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Enhancements and Fixes for the Larson Davis Model 831 Firmware[1]

Model 831 Version 2.403   May 2020

- Added microphone data for the 377A12 to the PRM831. (TT 6536)
- Fixed Calibration>Sensitivity dialog issue; changing the preamplifier while in this display no longer recalls initial microphone type and settings. (TT 7170)
- Changed reporting of preamplifier types PRMLxT2B and PRMLxT2C to indicate "Unknown" as these are not supported by the Model 831. (TT 7084)

Model 831 Version 2.402   September 2019

- Corrected a bug with the bootloader in release 2.400 that cause the hardware revision to be misread. This disabled the communication watchdog on a D version board when installed in an 831-INT-ET. (Boot version 144)

Model 831 Version 2.400   July 2019

- Updated firmware to support a new type of internal memory. (TT 6987, boot version 143)

Model 831 Version 2.314   June 2017

- Increased sensitivity range to accommodate more transducers.
- Corrected calculation for Under-Range. Value was lower than expected for low sensitivity microphones. (TT 6705)

Model 831 Version 2.313   May 2017

- Added average wind direction to Time History.

- Changed Time History wind speed to be the average over the interval. For time history periods greater than 1s previously the meter would report the wind speed and direction for the last 1 second sample. Now the meter reports the average over the sample period.

- Fixed an issue with Time History wind directions where the "compass" units incorrectly shows degrees without a symbol rather than N, NNW, etc.

- Extended what can be entered for microphone sensitivity (was 0.01 to 9999.00 mV/Pa, now 0.0001 to 99990.0000 mV/Pa)

Model 831 Version 2.311   August 2016

- Fixed an issue where the event time history can get corrupted if a calibration check starts while an event is in progress. (6470)

- Fixed an issue where a daily auto-store could be missed if the meter was turned off during a measurement. This causes the next file to be longer than expected. Now the store will happen when rebooting if the unsaved data is from an auto-store period in the past.

- Fixed an issue where, after an improper shutdown, the meter would prompt for a filename and wait for user input even with the Auto-Store setting set to store.

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[1] *Note: Numbers in parenthesis such as "(1234)" are internal tracking numbers.*

- Fixed an issue in the daily levels where Lden was calculated incorrectly.

- Improved the EPS 2116 windscreen correction filters.

Model 831 Version 2.310   March 2016

- Added support for the Holux M215+ GPS receiver.

- Modified calibration to always store 1/3 octave spectrum in the calibration and cal-check histories.

- Added ability to stream weather data.

- Fixed an issue where overall wind data was being averaged incorrectly when using the SEN03x. (6508)

- Fixed an issue on the summary printout where the time-weighted average for dose 2 was incorrect. (6498)

Model 831 Version 2.301   December 2014

- Added support for the new EPS 2116 windscreen.

- Added support for the new 377C20 microphone. (6277)

- Fixed an issue that prevented running a "timed stop" measurement for more than 24 hours. (6291)

- Fixed an issue where the Session Log tab was not being displayed when opening a file in FFT mode. (6296)

Model 831 Version 2.300   June 2014

- Fixed an issue that would cause a large time jump on 10 November 2014 on Rev. D and above hardware. **NOTE: It is important that users with Rev. D and above hardware upgrade the firmwware before 10 November 2014.** (6234)

- Changed the code to work with the new USB driver now shipping with Slm Utility software (G3 and G4).

- Fixed an issue where shutting down the meter after the event threshold had been exceeded but before the minimum duration had elapsed caused a corrupt event file. (5877, 5884, etc.)

- Improved the reliability of the GPS code. (4822, 6071)

- Fixed an issue with Measurement History that had potential to cause problems similar to the corrupt files in Event History. (6068)

- Fixed an issue where the data on the Measurement History display was not being reset properly. (6076, 6087)

- Fixed an issue where the Data Explorer Event Time History display initially displayed uninitialized data. (5646)

- Fixed an issue where large time sync adjustments were not being recorded in the session log. (5581)

- Fixed an issue where the file name edit control allowed too many characters, resulting in bad identification of file type. (5635)

- Changed the sound recorder settings page to display the Sample Rate units as samples per second (ksps) instead of Hz. (5635)

