MATRIX9/L9 Software Release Notes

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Date	11th July 2014
Rev	3.02
File name	Matrix9_Install_3p02.exe
Reason for Change	Change to allow add readout module type detection

SOFTWARE REVISION HISTORY

Matrix9 GUI Software

Date	Rev	Reason
15-Jul-2010	1.01	First release of code
12-Nov-2011	1.02	Allow input in volts instead of DAC values. Remove ADC 10-bit option.
22-Dec-2011	1.03	Set timing plot with +/- about a mid-point.
2-Mar-2011	1.04	Timing function did not work correctly. It did not account for when events in the queue arrive in reverse chronological order.
10-Mar2011	1.05	Add coincidence singles filter feature. Add timing controls.
28-Jul-2011	2.00	Add new features for controlling both M9 and L9 formats. The introduction of the new Linear9 array resulted in a complete redesign of the GUI to allow graphical display of either the M9 or L9 pixel format.
19-Apr-2012	3.00	1. Goes to new 3.00 to keep in line with new installer 2. Fix graph plot bug to make RED and BLUE plots. 3. Replace Channel, Array, Pixel button selection with drop boxes 4. Replace Graph mode button with drop box 5. Add demo mode for dummy plotting 6. Add mouse features for changing graph ranges 7. Change references from Coincidence to EVB 8. Make default graph range 1000 bins
27-Nov-2013	3.01	Add BIAS Polarity features for MatrixSB-SCB readout electronics
11-Jul-2014	3.02	Add readout module type detection and display

Matrix9 DLL Driver Library

Date	Rev	Reason
15-Jul-2010	1.01	First release of code
28-May-2011	1.02	Add Coincidence Singles Filtering for Timing
28-Jul-2011	1.03	Add command for M9 or L9 format. The Readout FPGA changed to receive a command for defining the readout array format (L9 or M9). The drivers have been changed to add a function to send this command to the module.
06-June-2016	1.04	Add prototype in header file for LEE_SetFilter() function.

File Names: LeeMatrixAPI.dll
LeeMatrixAPI.lib

Coincidence Board FPGA Firmware

Date	Rev	Reason
8-Jun-2010	1.01	First release of code
1-Jun-2011	1.02	Add singles filtering for timing measurement. This is done to enable the user to calculate coincidence timing.
12-Mar-2013	1.03	The LVDS decoding was not rigorous enough. As a result, noise can sometimes cause phantom events. These events are flagged as errors and do not affect the performance of the system.

File Names: Coincidence_1p03.pof
Coincidence_1p03.rpd

Note: FPGA upgrades should only be carried out if absolutely necessary. If an upgrade is deemed necessary, it should be carried out with SensL supervision.

Readout Module FPGA Firmware (Standard LYSO)

Date	Rev	Reason
23-Sep-2010	1.01	First release of code
13-Dec-2011	1.02	Fix energy limit bug
3-Jun-2011	1.03	Add internal pull-up for serial ID chip
6-Jul-2011	1.04	Fix FPGA Upgrade bug. **NB:** All modules with versions up to and including 1.03 cannot be upgraded through the GUI. They will have to be upgraded using an ALTERA USB-Blaster.
28-Jul-2011	1.05	Add Linear9 format option to ROI. The FPGA needs to know which type of detector is connected to be able to determine the neighboring pixels for ROI (region of interest) readout.

File Names: Matrix9_Readout_1p05.pof
Matrix9_Readout_1p05.rpd

Note: FPGA upgrades should only be carried out if absolutely necessary. If an upgrade is deemed necessary, it should be carried out with SensL supervision.

Readout Module FPGA Firmware (Slow BGO version with –VE Bias)

Date	Rev	Reason
27-Nov-2013	1.00	Modified Firmware specific for MatrixSB-SCB system. Accounts for –VE bias and slow energy integration.

File Names: Matrix9_SCB_AR4_1p00.pof
Matrix9_SCB_AR4_1p00.rpd

Note: FPGA upgrades should only be carried out if absolutely necessary. If an upgrade is deemed necessary, it should be carried out with SensL supervision.