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Life Racing PC Software Release Notes 2.15.xx – 2.17.xx

(11/06/2020 – 04/11/2026)

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2.15.xx

Rel15 2020-06-11:

LifeCal – 2.15.278 to 2.15.286
Bugfix - Minor fixes to user update to ensure mechanism consistent with PDU and dash
Bugfix – change to almost any property of multi-channel gauge causes crash
Bugfix – prevent crash if LifeCal closed with IOPin map editor open (again)
Load while connected now a root only activity
Users must use import instead, import now a more powerful tool
Message on programming success now contextual

LifeDash – 2.15.279 to 2.15.283
Bugfix - Minor fixes to user update to ensure mechanism consistent with PDU and ECU
Bugfix - While simulating on display tab, kill any popup menu or dialog before a page change caused by MATH function CHANGE_PAGE, this can prevent crashes. This will also be rolled into next main code firmware:
1.4.6 Dial-breakpoint feature added to dial-options
1.4.6 Enable dial-options for Race1..5 and RaceArc1..2
1.4.6 variable size rpm numbers and improved rpm ticks on RaceArc1..2
1.4.7 Telltales on RoadArc2 and StageArc2 now positioned according to space adjacent to bottom left/right mon items

LifeData – 2.15.82 to 2.15.85
Bugfix – reliability of “Load in LifeView” and “Load latest data in LifeView” improved

LifeMon – 2.15.71 to 2.15.73
Bugfix – change to almost any property of multi-channel gauge causes crash

LifeView – 2.15.119 to 2.15.223
Bugfix - remove debug from file menu

LifeSetup – 2.15.48 to 2.15.51 (PC_SUITE INSTALLER)
Bugfix - revert ethernet driver resources back to 2010 versions as resigning has de-certified them
Add "LifeNetServer /remote" shortcut to LR program folder, makes feature upgrade operation easier with win10 start menu.

PduSetup – 2.15.114 to 2.15.123
Bugfix – user update completely broken, functionality now consistent with dash and ECU
When adding output to TEAM, copy setting from other team members
Retain output’s trip-output settings even if trip-output removed
Teams of mixed output types (HS/LS/Soft) are now considered invalid
Add new PDUX2 device
bugfix - lowside pullup and can termination enables for PDUX2
bugfix - Enable status output settings in output dialog for lowsides on PDUX devices

Rel16 2021-07-21:

Changes affecting multiple applications include:
Effect of mouse wheel on list box and tree controls now more consistent

LifeCal – 2.15.287 to 2.15.311
Bugfix – little endian calibrations now supported
Bugfix – various security improvements
Bugfix - prevent loss of comms at beginning of programming removing device feature from cal number red event lines in SyncLogDialog
add info on enums for items in custom can datastream setup

LifeDash – 2.15.284 to 2.15.295
Bugfix – item colour in "select CAN bus" dialogs
Bugfix – PDU soft items now disabled on V2 datastreams
Bugfix – math functions could not cope with very long constants
Bugfix – loss of decimal places in independent USB logging
Add TEXT import and export of ALARMS
Support for dash main code 1.4.8
Support for dash main code 1.4.9
Bugfix – celltype corruption in independent USB logging
Bugfix – crash if gps, pduv2 or switch panel groups added then removed in same session
Bugfix – possible crash on independent USB logging validation

LifeData – 2.15.86 to 2.15.90
Add ability to convert LRDs to CSVs as they are downloaded or created from LRS files
Use AG50 date/time channels if available to create RTC timestamp in dash logging

LifeMon – 2.15.74 to 2.15.79
Bugfix - Allow gauge update frequencies to be set while offline

LifeView – 2.15.224 to 2.15.234
Bugfix – track map creation from concatenated GPS data
Bugfix – Stat report updates in OK mode
Bugfix – integral math function not properly initialised
Add support for monitor resolutions of up to 8K (7680 pixels, was previously limited to 4K)
Use AG50 date/time channels if available to create RTC timestamp in dash logging
CSVImport - add HEX integer ability

