



## ScadaLynx 50386 DCU Version Updates

Version      Date  
                Changes

1.32.06      01/26/2012

1. Fixed timeout on serial sensor sampling that persisted for next sample.
2. Fixed print of point computation type and compute from point.
3. Fixed error that prevented toolbox data tab display of point data after read.
4. Fixed toolbox reconnect after reset with remote inter-packet delay.

1.32.05      12/16/2011

1. Fixed ADC analog sensor sample error caused by uncleared done flag.
2. Fixed serial sensor sampling on multiple serial ports.
3. Fixed ScadaLynx Toolbox port add operation to copy previous port parameters.
4. Fixed reconnect errors after reset by increased delay before reconnect.
5. Fixed time sync from Toolbox or base station.
6. Eliminated connect read version retries by adding a short delay after connect.
7. Eliminated redundant display of sensor sample results if scaled data value not changed.
8. Added serial sensor script command execution from console and ScadaLynx Toolbox.

1.32.04      11/15/2011

1. Prevent powerdown when 1 second from TDMA transmission to allow early wakeup for transmit preparation.
2. Prevent powerdown when event report pending. Allows GPS sync state change to transmit before powerdown.
3. Fixed GPS sync state change reporting to support event reports.
4. Fixed multiple GPS sync starts when one already running.
5. Fixed program hang when sensor power turned off during GPS sync.
6. Fixed GPS start of time sync packet which speeds up synchronization.
7. Added GPSSER.sdi script for GPS sync state sampling and reporting.
8. Added lastvalue flag to SDI/Serial sensor scripts to return last value of point. This allows GPS sync state that is set by the GPS timed polling to be filed by the script file.
9. Fixed SDI-12 communication timing to work with Keller SDI-12 PT.
10. Added Keller SDI-12 PT script file.
11. Fixed SDI-12 concurrent measurement samples to start measurements on all sensors. Do not wait for SDI-12 concurrent measurement to finish before requesting other sensors measurements.
12. Fixed analog sensor samples to do sample after individual sensor power on wait met. Do not

wait for first sensor sampled to have its sensor power on wait met.

13. Fixed Orbcomm Rainfall event reporting so first event is transmitted immediately and additional tips are transmitted every 5 minutes.

1.32.03 09/19/2011

1. Added Orbcomm Quake 1000 radio support.
2. Added multiple sample reporting in reporting scheme.
3. Added reporting format in reporting scheme.

1.32.02 08/02/2011

1. Fixed ScadaLynx packet display error loop when data report NAK received.
2. Fixed ScadaLynx test transmit data premature radio key.
3. Fixed ScadaLynx packet report to station use.
4. Added HyperTerminal program to installation for Windows 7 support.

1.32.01 06/16/2011

1. Merged 1.31.08 and 1.31.09 version changes with 1.32.00.
2. Fixed DI event reporting for DI:9 – DI:12.
3. Fixed toolbox field edit spin control use for Windows 7.
4. Separated test and event report transmit holdoff timers.
5. Added event force in report action to override event report transmit holdoff timer.
6. Added timeout alarm action.
7. Added control actions: set, none, add.

1.31.09 05/24/2011

1. Fixed vector wind direction computation when wind speed is 0.
2. Combine ScadaLynx data reports into one packet when added to holdoff buffer.
3. Fixed ScadaLynx packet repeat misdirection when only source address in pass/block list.
4. Fixed SDI unit address stuck at 0.
5. Changed SDI-12 default receive marking limit to 7.000 milliseconds.

1.31.08 02/15/2011

1. Fixed repeat talkback when duplicate reports received in same second.
2. Added serial input port point script logic.
3. Repeat ScadaLynx packet if either source or destination is in pass/block list.
4. Fixed 5<sup>th</sup> order scaling equation.

1.32.00 04/19/2010

1. Added GPS time sync on COM2.
2. Added ALERT transmit TDMA.
3. Added logging of repeated data as well as received data.

1.31.07 11/02/2009

1. Alarms override transmit holdoff timers.
2. Fixed test radio crash when no communication ports defined.

## 1.31.06 08/05/2009

1. Fixed read data failure caused by transmit buffer overflow.
2. Append multiple point data reports to the same packet.
3. Limit multiple point data report packet size to < 512 bytes.
4. Force point read data completion after multiple point read packets.
5. Clear modem line before dialing from toolbox to eliminate no carrier false errors.

