

September 2008 AcquiSuite Firmware changes.

Firmware updates for the A8812 have a number of substantial changes. Users should be aware of these changes and how these may impact any custom applications that may have been developed. Although great care has been taken to maintain the previous feature set, users should test the firmware update prior to deploying this firmware on production equipment.

The firmware update will be provided at no cost.

Firmware release with changes
A8812: v02.08.0924

Overview of changes:

This firmware update includes the new Sensor Logging feature which allows the AcquiSuite to communicate with a number of wireless sensor device. The firmware also includes several new device drivers and a number of enhancements and bugfixes.

New Drivers:

- Added device id strings for the Veris E30 BCM
 - support for sync-to-comms, configuration for demand options
 - clear min/max level values after each log cycle.
 - report amps/percent of breaker sizes
 - option to configure alarm thresholds and breaker size options.

Other Firmware Changes:

- RS485 Baud rate option changed to a list of check boxes. (multiple selections allowed)
- RS485 Baud option for 38.4kbps, 57.6kbps, and 115.2kbps.
- RS485 Baud configuration item in the loggerconfig.ini changed from MODBUSSPEED to MODBUSSPEEDMAP. New option is a bitmap. (old option was enumerated type)
- Cleaned up line separators in the pdi bcm driver.
- Filter non-xml printable characters from DTS305 serial number field.
- Added framework option to print 16 bit hex values as hex. Useful for status flag registers.
- Unified FormatLogPoint function in drivers.
- Fixed issue in ini file library to set the dirty flag when a line is removed from the file.
- Fixed a problem in scaling and sign conversion for ADAM 4017, 4018, 4019 drivers.
- Added more diagnostic info on failed modbus receive data. (describe query on crc reply failure)
- Added device identification (but not driver) for Shark 200.
- Added Mod1k and Mod10k, (with 2,3,4 registers), and byte swap functions for 48bit and 64bit word swap to the framework driver.
- Fixed a problem in the framework template editor to allow file names longer than 32 characters.
- Driver will deallocate memory if a register block is removed from the template.
- Added warnings to R9120 advanced page to report when PointSix or Orion modes are selected with wrong baud rate.



- Updated background html data update script to break the updates into multiple smaller parts. Call SetTimeout in between each part, to allow browser to do other things. Should help with long pauses on E30 bcm refresh.
- Cleaned up some debug messages in get/set serial number functions.
- Updated sensor level network handler to convert point-six thermistor sensor output to ohms.
- Updated point six driver to handle new counter/temp-xl transmitter type.
- Fixed cosmetic output of wget in firmware update that failed to wrap long lines.
- Fixed sensor log display that had a broken refresh icon.
- Substantial cleanup of the LCD timing procedure on the A8812. This will make updates on the LCD module take much less time to complete.
- Added driver type names for R9120-3SN, R9120-5, R9120-5SN, R24120-3, and R24120-3SN (uses core R9120 driver)
- Fixed a race condition where config updates are requested by time interval and the meter is not operating. This would possibly prevent meter device detection.
- Fixed a bug in the html log printing program that would cause null pointer references once in a while, Cleaned up log export header printing procedure.
- Added include file in common.h to bring in platform defines. Added platform defines for A8811, A8812.
- Moved msTimer function out of modbustcp program and into sdlinux.c/h
- Fixed a bug in the Framework that did not handle packed bits correctly when reading coil status from a device.
- Fixed a bug in the read/write coil (relay) handler library used offset 40001, new use follows modbus spec to read 00001.
- H843x driver: added missing v-mode ct primary scaling menu option.
- Consolidated the driver subordinate point name function (used in drivers with multiple data values for a single input.)
- Changed modbustcp shared memory structure to use the baud rate as a separate byte for larger baud rate options. Used to report baud rate via xml in device list info.
- Replaced INI library function with new library that uses a sorted hash table. This improves load/seek time for large ini files and is required for the new E30 bcm driver. Optimized hash sort function to sort in place and not use new allocations each time. Added look-ahead to LoadSetFile to estimate the memory required based on file size and an estimated characters per line.
- Added function to open, read, and return one ini file parameter. Useful for single infrequent info requests.
- Added row id to all table rows in the device driver data display pages.
- Modified timezone change handler to not set the local time when zone is changed.
- Consolidated logger and loggersetup into a single binary called ascore. (similar to busybox) This saves some load time and memory footprint of the executable is about 400k smaller.
- Added stricter function to strip non-printable characters from html data to fix output of non-xml compatible values in device display pages.
- Optimized devlist to use strdup function and limited ini file access for html and xml output.
- Added some debug printing info for xml output timing and performance.
- Removed string allocation for device name, type, firmware ver string, and serial number. Reverences now access ini file directly.
- Put device class back into default ini parameters as a read-only option. This should fix bug with the device list tree display that was introduced with limited ini file parameters reads.
- Added feature to allow the operator to assign a built in driver to read a remote modbus/tcp device. Limit of 32 devices supported. Reworded some of the elements on the driver picklist.
- Updated mhdatalog to read the modhopper configuration files to determine the remote modbus/tcp (if any) address so that remote modhoppers can be queried.