- Fixed an issue where the "Enter-> Change Metrics" prompt was being display for Time History entries that it doesn't apply to (i.e., calibration). (4055)

- Fixed an issue where numeric entry fields were not working properly when decimal point localization was set to comma. (6043)

- Fixed an issue where decimal point localization was not being applied to all of the values on FFT tabs. (6086)

- Fixed an issue where the Back Erase cursor was moving too far back. (5858)

- Fixed an issue where in back erase mode, the center soft key label will display "Back-5s" or "Back-10s" on tabs where it is not relevant such as the Live tab or the session log tab. (6131)

- Fixed an issue where the PRM2103 calibration check was not turning off when a run was started from a page other than the preamp page. (5862)

- Changed the way FFT measurement duration is calculated to better account for overlap. (5923)

- Fixed an issue where A, C, -A, -C were no longer in the list of reference spectra. (5960)

- Fixed an issue where the control panel did not update to show correct instrument mode icons after recalling a setup that changes modes. (5988)

- Change the default LDN and LDEN night start time from 23:00 to 22:00 to better comply with standards. (6012)

- Fixed an issue where on the Daily Timer settings dialog, a date change is not allowed after the "Stop Required" popup has been dismissed. (5951)

- Fixed an issue where with auto-store set to prompt and the meter running, checking the file system resulted in a user-interface lock-up. (6059)

- Fixed an issue where on the Localization preferences dialog , after switching the decimal symbol to comma and applying changes, the period option within decimal symbol has a comma in parenthesis instead of a period. (6063)

- Fixed an issue where the RT-60 trigger could occur before the signal decayed 5 dB. This only affects the interrupted noise method. (6216)

Model 831 Version 2.206   January 2014

- Fixed an issue where the resulting Leq values for an averaged file was incorrect. This only applies to instruments with option OPT_FILE_AVERAGING enabled. (6002)

Model 831 Version 2.205   October 2013

- Added a pop-up message that indicates that the firmware of an attached PRM2103 is being upgraded. Also removed the requirement that the instrument be connected to a computer via USB in order for the PRM2103 firmware to be upgraded. (5904)

- Fixed an issue that caused the About > Standards display to show Type-2 instead of Type-1 when a PRM2103 was attached. (5900)

- Fixed an issue with marker sound recordings. The period of the sound recording after being triggered was mistakenly based on the Marker Pre-trigger Time setting instead of the Marker Recording Time. (5899)

- Fixed an issue with Event Time History where a corrupted record was stored under certain rare and unusual circumstances. This could potentially cause an "unable to parse" message when the data was downloaded by SLM Utility-G3 or the last event time history record would show no values when exported. (5893)

Model 831 Version 2.204   September 2013

- Improved file download speed and reliability for Internet connections using the 831-INT-ET. (5828 & 5834)

- Fixed an issue that could corrupt Event Time History data files when the Event Time History Period was set to 20ms. This error could cause the translator to lockup or indicate an error. Associated with the a restriction was added setting when the Event Time History was set to 20ms to keep the minimum duration and pre-trigger samples within proper bounds. (5831 & 5893)

- Improved communication reliability to the PRM2103. (5809 & 5882)

- Provides updated firmware for the PRM2103 that improves multi-tone repeatability and temperature stability. (5836 & 5837)

- Fixed an issue that caused Measurement History records, with time sync enabled, to not be synchronized with the time of day following an automatic calibration check or a pause due to preamplifier removal. (5840 & 5849)

- Fixed an issue that could cause a file to remain on the meter after it was deleted using SML Utility-G3. (5846)

- Fixed a setting entry issue with the calibration sensitivity that prevented the use of values of 0.01 through 0.09 mV/Pa. Values in this range forced the sensitivity to zero which gave invalid level readings on the instrument. (5854)

Model 831 Version 2.202   May 2013

- Made a change to prevent the Communication Watchdog from becoming enabled with an upload of setting for hardware versions that do not support a timer power-on (board revisions prior to D).

Model 831 Version 2.201   April 2013

- Added ISO 1996-2 Annex C Tonality functionality to the 831-FFT option.

- Added provisions for PRM2103 outdoor preamplifier with multi-tone calibration check.

- Added ability for user control of the Vaisala heater.