## 1.31.05 02/13/2009

1. Fixed receive hang when corrupt ScadaLynx format headers had very large packet lengths.
2. Transmit ScadaLynx preamble and data packets together to prevent microwave drop outs.
3. Remove left over temporary files on program start.
4. Disable point samples during file downloads.
5. Added new SDI-12 script file commands to set default sample and set value commands.
6. Added set value command selection for SDI-12 scripts to be used by Toolbox Data page.
7. Send data value to SDI-12 sensor when changed on Toolbox Data page.
8. Send data value to SDI-12 sensor when set on console using Test, Set raw or scaled data

## 1.31.04 02/23/2008

1. Fixed use of scaling equation when computing wind speed.
2. Fixed error of continued reporting when all point reporting tests were deleted.
3. Added display of input voltages when doing a two point calibration.
4. Fixed test page display field width so mVdc input voltages can be fully seen.

## 1.31.03 09/11/2007

1. Fixed warning that toolbox version was out of date.
2. Do not display SDI-12 retry timeout after wait completion.

## 1.31.02 07/25/2007

1. Fixed digital input alarm triggers for high and low states.
2. Fixed ScadaLynx Toolbox to work with different screen DPI settings.

## 1.31.01 04/27/2007

1. Fixed ADC calibration to work application program versions that do not support voltage range.

## 1.31.00 03/20/2007

1. Added Security access to control DCU programming.
2. 50386 SLB Test button and ScadaLynx 50386 Toolbox Test Transmit Data button transmits test data on Scada radio when ALERT radio disabled.

## 1.30.00 06/29/2006

1. Added ALERT transmit feature to add a delay between ALERT data packets. This modification was not successful and was abandoned.

## 1.29.20 02/13/2007

2. Fixed loss of pending ALERT radio timed transmissions when DCU time set.
3. Do not display point data samples unless test or transmit time unless debug on. Eliminates unnecessary displays for frequent computations such as wind vector.
4. Added application restart support to toolbox for network connections.
5. Network and telephone number connection parameters saved in ScadaLynx.ini file.
6. Fixed point input assignment in toolbox when point moved.
7. Fixed table read when table added to existing point.
8. Fixed rain gauge data count read from NVRAM on program start.
9. Fixed error on GOES radio port that sent ScadaLynx error messages to radio.

## 1.29.19 01/12/2007

1. Added timed and event transmit hold timers with random feature.
2. Fixed error that logged timed data with time of last data write or counter reset.
3. Fixed error in computing next counter reset time. Previous version reset time to 12/23.
4. Added DCU file browse, read, and delete in toolbox. Previous versions only had file send.
5. When sending configurations to connected DCU, check if configuration, script, or table files are up to date. If not up to date, download files. Previous program versions always downloaded files.

## 1.29.18 12/11/2006

1. Synchronize DCU time with GOES radio GPS after each message sent to radio.
2. Removed Null padding at end of GOES timed messages.
3. Added random reporting baud rate to GOES Signal Engineering radio setup.
4. Added repeat of timed data in GOES Signal Engineering radio setup.
5. Added repeater talkback test selection: ID and Data or ID only.
6. Added ADC voltage input range selection: 0-5Vdc, 0-1Vdc, 0-100mV, 0-55mV, 0-25mV.
7. Added ALERT transmit high and low tone feature. Previous transmit tone button renamed to Transmit dual tones.
8. Added transmit data, tones, and no tone to ALERT port transmit setup.
9. Added repeated format translation from ALERT to ScadaLynx and ScadaLynx to ALERT.
10. Fixed Toolbox error that crashed program when all controls were deleted.

## 1.29.17 11/14/2006

1. Added support for multiple input commands in SDI-12 scripts.
2. Fixed addressing of SDI-12 units when multiple concurrent reads are used.
3. Fixed program hang on multiple SDI-12 reads that would cause watchdog timer reboots.
4. Added Test script command to halt script execution on errors before data is filed.
5. Force sensor power off on command even if program thinks power is already off. Corrects problem of losing sensor power on state when all parameters are sent by the toolbox software.
6. Eliminated divide by zero error on reading wind direction when VREF is not connected.
7. Eliminated divide by zero error if communication port baud rate set to zero.
8. Fixed Test Transmit message display for GOES transmitters.

9. When a com port uses RTS to request transmit and waits for CTS, continue with transmit on CTS timeout unless flow control set to RTS/CTS. Required for GEOSAT radios.

#### 1.29.16 08/18/2006

1. Fixed Send All Parameters error that disabled report actions for COM port 2 and above.
2. Added support for GOES Signal Engineering radio.
3. Added test transmit alarm data feature.
4. Added timeout to clear samples that never complete and prevent the DCU from powering down.
5. Fixed error that prevented a point sample after a data event or data write.
6. Fixed peak wind computation so max wind speed saved for computation interval.
7. Discard duplicate logged data reports.
8. Fixed non-console serial port receive error when a packet matched the start of a ScadaLynx leader.
9. Increased wait time on toolbox when a write configuration command is sent to the 50386 DCU. This was done to prevent command retries while waiting for the flash write to finish.
10. Disable MODBUS communication status display until diagnostic level set to 1 or greater.