PduSetup – 2.15.124 to 2.15.1604
It has always been confusing what version of PduSetup is required for a particular main code firmware. I have changed PduSetup version number to make this a little easier. Take PduSetup.x.yy.zzzz, the first 2 digits of zzzz now represent the highest main code that it is aware of. So currently PduSetup 2.15.1601 supports up to main code 2.16.
Bugfix – rework mechanism to program older firmware (<2.16) for better compatibility
Bugfix – UserUpdates on firmware predating 2.16

The schematic simulator has been heavily reworked to much more closely follow the actions of the PDU hardware. The simulator can now also be single stepped allowing the state changes to be tracked through components that requires clocking or latching. To do this pause the simulation, make a change to an input state, then repeatedly select step to track the change through the schematic.

Other additions include:
- support for 128 soft inputs that are now available in 2.16 main code
- new EVENT_IN and EVENT_OUT components to replace RESET, LAMP, PWR_HLD, FAULT, RST_SW and WAKE

Add "currents tx rate" to comms dialog

Rel17 2021-12-08:

LifeCal – 2.15.312 to 2.15.314
bugfix - add "function of" strings to make cal tree name unique for cal\goto and worksheet\addcal
bugfix – prevent highlighted messages in CantConnectDialog causing popup after programming

LifeDash – 2.15.296 to 2.15.298
Support for dash main code 1.4.10
Support for dash main code 1.4.11
Bugfix – When playing LRD ensure MATH item values are calculated rather than copied from LRD
Improved CAN GUI ported from PduXSetup applied to CANrx and CANtx
- Main window size increased to accommodate updated CAN GUIs
- Add Lock-Item checkbox, item position cannot be (accidentally) edited while checked
- Different colours to differentiate item positions
- Item position and endianness added to item listbox in addition to item description

Add PDU V3 datastream option to CANrx Add Frame menu

1.4.10 – USB logging, LRS files omitted user security block, making LRSs root only
1.4.11 – rework BeaconLine1 and BeaconLine2 to improve accuracy (using timestamp on GPS CAN frame)
See Appendix A for race tracks include in GPS beacon database

LifeNetServer – 2.15.38 to 2.15.71
Upgraded build tools
Now supports device comms wrapped in J1939 over CAN, this is disabled by default
Bugfix - Much improved remote control
- Should now be reliable over mobile phone network
- Not compatible with previous 2.15.37 server
- Both sides in remote link need same version of server
- We will keep both EXEs to support feature upgrades where customers using old server

Bugfix – Recovery from Ethernet transmit error, for instance if USB-Ethernet adaptor removed during use

LifeView – 2.15.237 to 2.15.239
Bugfix – fix loading of data file when single channel compressed to a specific size, 1 in ~8K chance of loading failure

PduSetup – 2.15. 1606 to 2.15.1608 (legacy product)
It has always been confusing what version of PduSetup is required for a particular main code firmware. I have changed PduSetup version number to make this a little easier. Take PduSetup.x.yy.zzzz, the first 2 digits of zzzz now represent the highest main code that it is aware of. So currently PduSetup 2.15.1608 supports up to main code 2.16.

PduXSetup –2.15.1956
PduXSetup 2.15.1956 supports main code up to 2.19
PduXSetup will be required on any main code 2.17 or above

It is strongly recommended that the legacy PduSetup application be used to program and connect to main code firmware up to 2.16. PduXSetup can still load calibrations designed for older firmware and can program them in most cases. It cannot connect live to any PDU whose main code firmware precedes 2.17.

PduXSetup is a large rework of the PDU configuration tool. The headline changes include:

- Support for real numbers (floating point) in schematic
- New components that can manipulate and compare real numbers
- New INPUT properties including linearisation
- New OUTPUT properties including direct control of PWM
- Custom CAN configuration
- Variable frequency schematics

Support for real numbers
Most components previously only supported Boolean values, 1 (true) or 0 (false). All the old components are still supported, but many other have been added to manipulate and compare real numbers.