- Added French specific third octave Ln option NF30-101. (5417)

- Added the Communications Watchdog feature for 831-INT-ET Internet communications and Analog Modem which will restart the system or modem when a fault is detected. (5343, 5497, 5715)

- Added a tab to the Communications tool to show the IP and MAC addresses of the 831-INT-ET. (5564)

- Added functionality to the boot loader to detect and use 32MB RAM found on new E version hardware.

- Added functionality to the boot loader to suspend loading by holding the TOOLS & ENTER keys for a few seconds so that information about the system can be seen and new firmware may be loaded prior to the application being started. Boot loader version code is 138.

- Removed USB flash memory format from System Utilities in order to improve compatibility with more USB Flash Drives; please perform the format of USB flash drives with PC. (5141, 5359)

- Added *support* for 32MB RAM provided on latest version hardware (board revision E). *Warning: Do not attempt to downgrade an instrument with a revision E board to firmware versions prior to 2.200.*

- Added timer expired status to the Live Status display. (1214)

- Added feature that will restart the instrument after continuously running for 8 months to prevent timer overflow issues. (2836)

- Added restriction to show calibration check tabs only for preamplifier with check capability. (3084)

- Added 377C01 and 377C10 to microphone list on the calibration tab (3158, 3159)

- Added communication watchdog for Analog Modem. (3712, 5366)

- Added under-range indicator (greyed text) for Ln data on measurement history displays. (5146)

- Added ability to adjust FFT graphs independently of other graphs (OBA). (5148)

- Added limit of 8 characters for Modem and Wireless passwords to match G3 restrictions. (5149)

- Added flag for streaming data to indicate EA is on. (5191)

- Added feature so that Block and Daily Timer modes will cause a Run at power on if the time is within a run period. (5218)

- Added limit of 20 to 200 dB for threshold and criterion dosimeter settings. (5321)

- Added the record number for the large digit display on the measurement history displays. (5327)

- Added disable of AC/DC jack function when changing from RT-60 instrument mode to prevent acoustic feedback. (5367)

- Added I/O command to seek into a file to a given download block. (5466)

- Added time-of-day clock sync when paused just like when stopped. (5490)

- Added 30, 15, and 10 minute daily auto-store options (48, 96 and 144 per day). (5512)

- Changed setting validation to find and correct invalid timer setting to match those of G3 (4298)

- Changed "USB Copy" Message to "USB Move" to match functionality. (5333)

- Corrected format inconsistencies between various displays (5354)

- Fixed an issue were the user could inadvertently overwrite files when naming a file to the same as an existing file. If the file exists a message will be displayed and a new name entered. (5463)

- Enhanced system reliability and fault reporting. Session log will indicate when there is a USB controller fault or a general fault (a.k.a. panic restart) for diagnostic use. (5575)

- Fixed issue that prevented Vaisala data updates while running. (4432)

- Fixed Event History issues that caused data corruption or translation failures. (4680, 4701, 5066, 5092)

- Fixed an issue where Vaisala data were not converted to proper units on the Time History Settings tab. (5047)

- Fixed issue where Vaisala data is not read from sensor. (5261)

- Fixed TA-Larm display not being shown for Current or Measurement History. (5283)

- Fixed issue with time history average weather data. (5285)

- Fixed resolution issue of time correction records in session log. (5300 & 5622)

- Fixed issue of Calibrating dialog flashing on and off during an automatic E.A. Cal. Check. (5315)

- Fixed issue that prevented more than 99 sound recordings to a USB flash drive. (5331)

- Fixed USB flash drive free space being reported incorrectly for drives larger than 2GB (5334)

- Fixed a lockup with Vaisala weather station enabled when there was no sensor attached. (5345)

- Fixed an issue of unexpected instrument lockup and shutdown seen after a few days running when downloading every hour. (5499)

- Fixed issue that made Peak data in time history is not valid "---" with interval set to 20ms or 50ms. (5500)

- Fixed issue with Communications menu - SMS tab where certain key presses cause a lockup. (5501)

- Fixed issue where GPS time correction caused the start time of the file to be in the previous day. (5521)

- Fixed issue where the 831 gets stuck in Powering Off screen when shutting down after the USB controller has lockup. (5526)

- Fixed issue where LAE shows <NULL> on SEA page of measurement history when 831_IH option not enabled. (5579)