#### 1.29.15 05/03/2006

1. Added ALERT complementary pair transmission for alarm reporting. Alarm format is set on port transmit tab. Alarm format is used when a point report action has alarm format selected.
2. Added use alarm report repeat option to report action. Alarmed reports will be repeated at the test interval.
3. Control actions are based on point number instead of point type and type number.
4. Added control conditions that must be met for a control to be performed. Control setup is now divided into two tabs: Actions and Conditions.
5. Fixed analog sensor sampling error that caused continuous sampling loop on ADC error.
6. Fixed exclusive alarm checking to be greater or less than limit instead of greater than or equal or less than or equal to limit.
7. Added (rating) table file selection to point scaling page. Table must contain comma or tab separated pairs of data.
8. Fixed skip of point sampling caused by point data writing.
9. Point sampling time length now uses a millisecond timer instead of a seconds timer. This fixes error in shortened point sampling for one minute periods.
10. Fixed error in wake up when radio carrier detect received during power down cycle.
11. Added wind gust sampling using Sub mode B to H425A SDI-script file.

#### 1.29.14 10/26/2005

1. Removed delay on power up while waiting for millisecond time sync. This allows ALERT radio data receive to work better on weak signals. The Pulse Counter read from the PIC is delayed until the millisecond time is synced to keep the peak wind computation accurate.
2. Examining a UD counter reset time in the toolbox no longer prompts to save the file when the reset time is not changed.

## 1.29.13 08/23/2005

1. Fixed reporting of SDI-12 sensors when concurrent command used. Previous versions only reported first sensor.

## 1.29.12 08/04/2005

1. Fixed PCOS Digital Input and Output read data display on console and toolbox.
2. Do not change configuration files for a control command until output pulse timers are done.

## 1.29.11 06/10/2005

1. Added support for SDI-12 concurrent measurement command. Point sampling continues after a concurrent command is sent. The sensor is sampled later after the concurrent wait timer expires.
2. Wind speed is averaged over the computation period not just the sample period. Peak wind is computed each sample period.
3. Peak wind and wind speed computation prescales are not written to the IOPIC. This allows different prescales for peak wind and wind speed from the prescale for the wind run.
4. Terminate SDI-12 scripts when input requested for point sample. Eliminates program hang when an improper SDI-12 script command is assigned as a point's measure command.

## 1.29.10 05/28/2005

1. Fixed peak wind computation by tracking time to the millisecond.
2. Wind run will read the wind direction even if the point is not defined.
3. Analog and serial input points can have their own sensor power on times defined. This overrides the sensor power wait defined in DCU settings.
4. Writing data to a point will not cause a report to log or transmit unless the change criteria is met.
5. Fixed digital change alarm.
6. Fixed error that prematurely terminated logged data reads when redundant packets were buffered by the toolbox program.

## 1.29.09 03/30/2005

1. Fixed alarm reset error that used upper limit instead of upper reset.
2. Added a separate control off pulse timer.
3. Control reset actions cancelled if following active control is still on.
4. Toolbox data page display is updated when point configuration is changed.
5. Toolbox sends control files to the DCU when controls are sent.
6. Toolbox remembers when a control file or point script is sent to a DCU to eliminate repeat sends.

## 1.29.08 03/01/2005

1. Fixed problem with unsquelched Alert receive data that caused a program reboot.
2. Fixed "Send SDI-12 commands" text in help.
3. Fixed SDI-12 reading assignment to Sutron 8210 data.
4. Clear data success flag on Sutron 8210 data not received.
5. Increased toolbox window size of control file name to prevent file name extension

truncation.

1.29.07 12/06/2004

1. Reset PIC watchdog timer while searching for logged data.
2. Save multiple time positions in logged data files to expedite time search.
3. Display point ID data bit number when transmitting.
4. Display Alert receive framing errors only when debug level is 1 or greater.
5. Increase toolbox read logged data wait timer by 15 seconds for first request.

1.29.06 10/27/2004

1. Added pulse timer in seconds to digital output controls.
2. Added transmit repeat for alarm transmissions.
3. Fixed receiver check of talk back data reports to prevent identical reports received in the same packet from rejecting all but the first report. The receiver timer is used to determine if a report is in the same packet. Identical reports received after the receive timer expires are considered to be in a different packet and so are still rejected by the talk back logic. This fix allows multiple alarm reports to pass through a repeater.
4. Set event flag when point data value written.
5. Check alarms if event flag set even when value does not change.
6. Send modem initialization commands to modem on com port initialization.
7. Alarms re-triggered after reset even if value does not change.
8. Toolbox two point calibrations now copied to point scaling when OK clicked.
9. Toolbox SDI-12 sample script command is no longer reset when other script commands are used for testing.
10. Toolbox sets a default retry timer of 5 seconds for com ports added to program.
11. Toolbox deletes point control actions when a point is deleted.
12. Toolbox displays received data report message only if monitor diagnostics are on.
13. Toolbox fixed problem that prevented reporting schemes from being sent to DCU.