Rel18 2022-05-04:

LifeCal – 2.15.316 to 2.15.321
Widen ability to display item values in HEX
Support for more complex menu security

LifeCfg – 2.15.64 to 2.15.65
Improved export to TXT file

LifeDash – 2.15.299 to 2.15.307
Support for dash main code 1.4.12 to 1.4.16 added
new checkbox added to LOGGING tab to set logging or Ecu streaming to internal flash (MMC) rather than USB
major overhaul of Linearisation Dialog (more like LifeCal with grid control)
Add new GUI on DISPLAY tab to set both full name and tab name (abbreviation)
Add new GUI on display tab to GOTO page
Add RX datastreams for PduX2 to CANrx tab
Add support for linearisation of CAN voltages - ONLY - 5V at 1mV/bit

LifeView – 2.15.240 to 2.15.243
Multiple device messages that occur very close to one and other are now combined into a single tooltip on the traces display. Previously it was possible to miss some of the messages.
Text annotations can now be added from the session menu in addition to a double clicking in the traces area.
bugfix – worksheets that included XY plot with 2 Y axes saves in error, invalidating whole workbook

PduXSetup –2.15.1967 to 2.15.1978

There has been a relatively rare but persistent problem with the previous release whereby under certain circumstance a calibration once saved or programmed could not be read back by PduXSetup.
A number of bugs have been found since that last release that could cause these corruptions.
In addition to fixing those bugs, corruption detection has now been built into PduXSetup.
During editing process, the calibration in intermittently checked for corruption.
If found the UNDO buffer can be used to revoke recent edits and take the calibration back to a point where it can be safely saved to disk.
Corruption detection is now also performed immediately before saving or programming.
PduXSetup's calibration reading has been made more tolerant of some of the errors leading to a previously unreadable file. Now more often than not most of that file can be recovered.

Add IO Summary Dialog
- list details on all assigned soft and hard inputs and outputs
- provides method to GOTO specific IO item in schematic
- provides export to CSV of all IO details

Simulator improvements
- add SimulationReset - for power cycle simulation
- bugfix - simulator's handling of ALARM state in hard output
- bugfix – Correct action of RESET component, should only clear FAULTed outputs

Calibration validation
- bugfix - wrong soft output index reported when CAN assignment not found in schematic
- bugfix - add validation of properties of EventIn and StateOut

Custom CAN
- Add import of LR ECU Generic CAN transmit datastream from ECU calibration

Output Properties Dialog
- make more of effort to highlight edit control in focus if text also highlighted
- Bugfix - tooltip help text corrected when soft start selected

Major overhaul of Linearisation Dialog (more like LifeCal with grid control)

Rel19 2022-07-13:

LifeCal – 2.15.322 to 2.15.323
Force disconnect after programming failure in CantConnectDialog
Extend max wait time after programming reset to 10 seconds to allow for lengthy "first time" programming

LifeDash – 2.15.308 to 2.15.311
Support for Ethernet download of internal flash logging
Maintains Dash RTC value while connected – affects date stamps on internal logging where no F88 connected by Ethernet
Supports main code 1.4.18 and 1.4.19

LifeNetServer – 2.15.72 to 2.15.79
Improvements to remote access facility
The same version of LifeNetServer must be used at both master and slave ends on a remote link

LifeProg – 2.15.61 to 2.15.62
Fixes issue applying user update to an invalid device calibration
For example, this can happen where main code is changed before a user update is applied

LifeView – 2.15.244 to 2.15.247
Logged AG50 data can sometimes start with 0 lat, 0 long, this is now filtered out of the data (assumed to be invalid)
Bugfix - Copy button did nothing in StatsReportDialog
Bugfix – Histogram did not account for event items data where first or last sample in the view extended significantly beyond view

PduXSetup –2.15.1979 to 2.15.2009
Adds support for PDU firmware 2.20 which adds user definable PWM frequency and capacitive soft start on supported outputs on PduX range.