- Fixed an issue where daily auto-store files moved to an USB thumb drive failed to be properly named. (5582)

- Fixed missing "‰" per mil character for RT-60 T20-T30 quality measurements. (5601)

- Fixed an issue where RT-60 RT Times graph axis values could be zero when they were less than 1.0. (5608)

- Fixed an issue where Calibration time setting on Controls tab was not greyed out when the preamplifier type was PRM831 after having a 426A12 connected. (5621)

- Made secondary metric on Big Digit display for Overall & Measurement tabs in Data Explorer persistent. (4402)

- Moved dosimeter settings pages to far right tabs to allow most users quicker access to the Controls tab. (4997)

- Reduced the communication watchdog timeout time to 5 minutes. (5495)

- Removed the restriction that the meter must be in Continuous run mode for the communication watchdog to be active. (5497)

- Fixed issues with Event Time History that could cause corrupt data and translation lockups. (946, 5268, 5599, 5609, 5611, 5705)

- Fixed lockup issue when selecting Vaisala, heater and then selecting Weather-INT. (5504)

- Improved Time History capture to better correspond to when a Stop is performed. (5543)

- Fixed under-range indication for several displayed metrics. (5604, 5790)

- Updated the standards listed in the reference manual and the instrument's About Standards display. (5626, 5774)

- Fixed an issue where the File Average timestamp was incorrect. (5713)

- Corrected the label for Lmax and Lmin on the Ln pages to include the detector. (5787)

- Fixed an issue on the Current Profile page which displayed the Overall Start Time instead of the Current Start Time (5789)

- Fixed an issue with Streaming Data timing. (5336)

- Fixed an unexpected warning regarding Event Pre-Trigger time change. (5361)

- Changed the label for Peak data to indicate that it is a maximum peak level. (5503)

- Fixed an issue in RT-60 mode where changing between 1/1 and 1/3 octave filter could cause a data corruption. (5553, 5620)

- Fixed an issue in RT-60 mode where switching 20 dB gain on and off caused other memory to be altered. (5562)

- Fixed an issue with auto-store file naming, the file name was not incremented when data was stored to USB Flash Drive. (5600)

- Fixed an issue on the Overall data tab where the setting shortcut went to OBA instead of SLM settings tab. (5605)

- Fixed an issue in with cursor controls using the ENTER key for Time History. (5614)

- Fixed an issue with SMS-In properly sending a message when the SMS received came from an e-mail client. (5633)

- Fixed an issue where the Data Explorer weather pages were displayed based on current settings and not the settings stored with the file. (5645)

- Fixed a fault with Dynamic Trigger which used next setting's values. (5668)

- Fixed a fault with the Record Number edit field for the Time History -> Locate dialog. (5740)

- Fixed an issue where in FFT mode the Peak Frequency Weighting setting had no effect. (5753)

- Enhanced and fixed issues with the Single Block and Daily Timers. A stop and the next run can be set to the same time and setting conflicts are reported. (5735, 5788)

- Fixed an issue where in the Normalized Spectrum selection list the Leq metric was shown twice. (5639)

- Changed the Change Modes message box to consistently prompt "Yes" / "No" regardless of being activated by Control Panel or Setup Manager (was OK/Cancel in one instance). (5716)

- Corrected a localization issue where period was shown instead of a comma on the RT-60 display. (5748)

Model 831 Version 2.112   January 2012

- Improvements to the communication watchdog were made to prevent watchdog triggering when downloading large files over slow Internet connection.

- Fixed a defect that prevented downloading more than 99 sound recordings (5331).

Model 831 Version 2.110   November 2011

- Takt Max fixed and confirmed to be compliant with DIN 45657

- The list of available microphones on the Calibration Microphone tab now includes the 377C01 and 377C10 (3158 & 3159).

- Added functionality to turn the instrument off while locked to prevent accidental improper shutdowns (5058).

- The Dosimeter setting tabs have moved to the right to improve the navigation experience for the majority of users (4997).

- When using the Vaisala weather station, the data labels for Temperature and Humidity are translated per the localization language instead of having to be entered by the user. Also there was a mismatch between the values and the units displayed (5047, 5306 & 5309).

- An under range indication now appears for the Measurement History Ln centiles; the digits will become grey when influenced by the noise floor (5146).

