

## July 2013 AcquiSuite/AcquiLite Firmware changes.

Firmware updates for the A7810, A8810 and 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 for A7810, A8810, A8812: v02.13.0712

### Overview of changes:

This firmware update includes a number of minor changes as well as several new drivers.

#### New Drivers

- Leviton series 3300, 3500 power meter.
- Siemens Sentron PAC 3200 power meter.
- Triacta PowerHawk 4224, 4324, 4424, 6212, 6312, 6412 1p, 2p, 3p meter.
- Benjamin Electric, Power Panel Plus. Includes 12, 18, 24, 30, 36 and 42 breaker configurations.
- Ideal Power IPV-30kW-480 Inverter.

#### Major features

- Added Auto-IP (Zeroconf) configuration to assign an IP address when DHCP servers are not available. (direct Ethernet to laptop)
- Added UPnP support to advertise device on LAN for ease of configuration. (enabled by default)
- Added automatic time sync option. Allows device to try several time servers and protocols automatically.
- LevitonBMO upload now listed in data upload configuration page.
- User selectable units (in A8812 io, A7810, A8332, R9120, Rio9F, A8911-23, M4A4P device inputs) now provides a picklist of common unit types. This will make it easier to enter unit names correctly for use in the BACnet module.
- Added support for Multitech H5 USB and Onboard 3G cellular modem.
- Added system setup page to configure the AcquiSuite name, description, location, and admin contact.
- DHCP will now be the default configuration on all new systems. (does not change existing configurations)

#### Other Firmware Changes:

- Firmware now detects ethernet link up/down and obtains a new DHCP lease if needed. Up/down notification also shown on LCD console. Obtains DHCP lease faster on link-up.
- Begin migration away from Obvius hosted DNS server. System will automatically convert configuration to use Google DNS (8.8.8.8 / 8.8.4.4) if currently configured for Obvius DNS server. (See Technote-84 [http://obvius.com/Support/Tech\\_Notes](http://obvius.com/Support/Tech_Notes) )
- Update to dialout notification to detect and ignore bogus DNS servers.
- Time configuration page now hides static or time server edit fields depending on the time protocol selected. Added "auto" and "manual" modes. Auto time sync mode tries several servers and remembers the server and protocol that is successful. Local/UTC time shown on top of page updates in real time.
- Begin migration away from Obvius hosted time server. If time server was set to buildingmanageronline.com or obvius.com, this will automatically convert configuration to automatic mode, which selects the protocol (NTP or RDATE) and a time server from a pool of public servers starting with pool.ntp.org. (See Technote-85 [http://obvius.com/Support/Tech\\_Notes](http://obvius.com/Support/Tech_Notes) )



- Increased time sync timeout from 10 to 30 seconds when checking timeservers, added progress display on time “sync now” UI display.
- Cleaned up some process notification when network link or ip changes.
- Upload test will skip pinging time server if using auto timeserver mode.
- Added timezone for Asia/Shanghai.
- Fixed time client issue where timeout would incorrectly fail, if the time was set forward by sync.
- Time sync is now only performed once per day regardless of data upload interval.
- Added additional configuration warnings and icons to the login/welcome page to recommend changes to your current settings if time server is not set or if system name/location/etc are not configured.
- Added a common configuration page in system/setup to configure the system name, location, purpose, and administrative contact. Information from the system name is now converted and used as the hostname, and is also used in DHCP lease requests, and UPnP advertisement. Information may optionally be shown on the pre-login webpage.
- Updated web UI to print the AcquiSuite system name in the webpage title. (used by browsers for tabs, bookmarks, etc).
- Enabling DHCP from LCD console now turns on both DHCP and UPnP.
- Persistent reporting of cellular modem signal quality, state, sim card, etc. in modem setup page. Added additional warnings for problems like “no sim card”
- Updated core busy box tool kit to v1.20. Build specific options for the A.S. Platform.
- Correctly strip host name field with proper RFC formatting applied. Hostname will be limited to 63 chars.
- Created several defined values for name, location, purpose with defined string length rules to enforce.
- Updated some HTML tags for coloring connection test output text.
- Modified some routines to properly use the brand/family name “AcquiSuite” or “AcquiLite” in several setup pages, as well as proper use of full model numbers as appropriate. (including several built-in uploader protocol options)
- Cleaned up some string length tests in the HTML pages.
- The AcquiSuite hostname is now derived from the AcquiSuite name, properly formatted, and limited to 63 chars.
- The hostname is now provided in DHCP requests, for use in systems where the DHCP server updates reverse DNS.
- Fixed a problem in system status webpage to handle requests with invalid names.
- Added model number support for A8812-3G
- Updated the status javascript tool and corresponding cgi/xml handler to provide live data refresh information in a number of configuration and setup pages such as network, date/time, modem status, etc.
- Added feature to the shared memory data model for logger/modbus devices to report up/down status internally. This will be used in future versions to optimize queries with working devices.
- Added firmware upgrade feature to handle A8814 onboard meter firmware images.
- Starting debug logging will cause the init process to re-try starting any dead process. This will make it easier to diagnose problems if a process or module fails to load or is repeatedly crashes and is disabled by init.
- Fixed typo in javascript alert dialog in account password setup page.
- Cleaned up some dead code in the Modbus setup page, and used AcquiSuite/AcquiLite family name properly in field descriptions for all platforms.
- Updated Modbus setup page, and network setup page. Removed hostname and acquisuite name edit fields. (now read-only hostname is shown) New System/Setup page addresses both of these fields now.
- Left side nav bar tree shows the AcquiSuite hostname as the first item (from the system/setup page)
- Cleaned up some spurious quotation marks around hostnames on network setup page and nav bar.
- Changed the default HTTP cache time for documents and files shared by AcquiSuite modules from 1 day to 15 minutes for consistency with the core AcquiSuite firmware.
- New version of the Acuvim L driver. Added missing energy data point. Updated to K units for W,VA,VAR. Added THD values (if available). Fixed several data points that did not show correct values on CL version. Customers with a meter using the old driver will need to delete the meter from the modbus device list, and then re-add it to use the new driver.