Bugfixes
- Toggling EVENT_OUT in simulation where component not a FAULT
- Forcing PWM output ON now sets a value of 100 (%)
- Output Properties Dialog
    - Clear and disable low side pull up option when high side or soft selected
- Custom CAN Dialog
    - “Duplicate Frame” did not completely un-assign the QTY

Features
- The area occupied by labels around various components has been removed from the area used to select a component. The large labels on INPUTs and OUTPUTs have made this impractical.
- A negative value on a Boolean input is now interpreted as FALSE. All non-zero positive values are interpreted as TRUE
- Text in TEXT component now RED for contrast and outlined when selected
- Add GOTO facility for the LINK_IN, can result in a choice or more than one LINK_OUT
- IO Summary Dialog
    - On “export to CSV” allow user to set name and directory
    - Change “inductive” column on hard outputs to “Turn-On Mode”
    - Add text search (case insensitive)
- Output Properties Dialog
    - New 20A instantaneous current limit on outputs #21 and above on PduX3/4/6
    - Replace “soft start” and “inductive load” checkboxes with “Turn-On Mode” drop down menu
    - Vet PWM selection, only allow on outputs that “likely” support the feature
    - Vet “Turn-On Mode” so only allow features “likely” supported by hardware
    - Add PWM frequency
    - New ranges on inrush and soft start setting

Rel20 2023-03-16:

Bugfixes affecting all applications
- lockup when printing to newer print drivers eg "MS Print to PDF"

LifeCal – 2.15.324 to 2.15.332
Bugfixes
- displaying hex numbers above 0x80000000

- “NOT CONNECTED” option not always visible on PinOut selection

Features

- warn if profile and main code version dont match during connection sequence (very rare)
- Add "hide restricted maps" to view menu
- Modify output of "Save Pinouts" to make CSV (more easily imported into MS Excel)

LifeDash – 2.15.312 to 2.15.322

Warning

- Any Zero-Offset or item persistence setting will be lost on upgrading to main code 1.5.0
- Once the value is re-applied, it will be remembered

Features

- Support for new main codes 1.4.20, 1.4.21 and 1.5.0
- User access to RPM LEDS calibration
- Add Close to file menu
- Add "Clear Internal Logging" to device menu
- Add option to disable page tabs, checkbox on display tab (1.4.21)
- Add checkbox on display tab to make all pages read only (no user editing)
- Add checkboxes to disable Ethernet and Flash notifications on a page by page basis (1.5.0)
- Enhanced User Access for main code 1.5.0
  - Duplicates LifeCal’s Comment user access
  - Remove user access to
    - No of pages
    - Disable Ethernet and Flash IN-RACE notifications
  - Add fine grained configurable edit access to item attributes on ITEMS tab
  - Prevent users moving read only pages
  - Default all new calibrations to LIMITED user access

LifeMsg – 2.15.73 to 2.15.77

Features

- Add SaveTo option and also set default filename to device + serial number
- add CopyToClipboard to make it easy to paste message log into email

LifeNetServer – 2.15.80 to 2.15.83

Features

- Increase message timeout to make PDU power config programming more reliable
- Reduce message timeouts for new LifeData ECU download mechanism

LifeProg – 2.15.63 to 2.15.65

Bugfixes

- User access programming of logging configuration

LifeView – 2.15.248 to 2.15.253

Bugfixes

- displaying hex numbers above 0x80000000
- lap beacon not handled correctly in stats report

Features

- For enumerated items, show item value if no known enumerated text
- Don’t show trace data for instances where no known enumerated text
- Add "copy item Text" to channel menu

PduSetup –2.15.1609 to 2.15.1610

Bugfixes

- Programming PDU32 calibrations on main code before 2.9.x

PduXSetup –2.15. 2010 to 2.15.2045

Bugfixes

- Correct labelling of SOFT-START-Capacitive OUTPUTS, should display inrush not softstart setting
- Correct occasional corruption of filename, comment and purpose string in calibration
- Prevent dev/connect when device not running in main code
- Power-Config cannot be SET if connected on main window tab, now offer to disconnect tab to continue
- Set ECU Slave link to CAN2 where calibration is <= 2.17, On 2.19 set to CAN2 if bus not used, On 2.20+ leave selection as is. Add CAN termination too
- Ensure consistent legacy CAN switch panel labelling on schematic IO label and IOSummary dialog
- RESET all faulted outputs when RST_SW toggled ON in simulator
- Labelling of OUTPUT team members not always updated after editing an individual member
- Ensure OUTPUT labels updated after CustomCan dialog OKed
- IOSummary dialog - SOFTSTART (capacitive) uses wrong columns, should display inrush setting
- Input Properties dialog - do not default pull up/down and active high/low on hard i/p assignment as overrides settings that may have been previously COPIED
- Crash or memory corruption connecting/disconnecting to 2.20 cal with more than 64 soft outputs