- The ability to adjust FFT graphs independently of other graphs was added (5148).

- Improvements were made to improve the connection and reconnection method robust to the 831-INT-ET.

- Fixed a defect that prevented the LAFTM5 metric from showing in the time history metric setting list (5280).

- Corrected the algorithm for LAFTM5 to meet the specific requirements of DIN 45657:2005-03 (5284).

- Corrected a problem with the measurement of the maximum and minimum weather metrics in the time history; they were always the same value that was found at the instant the record began rather than the true maximum and minimum values (5285).

- Corrected a problem with the At-Max OBA spectrum capture that allowed it to occur at other broadband weightings than just the one selected (5295).

- Corrected a problem that would allow the AC output to send the microphone's signal to the amplifier in an RT-60 measurement configuration and thus cause the system to generate audio feedback (5298).

- Enhanced the GPS time adjustment mechanism to prevent the time correction from stepping to a previous day when the adjustment was negative. The daily measurement will now continue into the next day for the length of the adjustment before setting the time (5299).

- Corrected a problem with the displaying of GPS data on the Overall display (5308).

- Changing the microphone type setting now requires stopping the measurement.

- Added a message to indicate when there is data corruption in the flash memory file system: "`Bad Flash blocks detected.    Please backup data and format the file-system.`" This can be caused by an improper instrument shutdown or when the internal flash memory has internal block read faults do to wear on the device. If the problem persists it is recommended to have the flash memory replaced.

Model 831 Version 2.110 Known Issues

- An older Model 831 having a DSP version of 0.3, when using the MDMUSB-E wireless/cellular modem, will not properly connect via the Internet. The workaround for this configuration is to use firmware version 2.000 in the Model 831.

Model 831 Version 2.101   August 2011

- Allow enabling Measurement History in FFT mode without requiring purchase of the 831-ENV option.

- Fixed Big Digit display not allowing the displayed parameter to be changed.

- Fixed a bug that caused the keypad to quit working after an auto-store in FFT mode.

- Fixed a bug that causes the instrument to crash when OBA weighting is set to A weighting and OBA statistics are enabled.

- Fixed a bug that caused random lockups and crashes, especially when booting the instrument.

- Only show "Options Mask" tab in SLM mode.

Model 831 Version 2.100   July 2011

- FFT functionality added with these features:

    o Frequency span adjustable from 100 Hz to 20 kHz (in a 1-2-5 sequence)

    o 400 – 6400 lines

    o Windowing (Hanning, Flat Top, Rectangular)

    o Frequency Weighting A, C, and Z

    o Run modes Manual Stop, Count Stop, and Timed Stop

    o Graphical zooming on the display (not FFT zoom)

    o Manual, max-tracking or harmonic cursor(s)

    o Graphical display in G3

    o FFT displays Live, Overall, and History

    o Average and Max data types

    o Units: dB re 20µPa

    o Output: Magnitude only

- Restricted Evening time to be between Day and Night time settings for LDEN.

- When the Exceedence option is masked the dynamic trigger now becomes inactive in the Settings tab.

- Streaming data now uses a more accurate time stamp.

- The Voice recorder progress bar is now reset when terminating a saved recording.

- Voice annotation record progress bar now moves even if the record is not saved.

- In the Measurement tab, the Spectral LN cursor is now limited to 20 kHz.

- Fixed Measurement History timestamp error that occurred when Daily Auto-Store was set to midnight.

- Weather units displayed for Wind, Temperature, and Humidity now take advantage of the full width of the edit box.

- Fixed Data Explorer incorrectly showing file size of 0 kB.

- Reduced the RT-60 Minimum Build Time lower limit from 2 seconds to 1 second.

- Fixed Voice Recorder occasionally causing the meter to get stuck when in the "Run Pending" state.

- Attempting to stream live audio no longer causes the meter to crash.

- Fixed occasionally getting "unable to save file" message in the RT-60 mode.

- Sound output no longer continues after stopping playback.

- In the RT-60 mode, before a measurement has been made, "No Data" is now displayed on the History Tab instead of a blank graph.

- RT-60 positions count is now correct if a measurement is terminated early.

- Fixed a problem that would not allow more than 10 sound records to be downloaded over analog or wireless connections.

