

## November 2007 AcquiSuite Firmware changes.

Firmware for the A8812 and A8811 released after July of 2007, will 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: v02.07.1127

A8811: v01.07.1127

### Overview of changes:

This firmware update includes the new Modbus Framework feature which allows the AcquiSuite to communicate with any generic Modbus device. The firmware also includes several new device drivers and a number of enhancements and bugfixes.

### New Modbus Framework:

- Added new option to the Modbus menu to create and edit Modbus templates.
- Modbus read block transfers defined in separate menu from the data point list.
- Point list page includes point name, multiplier, scaling, point type, byte swap, etc.
- Driver advanced page provides checkbox to log debug messages showing template data processing.
- Driver updates automatically when template is modified.

### New Drivers:

- Added driver for Obvius A89DC-08 solar current monitor: includes advanced setup to change Modbus address, enable channels, show firmware and serial number.
- Added driver for the Measurlogic DTS305 meter driver. Driver uses all 32bit signed values for all data points, per advice from the mfg.
- Added driver for the Advantech Adam 4019 and 4018 series io modules. Outputs are scaled to units of measure for the input mode (deg c, mV, mA) but no menus yet present for configuring the device nor scaling to the sensor ranges that may be attached.
- Added driver for Coyote Datacom RIO-9F Modbus device. Hardware device and driver do not support auto-detect.
- Added a driver for the Obvius A8911-23 high density pulse counter. All major features are present, more testing required.
- Added driver for the Electro Industries Shark 100 meter to the firmware.



## Other Firmware Changes:

- Fixed a bug in the modbustcp library, default unknown error code reporting for Modbus TCP error messages. The old version reported unknown errors as crc errors. New function reports numeric value of unknown error code.
- Added delay to wait-on-ring loop for inbound calls, prevents rungetty from hogging the cpu, mainly on the A8811 platform.
- Changed alarm timeout to allow dialin connection to run for 2 hours before resetting.
- Changed pulse input demand calculation to wait for end-of-interval before recalculating in drivers for A8911, A8923-4, R9120, RIO9F.
- Check for null pointers in demand calculation (null should never happen) in drivers for A8911, A8923-4, R9120, RIO9F.
- Fixed a bug that prevented the suppression of column names in the log file export menu.
- Added link on the device list page to run the 'add device' cgi page. Allows adding of modbus devices not already detected.
- A8812 onboard pulse inputs: Fixed an issue that caused floating point multipliers to loose digits after the decimal place when re-configuring an input. This update fixes this issue, however a work around is to simply not re-configure a pulse input after initial setup.
- Removed bExtended flag from function GetConfigurationFromDevice. This is because it is no longer called from interactive cgi tools, only the background process in the logger, and always gets all the information from the Modbus device.
- Changed warning message of "unsupported" to "unknown" in the device list. This should better describe the situation now that we allow users to pick a driver for a device that can't be auto-detected, or a driver using the Modbus Framework feature.
- Added new tool to allow user to manually select a driver if the auto detect can't probe and figure out the device type (the picklist only shows device drivers that are not auto-detect.)
- Updated device list to use URL of new modbusnewdev.cgi tool when device class reports the device is unknown/unsupported.
- Added some notes about register functions on the PM800 meter. The serial number for the meter doesn't appear to be present.
- Added support for serial number and firmware version reporting in H8238 advanced page.
- Changed probe procedure to not re-probe known devices. Let the device driver use the its verify procedure (in background data gather function) do this work. This will prevent drivers from unloading when the device is not able to be automatically detected via Modbus probe.
- Modbus library: Added support for Read Input Registers (3xxxx) Modbus function
- Added a number of new defines for energy types (watt-hours) and sections for ini files.
- Added some Modbus device class defines to the .h file.
- Updated modem and upload processes to handle new MTSMC-G-F4 quad band GSM radio
- Updated modem probe function to recognize the MT5656SMI modem module, and handle it the same way as the MT5600SMI.
- Added code to the device auto-detect procedure to find shark100 and DTS305 meters.
- Fixed bug in pulse multiplier that was introduced with background data gather feature. Affected output when multiplier was not one. Caused product to be rounded prematurely. Effect is not cumulative on total.
- Changed device detection procedure to handle situation where query for id (x11) gets no response. New error handler returns smallest error number (0=success). This allows more graceful handling of devices that we don't support that don't respond correctly per the Modbus spec.
- Added process id tree in system section page.