- Fixed a cosmetic error in the modhopper advanced page with the html table cell for the modhopper baud rate element.
- Updated sensor log retrieval function to retry another record without waiting if the previous record was successful. Limit 25 records in a row. This should help eliminate stale records on systems with a large number of modhoppers but only one with a sensor data log.
- Updated log file delete command to handle MBS file type, allows enertrax to delete sensor log files after download.
- Updated log/config export function. Allow the new mbs-xxx.ini config file name format to support Enertrax downloading sensor config/data files.
- DTS305: Removed voltage single phase option, and added in Power Demand 3P Active at the request of John Stratford at Measurelogic
- Changed load procedure, remove deleted devices first, then add in new config files.
- Updated point baseclass to detect invalid float values with both isnan() and isinf(). Prevents “inf” from printing in the log or web display.
- Updated R9120 driver to save baud rate/count speed options to ini file.
- Fixed some DTS305 data point names per request from Measure Logic. Fixed issue with kwh/wh magnitude unit name not updating the alarm fields.
- More work on the advanced config page for the new hd pulse counter driver. Added feature to write pulse operation speed to the module.
- Updated ipc stat function with better error codes. Fixed problem with stat names being too long, now will properly truncate them to search, but may find duplicates. Added syslog warning when stat names are too big. (internal debugging)
- Fixed issue with device probe that caused duplicate masters to show up in the dev list.
- Modified some of the background data gather syslog messages, added debug log report of tasks remaining on exit.
- Modified device discovery to skip devices that are remote modbus tcp servers.
- Added point six dual analog (1 and 2 channels enabled) to the sensor list support.
- Added option to provide sensor scaling pre-set values for point-six analog inputs.
- Fixed problem with sensor offset scaling. Should Add offset, (not subtract)
- Fixed bug where html display first showed values with 0 and then xml updated to 0.000. Now uses 0 consistently.
- Started work on dts305 driver to add menu for ct/pt scaling, baud rate and power divisor from meter register. Fixed power factor and power register values. Added option to set the modbus address from the advanced page.
- Modified modbus/tcp query lib to send smaller queries in one packet, rather than splitting them into two parts. This should help with Modbus TCP gateways that expect the entire query in the buffer and don't gracefully handle query fragmentation. Note, this will not solve queries fragmented by router MTU settings.
- Updated file read procedure to ignore blank lines in curve scale templates. Added some additional functions to the curvescale file function to trims leading/trailing whitespace, and ignores lines less than 3 chars long.
- Fixed problem loading long curvescale filenames in the sensor logger.
- Added grouped picklist for curvescale files in user and system directories. Reversed the order so user files are shown first.
- Modified device type picklist to show groups for templates and drivers
- Fixed ini file free function for clearing stale sensors
- Updated sensor log application reload system wide preferences on signal from UI application when the user makes a change.
- Updated background data gather function, now sets retry back to 3 attempts before general update (should clear up xml background updates)



- Cleaned up some signal sending code to use the general library, Updated save function to signal the mhdatalog process on ini file change.
- Added curve scale translator templates for the following resistive sensors:
 - Veris_1000_Ohm_Platinum_RTD_F.cst
 - Veris_10K_Type_2_Thermistor_C.cst
 - Veris_10K_Type_2_Thermistor_F.cst
 - Veris_10K_Type_3_Thermistor_C.cst
 - Veris_10K_Type_3_Thermistor_F.cst
- Added curve scale feature to point six thermistor transmitter
- Added CRLF marks to all end of line locations in smtp email generator. This should help with picky email servers and spam filters.