- Fixed a problem that would store an incorrect Automatic E.A. Cal-Check Spectrum level.

- A "Reset Required" message is now displayed when turning off USB host port when GPS is on.

- When viewing a file in the Data Explorer, the OSHA-1 and OSHA-2 pages of Overall and Measurement displays now show the Detector correctly.

- A warning was added to the manual that having two DVX008As connected to a hub causes unpredictable behavior.

- Fixed time of day drift that occurred while using ScreenGrabber .

- Fixed a problem that caused the broadband Lmax data not to be reset between records in the Time History record.

- 24 kHz or 48 kHz sound recordings can no longer be selected if a settings conflict is detected.

- Time History LZpeak(max) when compared to Overall LZpeak(max) now match.

- Fixed Time History Peak Levels being displayed as invalid when period is 1 minute or longer.

- Fixed USB bugs associated with thumb drives and communications.

- The manual was updated to better describe the way that the dynamic trigger feature works.

Model 831 Version 2.000   December 2010

- 831-RT option automatically computes reverberation time (RT60).

- LAE (SEL) is standard.

- SIL4 added as part of OBA option and is the arithmetic average of the level in 500 Hz, 1 kHz, 2 kHz and 4 kHz octave bands. Requires 831-RA and 831-OB3.

- When using daily timers, the run time is now managed more accurately.

- Can bring the Model 831 out of standby mode using SLM Utility-G3.

- Changes to the weather parameter ADC2 unit name will display correctly.

- Microphone sensitivity now supports 4 digit calibration values.

- In saved data the GPS would previously be live data; now displays from saved data.

- GPS position now displays with an additional digit precision.

- Large digit display updates at approximately four times per second for Fast time weighted metrics.

- Stored files display using the preferences that were active when file was stored.

- Instrument identification expanded to two lines.

- Updated Model 831 manual to better describe automatic file naming.

- The sound level displayed in the mark sound type display is more stable.

- The print screen image is gathered immediately so changing displays will not cause an unwanted screen to be printed.

- When a Vaisala WXT-520 is connected and then USB disabled, Model 831 will not reboot

- On spectra Ln displays, cursor now stops at 20kHz filter.

- If run mode is set to 'stop when stable' and the Model 831 is set to Auto-store the file, the instrument will no longer become unresponsive after run has been pushed.

- Improvements to MDM-USB-E ability to connect and signal strength indicator.

- MDM-USB-E can now connect to different PCs. Previously, only the first IP address received was be able to connect.

- "Out of memory" SMS message will be sent once instead of every 20 seconds.

- Logic IO triggers correctly when set to trigger on 'event'.

- Humidity scale can be set to a positive number.

Model 831 Version 1.603 October 2010

- Big digit display refresh rate change made faster.

- Improvements made to Edge modem to download files with many sound recordings and improve ability to connect.

- Measurement history bug fixed that could cause 0.1s record when using timers.
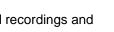
Model 831 Version 1.602 August 2010

- Missed samples when pressing run can cause spectral noise.

- Headset recording with revision B or earlier board is fixed.

- When domininant noise is below approximately 6 Hz and at a low level sometimes the 831 could report very low LAeq levels.

- Sound recordings would not play back when file downloaded via RS232 or Edge modem

- Various weather data fixes and improvements.

- Accuracy improved for time stamp in streaming data .

- Edge modem could fail to connect when using 831 with version 0.4 DSP.

Model 831 Version 1.601 March 2010

- When OBA is off or uninstalled, sometimes calibration or voice recording can cause time history data to be incorrect.

Model 831 Version 1.600 February 2010

- Supports Vaisala WXT-520 weather sensor, SEN031.

- Support for improved clock chip on 831 with revision D circuit board.

- Support for Z-MODEM download protocol when using wireless or wired modem connection. Requires DSP version 0.5 or greater.

- The 426A12 internal temperature and humidity data is now stored in measurement history.

- Features to stream the audio signal when connected via USB client.

- Martel USB printer, PRN003, supported on 831.

- Czech language support added.

- Improvements made to connectivity and reliability of wireless EDGE connections.