Features

- Add warnings on file/load, dev/get, dev/set and dev/connect about calibrations before 2.17
- Make highlighted component (one with mouse over), appear on top with opaque background making it easier to read labels of overlapping OUTPUTs (and other components)
- When switching between connected cal tabs preserve device messages
- Add "device\Set & Connect"
- Add “Copy label to clipboard” for right click menu on INPUTs and OUTPUTs
- Add “Retry Count” and “Retry Delay” to OUTPUT properties (and IOSummary)
- Add "Purpose or Role" string editing (cal menu) and display on caption bar
- HardFuseCurrent no longer supports a separate inductive setting (cal menu)
- Change INPUT defaults to Default-on-timeout and Initial-timeout = 2s
- Simulator - StateOut:QTY - add support for input/output value
- Add BOARD_TEMP_3 and BOARD_TEMP_MAX to list of CAN transmittable items
- Add level triggered versions of PCT_COUNTER and PCT_COUNTER_WRAP (as PCT_COUNTER_LVL and PCT_WRAP_COUNTER_LVL)
- Add more friendly error message when cal loaded with unrecognised (new?) component id
- Add new device types; PDUX2B, PDUX3B, PDUX4B and PDUX6B
- Show numbers in CalSize resource bar
- Add 48V operating voltage option, will be supported on new PDUXB range in future
- CustomCan dialog
    - Add close/maximize caption styles buttons

    - Offer to update frame txRate on TX,TXC when signal rate changed to higher value
    - Add "CAN Properties" to “soft” IO menus so CustomCAN setup of specific IO can be found quickly
- IO Summary dialog
    - Add close/maximize caption styles buttons
    - Add IO states/values/currents when connected or simulated
    - Add splitters to dialog so screen area for each grid can be fine tuned
    - Add forcing via right click menu if connected
    - Add "menu" button and access to IO properties dialog (with channel assignment disabled) or forcing options
    - Double click IO row to GOTO component in schematic
    - Add initial timeout and timeout behaviour

Rel21 2023-09-20:

Change affecting all applications

- Profile revision to support new ECU main code releases – secure enum on mode select

LifeCal – 2.15.333 to 2.15.337

Features

- Restrict choice of enum elements in same way as values when setting breakpoints
- Clearer 720 degree labels in SyncLog dialog
- Values shown for each enum element in selection dialog

Bugfixes

- Crash due to wrong axis selected on strategy - Secure enum on mode select

LifeDash – 2.15.323 to 2.15.338

Features

- Support for new main codes 1.6.0 to 1.6.7
- 1.6.x changes the structure of the reference lap to support GPS data
- Add viewer for GPS reference laps
- Add support for on-screen change LEDs (D4)
- Add MakeLike button to ITEMS tab to make creation of similar mon items quicker
- Add Enable checkbox to MISC tab for GPS based timeslip mon item
- Complete overhaul of download of internally logged data to allow :
    - LRS files to be downloaded then decoded to LRD without a LifeData step
    - Setting download comment
    - Ignore data on device older than specified date
    - Load latest data in LifeView immediately after download
    - Add suffix or run-number to LRD file name
    - Export LRD file data to CSV file
- Add LRS to LRD file and folder decoding to file menu
- Allow a dev\connect connection to be re-used for “data download” or “clear logging”

Bugfixes

- User access bug prevented roots editing alternate unit type on ITEMs tab
- Mixing of signal types caused display corruption in CANtx frame viewer
- crash on cancellation of download logging connection dialog

LifeMon – 2.15.86 to 2.15.87

Features

- ChooseLayout dialog caused by Overwrite layout pre-selects current layout

LifeMsg – 2.15.78 to 2.15.81

Features

- On new installs, default AutoConnect to OFF
- Disable device filter

Bugfix

- Rework connection polling to avoid wasted bandwidth (from LifeCal)