- Cleaned up ip string library code to fix ctype.h references from c library.
- Updated the firmware board detect procedure to detect the model extension based on the modem type.
- Updated the firmware auto-upgrade feature for the onboard io in the A8812. In some systems with a long timeout and many devices not working, the io firmware detect procedure would fail (due to timeout) and would cause the AcquiSuite to upgrade the io firmware unnecessarily. New procedure uses the cached firmware version in the mb-250.ini file for an A8812 if the device query times out.
- Updated the modem dialout page to show proper help procedures for 3G modems.
- Updated the init options to allow modbustcpd to change its command line shown in the process list with status information.
- Fixed a problem with auto-upgrades where flash memory is > 75% full. Tidylogs would purge the firmware download before it could be installed. New tidylogs only purges if the downloaded file is older than 30 minutes, likely from a failed or canceled firmware update.
- Manually starting a data upload resets the retry count to 1 so the AcquiSuite consistently performs all the configured upload attempts. This will also cause the AcquiSuite to check if it is time for a firmware download.
- Tidylogs ranks log files now for “least likely to be helpful” and removes these first. Long running debug log are purged first, upload/ppp logs are more helpful so these remain longer.
- Tidylogs will now try to preserve the modify time of log files when being compressed/copied.
- Compiler build options now use -march-armv4t for all binaries.
- Added feature to shared memory interface so that applications can tell when memory section has gone stale. Applications should now be able to release and reattach to gain access to current data. Affects processes that run and use data from the modbus logger process.
- Fixed a problem that caused the BACnet system to show stale data forever if the logger process was restarted.
- Fixed library files that update the create time of a file to not update directories.
- A8814 internal meter driver. Added feature to invert CT, updated html formatting of advanced page. Added data points on the advanced page to show meter status.
- Added some ModHopper features to the advanced configuration page to handle the next generation product and radio options when available.
- Updated LCD / gconsole / A8814 icons with new style graphics, and software backlight brightness control.
- Updated LCD / gconsole / A8814 touch screen handler with better touch, drag, release detect.
- Added some diagnostic tests for A8814 LCD display to detect when the display buffer does not match SDL and reset/refresh the LCD module.
- Added additional information on the modem setup page to show last known modem information including signal strength, quality, IMEI, sim card status.
- Updated R9120-5 device advanced config page to allow use of radio modules that have only 128bit AES keys. (both 128 and 256bit versions are now supported).
- Added R9120-5 features including australian id strings, and software selectable transmit power.
- Added modbus id strings to match new refusol inverter models. (no change to the driver or data readings).
- Updated relay output drivers for Benjamin Electric, A8812, A902MB, Adam4068, Rio9F, to make the output controls compatible with the BACnet module. This will allow a BACnet controller change relays through the AcquiSuite module.
- Added assert warnings to string library to guard against accidental string truncations in string functions.
- Fixed up version string number comparison for A8812 io firmware to ignore case of letters in version numbers such as “v1.11”.
- Added some library functions for predictive query tuning algorithm. Query prediction will allow the system to service queries from cache, and attempt to pre-fetch data for the cache prior to the data being needed by other processes. Currently the Fronius and BACnet AcquiSuite module uses this technique, this library is intended to allow other AcquiSuite processes access to the same algorithm.
- Increase cache times for units to at least 60 seconds.
- Added a library function to make configuration parameters with index numbers easier to access. Parameters such as “point99” can be generated easier.
- Fixed a problem to remove scroll bars when not needed in left side nav bar in MSIE 10.