- Boot loader enhanced to provide the following functionality:

  o Press and hold Tools and Enter simultaneously will force boot loader to wait 120s before loading firmware. This allows time to program new firmware

  o Press and hold Power key will turn off 831

  o Press and hold Stop, Reset and Enter simultaneously with cause the 831 to format internal SD flash. This is useful if the 831 fails to fully boot because of a corrupt file system.

- When manually instigating an E.A. check it is noted in the session log.

- GPS time sync improved.

- Support for 2565 microphone added.

- 831 will reliably come out of power save mode without appearing to lock up.

- Under-range indication calculations were corrected.

- Weather pages were added to the current tab.

- When 831 is in power save mode a remote command to run will be processed correctly.

- The profile data graph on Live tab now displays 1s Leq data, previously 0.1s data was shown.

- Character entry is displays characters specific to the language selected.

- Memory management improved to avoid low memory reboots when 831 heavily used.

- When using back erase, the records marked in time history could be one too many.

- Measurement history sound recording length corrected.

- Several issues with SMS messaging fixed.

- 48 kHz streaming audio improved. During long periods of time a sample rate mismatch between the PC sound card and 831 can cause skips.

- When exporting to Excel, the wind speed and wind direction names follow the names used in the 831.

Model 831 Version 1.520
November 2009

- Loading V1.520 firmware will cause 831 to reformat data drive and reset settings.

- Added QC tonality.

- Fixed "black bar" lockup that could occur while booting.

- Fixed problem where 831 would occasionally reboot while performing a download using analog modem.

- Several bug were fixed that will lead to improved reliability when making long term measurements.

- QC Tonality algorithm modified to exclude tones if tonal band is not greater than both sidebands.

- Updated Brazilian Portuguese translations.

- Fixed an issue when power save enable the 831 display will not always repaint correctly when power save is exited.

- 1/3 octave 40 and 50 Hz filter real time performance improved.

NOTE: Use with SLM Utility-G3 V1.520 or later

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Model 831 Version 1.512   May 2009

- Allow USB memory sticks larger than 2GB to be detected properly.

- Allow time history to time sync; uses MH time sync (ELA).

- Bad SR files, manual stop sometimes copied the SR file.

- Split Portuguese into Brazilian and Portugal Portuguese.

- Make C-A, impulsivity and TaktMax part of base package (not requiring ELA).

- Edge modem would lock-up in disconnected state and not respond.

- Sound Recording 48kHz which is manually started will not record correctly if ended due to pressing stop key but will duplicate.

- The 831 lost focus while doing measurement with Run Mode: Stop When Stable

- Sound recordings corrupted by repeating recorded data.

- Added measurement number to GPS page on measurement tab.

- GPS will always time sync. Previously would only sync if time difference was greater than 2 seconds.

- When interval time is set to 0, the error message states that a valid time must be ≥ 1min.

- When ELA option is not present and sound recording is triggered using the threshold then the event logic is not reset when a measurement is run. This is manifest when the threshold is set lower than the minimum SPL such that a sound recording is expected every time a run is started but you only get one sound recording.

- 831 gives a timer overlap message when there is no apparent timer overlap.

- Added ability to temporarily turn off purchased options (masking).

- On some instruments ScreenGrabber acted slowly or would hang, this is fixed.

- Added TaLarm display for German customers.

- Fixed sound recording bug that would cause the sound recording proceeding a run command to have repeated data.

NOTE: Use with SLM Utility-G3 V1.51 or later.

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Model 831 Version 1.500   July 2008

- New firmware options

    o GPS support is part of the standard Model 831

    o 831-MDM supports the analog modem and the serial port

    o 831-WTHR supports logging of weather parameters

    o 831-SR runs in manual or continuous mode without LOG or ELA

    o 831-COMM supports the wireless modem (MDMUSB-E)

    o 831-FST supports the faster logging (2.5, 5 and 10 milliseconds, requires 831-LOG)

- Model 831 supports remote access by analog modem (MDMUSB-A), wireless modem (MDMUSB-E), serial port technology (DVX008A+CBL117) and long USB cables.

- Model 831 supports the 831-INT Interface Cradle delivering power and control to the outdoor microphone, powered USB hub, weather sensors reading, logic I/O and battery management.

- Model 831 supports the permanent outdoor microphones models 426A12 and PRM2100K in 2 modes: direct or via the 831 interface cradle, 831-INT.