LifeNetServer – 2.15.84 to 2.15.86

Features

- Prevent file/exit while connection to running apps exist

LifeProg – 2.15.66 to 2.15.67

Bugfixes

- User updates cause loss of logging config filename in any subsequent logging

LifeView – 2.15.248 to 2.15.253

Features

- Add GPS position of mouse to TrackMap dialog, add option to copy to popup menu
- Improve trackmapping performance on over sampled data
- Add "copy cursor time" to clipboard to status bar

Bugfixes

- missing axis on last trace in "stacked" graph
- crash caused by deleting MATH item from stacked graph
- various problems with dealing with lap beacon in trackmaps
- changes in trackmap affecting split beacons not always applied to sector reports

PduSetup –2.15.1611 to 2.15.1621

Features

- Port across IOSummary dialog from PduXSetup

PduXSetup –2.15. 2048 to 2.15.2065

Features

- Add new ACCEL and GYRO quantities for StateOut and CustomCan transmit
- separate OUTPUT abilities of PDUX2 and PDUX2B
    - On PduX2B, PWM and Inductive softstart now supported on highsides 1-4 and 7-14
    - On PduX2B, Capacitive softstart now supported on all highsides
- Amend Current limits for all PDUXBs
- update MathOp help text in to document EDGE and LEVEL versions of COUNTER
- Windows clipboard now used for copy/paste of schematic components
    - Now possible to copy from one instance of PduXSetup to another
- Add lowside pullup check to calibration validation
- While connected, current displayed on outputs increased to 2 decimal places by default

Rel23 2024-03-01:

LifeCal – 2.15.338 to 2.15.343

Bugfixes

- Sensor zeroing when more than 8 sensor groups
- Some strategies and most mode-selects affect other parts of the calibration
    - Ensure the list of affected maps in the F1 help is the same as those listed in post edit dialog
- Define Sensor Dialog in VC menu
    - Correct rounding error in RawMin and RawMax if negative
    - Recalculate RawMin and RawMax if scale changed
    - Disable OK if RawMin or RawMax out of range of underlying storage unit

LifeCfg – 2.15.71 to 2.15.75

Features

- Add pasteCal\Copy Differences (to windows clipboard)

Bugfixes

- Correct statistics in menu bar

LifeDash – 2.15.323 to 2.15.338

Features

- Support for new main codes 1.7.x (Ethernet download of USB logging)
- Make OpState enum editable on PDU data stream so can keep up with newer PDU main codes
- Treat incomplete download due to Ethernet failure the same as a cancelled download by saving a partial LRS file
- "Clear Internal Logging" renamed to "Clear Logging" as now applies to USB as well as MMC
- New option for RPM LED alignment added to MISC tab
-

LifeMon – 2.15.88 to 2.15.92

Bugfixes

- Sensor zeroing when more than 8 sensor groups

LifeNetServer – 2.15.87 to 2.15.92

Features

- Added Auto-Baud-Rate detection for CAN comms
    - CAN Config Popup at start is no longer automatic

Bugfixes

- Bad message size check caused failure on PduXSetup GetComponentValue message

LifeView – 2.15.248 to 2.15.253

Bugfixes

- Concatenation of data files requiring extra zero sample sequences
- Item preference acquisition in data from dash independent logging not reliable
    - Caused worksheet failures

PduXSetup – 2.15. 2066 to 2.15.2124

Features

- Support for main code 2.21
  - add low side current measurement for PDUXBs.
  - add support for low side PWMs for PDUXBs.
  - disable support for pullup on certain ranges of low sides on PDUXs and PDUXBs.
  - disable option for filter where INPUT is neither linearised or voltage
- Restricted User-Access (does require new user IDs to support)
- New dialog to manage File/New and Change/Type
  - LR – device, Role/Purpose, Voltage and connector
- High side outputs with unsupported turn-on modes and trip current are now highlighted on schematic
- On analogue INPUTs, voltage now specified in label
- Current limits on certain low sides (PDUXBs) set the same as their equivalent high side
- Add import/export of CSV files to INPUT linearisation dialog

