

Model 7280 DSP Lock-in Amplifier Firmware History since Rev 3.0

Purpose

This document summarizes the changes made to the **SIGNAL RECOVERY** (formerly EG&G/PerkinElmer) Model 7280 Dual Phase DSP Lock-in Amplifier's operating firmware since revision 3.0

7280 Firmware History

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

Revision	Date	Changes Included
5.4	30 November 2010	Added new control to CONFIGURATION MENU to make the external reference less sensitive to reference jitter. Default value of 1 is equivalent to previous firmware. Increasing the value will increase the tolerance to jitter before the reference channel's relock routine is called. Added new JITTER command.
5.3	12 April 2007	Corrected bug in linked mode acquisition (SWEEP 9, 10 or 11) whereby OSC frequency and/or amplitude was being changed and then the outputs were being immediately stored. Now, when a linked acquisition starts, the instrument sets up the initial OSC frequency or amplitude, waits for a sample period (or a trigger when using TDT 1), stores the outputs and then changes the OSC frequency or amplitude to the next setting. The cycle repeats until done.
5.2	15 March 2007	Corrected bug in step size parameter for logarithmic frequency sweep. Instrument was interpreting parameter as 1/10 of the set value - e.g. if set to 100% steps were actually 10%
5.1	21 April 2006	New User Equation 3 added - accessible only via computer command
5.0	12th December 2005	Added support for 8-digit serial numbers. Added support for new display driver chip.
4.8	11th November 2005	Disabled Fast Output Calibration when operating in NORMAL output modes. Allows much faster sweep of oscillator frequency when using internal curve buffer for acquisition. Updated SWEEP command allows linking of oscillator sweeps to curve buffer, so that they can be controlled simultaneously. Updated front panel menus allow same linkage. Oscillator output waveform transients when frequency is changed have been removed. Added RSADDR[n] Set/read RS232 address command. The value of n sets the RS232 address in the range 0 to 15. This is relevant only when using more than one instrument connected via the RS232 "daisy-chain" method. Each instrument must be set to a unique address.
4.6	15th September 2005	Fixed bug with front panel controls whereby it was possible to enter illegal control settings for some controls using the number keypad (although not when using the up-down keys). Some such settings would cause the instrument to hang up.

4.5	26th April 2005	Fixed bug which caused CH1 and CH2 output voltages to exhibit a transient signal ramp of $\pm 10V$ every time that the Sensitivity or Time Constant controls were changed.
4.3	14th March 2005	Added three new output commands XER, YER and XYER (ER for Enhanced Resolution). These commands are analogous to the X, Y and XY commands but give one extra significant digit when the relevant $\times 10$ output expansion is turned ON, matching the front panel display. When the output expansion for that output is OFF, the corresponding command reports "command error". The commands are fixed point output only.
4.2	14th July 2004	CH1 and CH2 commands now correctly both set and report status in both Fast and Normal modes. In earlier versions they only set the status correctly. FASTMODE command as a query now functions much faster.
4.1	22nd October 2003	Version number changed to allow bootcode to be updated to version 2.2 (bootcode now shows SIGNAL RECOVERY in RS232 firmware update mode)
4.0	22nd April 2003	External Reference now works to 2.1 MHz. ADF 1 works (previously caused comms settings to be set to wrong values). GPIB code modified to support operation from wider range of GPIB interface cards, and in particular to prevent unit issuing SPOLL value of 129 (which is illegal). Front panel control for external reference relock added.
3.7	22nd July 2002	Bug which showed negative DR in dual modes under some conditions fixed. FREQ and OSCF restricted to being used in position C on the two user equations, since these two values are 32-bit whereas other values are 16-bit. References to PerkinElmer removed from help page
3.6	2nd April 2002	Changed company name on boot screen to SIGNAL RECOVERY
3.4	3rd December 2001	Fixed bug in transient recorder mode whereby trigger circuit remained receptive to triggers after the first that is applied following the receipt of a TADC command
3.0	1st March 2001	Spectral Display mode added, Analog Outputs menu added, better control of time constant. Users with Rev A instruction manuals should download Rev B manual for full description of features.

SIGNAL RECOVERY

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