- The internal humidity and temperature of the 426A12 permanent outdoor microphone can be logged. Using TEDS the serial number of the 426A12 is read.

- Large digital display with selectable function in the live tab.

- Back erase function allows for 5 or 10 seconds erase.

- Timestamp with 0.5 milliseconds is added in Time history (when logging faster than 1 second).

- Daily Auto-store has more frequencies: 1x, 2x, 4x, 6x, 12x and 24x. At 24x per day you have hourly files. If the GPS is enabled, the clock can be synchronized automatically.

- LAIeq – LAeq metric added for impulsivity measurement.

- Daily Auto-store and continuous mode are part of the base Model 831.

- Calibration history and EA history will store the calibration spectrum if OBA is enabled on the instrument.

- Spectrum at overall Lmax level can be stored.

- 4 Normalized spectra for 1/1 and 1/3 octaves can be recorded or edited, next to 3 fixed ones. Comparison or relative views are supported.

- Weather parameters can be logged: wind speed and direction, temperature and humidity.

- Logic input and output are supported, also via the 831-INT interface cradle.

- The GPS unit tags the measurement location in the overall data or the measurement history (each interval using ELA).

- Sound recording snapshots are possible as marker in manual mode and in automatic mode synchronized with each interval in measurement history, with each event.

- Link function allows to link time histories with measurement histories on the instrument for quick navigation.

- New icons for the Events tab allow live tracking of event detection and sound recording.

- Overall reliability and performance improvements.

- New soft pouch, CCS032.

- Event trigger status display to show 831 event processing on a single display.

- LAE added to events.

- Support for E-Lithium batteries for longer run times.

- The default setting for battery type is set to Alkaline (in NiMH mode charging of Alkaline or E-Lithium batteries can lead to damage).

- Post trigger control added to Event Time History so that the 831 will store a pre-defined number of samples after an event has ended.

- 831-FST option added that allows for 2.5ms, 5ms and 10ms data storage. This enables logging at 400 frames per second (2.5msec) (831-FST).

- 831 can do a file system check or format a USB thumb drive eliminating the need to do this on a PC.

- Free-field to random and random to free-field corrections are available.

- Time sync feature extended to time history and event time history so that when enabled, all time histories will be synchronized.

- Timing accuracy has been improved.

- Noise floor and under-range data changed for from 15pF to 12pF for 377B02 and 377B20 microphones to more closely match typical capacitance values.

- USB thumb drive support improved.

- Overall performance improvements to make the 831 more responsive.

- Measurement history and Auto-store will be delayed until an event has completed so that a measurement or files will not break an event into two pieces.

- When run mode is continuous and a file is manually stored, the default file name will follow the auto-store naming convention.

- BootLoader will check battery voltage, show a message and not boot the 831 if batteries are low preventing an improper shutdown due to low batteries.

- The external battery shutoff voltage is user programmable.

- L_{DN} and L_{DEN} computation does not require a full 24 hour period but will project the level for any period that has partial data.

- The default range setting for OBA and SR has been changed to low range.

- There is an option to select all files in the 831 for transferring to USB thumb drive.

- Some unwanted "calibration out of range" warnings have been eliminated.

- When a delete all internal files is done, the suffix counter will be reset.

- 20ms and 50ms time history data computed correctly when integration method is exponential.

- The dose will now always be computed from the exponentially averaged data, Fast or Slow, regardless of the integration method setting for compliance with ANSI S1.25 requirements.

- New languages added: Norwegian.

Model 831 Version 1.157   November 2007

- SLMScreenGrabber 2.1.3 may cause the Model 831 with DSP V0.5 to lock-up.

- Download file occasionally loses data during transmission is addressed with Error-Checking Protocol on USB file downloads.

- Time history peak can have 0dB levels in DNA, "---" on instrument. This was caused because the peak detector was returning a level of 0 and log10(0) = undefined. This has been changed to report the level associated with the peak detector noise floor.

- When the OBA is A-weighted and integration method is exponential, a mathematical error has been fixed that could cause low frequency levels to read very high (>130dB)

- The standards declaration on the about screen has been changed to be consistent with the new back labels.

- Support for DSP V0.5.

- 50ms time history was labeled as 40ms.

- Sound Recorder Improvements.