1.29.05 08/23/2004

1. Do not write INI file if configuration file name is blank. Return error if write command from toolbox.
2. Toolbox saves file when DCU identification is sent.
3. Default to Save As when Save selected with blank configuration filename.

1.29.04 06/29/2004

1. Fixed error in log data wait for communications to finish before logging.
2. Fixed error in receiving single point test and alarms that prevented more than one test or alarm from being sent successfully.
3. Prevent BIOS crash when receiving data and switching configuration files.
4. Display power down and not done diagnostic messages on monitor.
5. Do not increment reset count when switching configuration files.
6. Quit alert data transmit if write error, prevents hang in alert transmit loop.
7. Toolbox fixed raw data spin increment for SI and VI point types.

## 1.29.03 06/10/2004

1. Fixed Alert receive crash caused by continuous unquelled radio noise.
2. Send diagnostic messages to connected ScadaLynx Toolbox as plain text. Previously diagnostic text messages were only sent to terminal program console connection.
3. Fixed error that prevented read point data requests from completing.
4. Rename older version log and data files to new version name when possible. If new version log files exist, delete older version log file names.
5. Limit log file length to 64Kbytes. Delete log file if it gets too long then create new file.
6. Toolbox fixed read point data command so it waits for the success message.
7. Toolbox fixed data updating on point and data pages.
8. Toolbox fixed re-display of points on data page after changing configuration files.
9. Toolbox reports actions are now counted even if not enabled in the configuration file.
10. Toolbox added display of version patch X.XX.XX Patch in Help/About.

## 1.29.02 05/03/04

1. Toolbox fixed program hang on startup due to print page margin initialization.
2. Toolbox fixed error in searching for point tests or alarms.
3. Toolbox eliminated unused report test read from configuration files.
4. Toolbox forces a page display update when parameters read from DCU.
5. Toolbox executes a real all instead of a single read on points, reports, controls, and port tabs if there are no entries on the page.
6. Toolbox displays an error message asking for you to select if no points, reports, controls, or ports selected for a send, and send all not checked.
7. Toolbox only sends report actions that are defined.
8. Toolbox clears ALERT receive control parameters by default.
9. Toolbox added communication support for application versions before 1.29.00.
10. Toolbox repeater ranges are now unlimited. Toolbox only sends defined ranges.
11. Toolbox will not repeat send an SDI-12 script files to a DCU after it has already been sent. File name test is not case sensitive.

## 1.29.01 10/12/2003

1. Toolbox changed all RTU references to DCU.
2. The Toolbox DCU connection is no longer terminated when a new configuration file is opened.
3. Toolbox added spin control to calibrating voltage object on test page.
4. Toolbox forces a re-display of active page if any changes detected.
5. Toolbox eliminated use of Private Profile logic to read and write configuration files to speed up file I/O.
6. Toolbox fixed program crash that occurred when program was terminated while the monitor display was active or when incoming data tried to update the monitor after it was closed.
7. Toolbox now remembers individual folders for configuration, data, SDI script, text and transfer files.
8. Toolbox control actions are no longer limited to 16. Only defined control actions are sent to the DCU.
9. Toolbox does not display the report to DCU and telephone number for log data report action.

10. Toolbox displays data units for digital points.
11. Toolbox does not send point, report, control or port delete commands to connected DCU when deleted on toolbox. Toolbox now asks if user wants to send all points, reports, controls or ports to connected DCU after a delete.
12. Toolbox port display refreshed when port identification changed.
13. Toolbox updates counter reset interval when point changed. Hide counter reset time if reset interval is none.
14. Toolbox GOES transmitter type selected in transmit format instead of port function.
15. Toolbox uses returned station number after a connect for all future communication until a disconnect. This allows changes to the DCU number to be sent to the connected DCU.

#### 1.29.00 09/12/2003

1. New version release renamed application program files from sda5096 to lynx386.
2. Use short sensor power on wait (100ms) for battery test, analog input test, ADC calibration, and SDI-12 commands.
3. Sensor power on command does not wait for sensor power on wait timer to expire.
4. Toolbox added test buttons to Goes Seimac Transmitter Setup.
5. Toolbox forces a configuration write after all sends.
6. Toolbox forces an INI file write after Identification send or Send-all.
7. Toolbox repeater ranges are no longer limited to 100. They are now unlimited.
8. Toolbox added Replace and Delete buttons for report action editing.