Bugfixes

- Prevent paste while connected
- Disable "expert frequency mode" options while connected
- Copy/Paste
  - Reconnect LINK-IN to LINK-OUT after pasting
  - Maintain references to Custom CAN when pasting EVENT-IN/EVENT-OUTs
- Calibration validation did not specify offending OUTPUT when turn-on mode not supported
- prevent linearise option being selected on soft INPUTs (also remove option calibration load)
- Fix crash due to TEAM of only partially assigned OUTPUTs
- Fix crash during load where ID contains unknown User-Access properties

Rel24 2024-09-02

LifeCal – 2.15.350 to 2.15.360

Features

- New CANBUS monitor / capture facility for root connections only on device menu
  - Requires main code firmware 1.755.4 or above

LifeDash – 2.15.350 to 2.15.355

Features

- Support for new main codes 1.10.0 (CANBUS Monitor)
- Support for new main codes 1.9.1 (On-Screen change light modes)
  - Options for on screen change notifications can be specified on DISPLAY tab
  - On-screen Change LEDs duplicates LED activity on screen
  - On-Screen Change Background uses a closing curtain effect where colour can be specified
- Support for new main codes 1.9.0 (GPS Beacon handling no longer requires MATH)
  - GPS Beacon options on MISC tab – disabled, auto, manual select and manual specify
  - Auto – selects nearest track from Track DB automatically and offers menu choice if more than one within 5km
  - Manual Select – Allows track to be manually selected from Track DB and stored in calibration

- Manual Specify – Track name and beacon coordinates can be set in the calibration

LifeData – 2.15.104 to 2.15.106

Bugfixes

- Device features not reset between data downloads causing concatenation problem in LifeView

LifeNetServer – 2.15.94 to 2.15.97

Features

- On startup, add warning of any softlocks that are due to expire in next 14 days
- Add menu entry to display the list of softlocks due to expire

Bugfixes

- Prevent Z key triggering “Destroy Softlock” in Identity security dialog

PduXSetup – 2.15. 2127 to 2.15.2149

Features

- Experimental support for export of DBC files
  - Option to enforce DBC compatible signal and frame names
- INPUT filter now defaults to zero
- Open file explorer added to file menu
- New quantities added including QTY_FAULT
- New CANBUS monitor / capture facility for root connections only on device menu
  - Requires main code firmware 2.21.16 or above

Bugfixes

- PDUX3B/4B wrong capacitive soft start restrictions
- Simulation of RESET_SW

2.17.xx

Rel1 2024-10-25

LifeDash – 2.15.356 to 2.17.3

Features

- Support for new main code 1.11.0 (much improved Ethernet data download)
- Support creating user updates on IDs without root access flags
- Multiple item select for quicker changes on LOGGING tab
  -

Main Code 1.11.0

Requires boot 4.31
More intelligent look ahead data buffering plus Ethernet boot code improvements together increases data downloads from internal flash from 1MB/s to 3-4MB/s

Main Code 1.10.0

Requires boot 4.30
Support for PC based CANBUS monitor and capture
Support for on screen CANBUS monitor with disable on MISC tab
Screen template PDU34 renamed to PDUX3
Bugfix – when new template set, update tab name as well as page name

Main Code 1.9.1

Requires boot 4.29
New on-screen change light modes using configurable background colour

Main Code 1.9.0

Requires boot 4.29
BeaconLine MATH no longer supported
GPS beacons setup now in calibration, configured on LifeDash's MISC tab

LifeNetServer – 2.15.98 to 2.17.1

Features

- Adds new baud rate control for CANBUS only devices
- Adds ability to allows user updates from IDs with no root access flags

LifeView – 2.15.271 to 2.17.2

Bugfixes

- CSV import

PduXSetup – 2.15. 2150 to 2.17.2156

Features

- DBC import into custom CAN

Rel2 2025-01-17

LifeCal – 2.17.3 to 2.17.11

Features

- Support for new profile
- Clearer SaveAsText output on Item and CalMap access dialogs
- Null names no longer allowed on renamable sensors

Bugfixes

- Switching between learn and base map

LifeCfg – 2.17.2 to 2.17.6
LifeData – 2.17.1 to 2.17.5
LifeMon – 2.17.1 to 2.17.5
LifeMsg – 2.17.1 to 2.17.5
LifeProg – 2.17.1 to 2.17.5

