved/recalled as part of a User Setting
8.6	19th October 2004	Fixed bug that caused Spectral Display mode not to work when the firmware was loaded by creating an EPROM. Problem did not occur when firmware was loaded or had been updated via RS232, so existing users of version 8.4 or lower need not upgrade.
8.5	3rd June 2004	**DO NOT USE**
8.4	5th October 2003	Fixed bug in Equation 2, which was using constants C1 and C2 from the Equation 1 menu. Extended legal range of C1 and C2 to 250,000,000 from 100,000 when in positions A or B of equation and with the operator set to subtraction
8.3	14th October 2002	Changed company name on boot screen to ***SIGNAL RECOVERY.*** Fixed bug whereby some 7265's calibrated during 2002 would not operate in Virtual Reference Mode
8.2	21st Jan 2002	Corrected bug introduced at version 8.1 which caused spectral display mode not to work properly in some situations
8.1	29th March 2001	Corrected bug introduced at version 8.0 which caused the lower large digit display to show the same digit in position 2 (counting from right) as in position 3.
8.0	27th November 2000	ADF on SDC caused problems with some customers, so can now be now be enabled or disabled using GPIB menu. Fixed problem with CBSTR on curve menu using cursor (TIME PER POINT)
7.7	26th September 2000	Fixed user settings save/restore function. Fixed frequency sweep through 1 Hz. Fixed curve dump of data taken using fast externally triggered burst mode dual ADC's.
7.6	27th July 2000	PerkinElmer logo replaced EG&G logo. DCB command for binary dumps now includes RS232.
7.5	23rd February 2000	Allows TDT 1 (each point triggered by rear panel EXT TRIG) in dual modes as well as single.
7.4	15th February 2000	Serial Poll on DCB corrected.
7.3	15th February 2000	Added DCB command for binary dumps (only GPIB).
7.1	9th June 1999	HC command paused buffer instead of stopping it. Fixed so that buffer can be read after the HC command is issued.

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