Features

- Support for new profile

LifeView – 2.17.2 to 2.17.10

Features

- Support for new profile
- Popup stats tooltip on focus item in channel keys
    - Min, max, average and standard deviation for data in view
- New options dialog for annotations and stats tooltip

LifeDash – 2.17.3 to 2.17.15

Features

- Support for new main code 1.11.X (much improved Ethernet data download)
- Support import and export of MATH device
- Display speed of Ethernet download
- Add option to force Ethernet to 10Mb
- Final dialog in download sequence times out after 10 seconds
    - This dialog prevents release of data download group which in turn prevents logging

Bugfixes

- LRC import
- Creation of CAN rx/tx signals outside the frame boundary (usually where DLC not 8 bytes)
    -

    Main Code 1.11.2

    Requires boot 4.31
    Display stats on speed of MMC to USB transfer
    Borrow look ahead buffering from data download to increase speed of MMC to USB transfer

    Main Code 1.11.1

    Requires boot 4.31
    Check USB disk space before transferring file from internal flash file to USB, abort transfer if insufficient disk space

    Main Code 1.11.0

    Requires boot 4.31

More intelligent look ahead data buffering plus Ethernet boot code improvements together increase data downloads from internal flash from 1MB/s to 3-4MB/s

PduXSetup – 2.17.2156 2.17.2166

Features

- Add ability to set value of STATE-OUT component in simulator

Bugfixes

- Debouncing INPUT in simulator
- Creation of CAN rx/tx signals outside the frame boundary (usually where DLC not 8 bytes)

Rel3 2025-09-15

LifeCal – 2.17.12 to 2.17.22

Features

- TAB in EditEnumDialog toggles between all possible values and those currently used in map
  - Highlight currently used values in full list
- SensorDB only read when 2dStrategy displayed for first time (only user of sensorDB)
- Reword message box indicating RTC drifted too far from PC time

Bugfixes

- Fix possible ASSERT on GetRTC
- When importing LRL in cal/access/itemAccess, set min and default frequency
- SensorDB – one bad sensor could prevent the next loading
- Tag maps whose dependant maps do not fully import
- Better detection of recursive calls in MATH functions

LifeCfg – 2.17.7 to 2.17.8

Features

- Get and SetRTC now match implementation in LifeCal

LifeView – 2.17.11 to 2.17.14

Bugfixes

- Better detection of recursive calls in MATH functions

LifeDash – 2.17.16 to 2.17.23

Features

- make GEAR selection criteria more flexible by not checking MIN and MAX if ENUM exists
- move loading SensorDB to LinearizationDialog (same fixes as in LifeCal)
- Support for new main code 1.12.0 (enhanced closing curtain effect)
  - Option for 2nd closing curtain colour on DISPLAY tab
- Support for new main code 1.13.0 (enhanced GPS CAN receive)
  - GpsLatLongSyncTime setup on MISC tab for max gap in ms between a lat and long CAN frame to be considered same sample
- Support for new main code 1.14.0 (enhanced MATH)
  - MATH for dynamic background image set on DISPLAY tab
  - AG50 GPS lat and long default to 6 dec places in degrees

Bugfixes

- comparing cals where item in LRCAN datastream have been deleted

Main Code 1.14.0

Requires boot 4.31

Correct Mid-Ohio GPS coordinates
Allow background image to be chosen by MATH eg
frame == 0 ? Image("ball1.png") : Image("ball2.png")
Variable rate ALARMS fixed
Add MATH "Lookup" function to provide something like array lookup functionality
Lookup(index, x0, x1 …)

Main Code 1.13.0

Requires boot 4.31
Allow GPS lat and long to be received in different CAN frames

Main Code 1.12.0

Requires boot 4.31
Improved efficiency of MMC writes in persistent data, logging directory and odometer
Additional colour option for closing curtain effect

PduXSetup – 2.17.2167 2.17.2234

PduXSetup now attempts to limit the user interface to calibration options available at a particular PDU firmware version. Hence the PDU main code version is now required in File/New and Cal/ChangeType.

Features

- Add SW Version to status bar
- Simulator largely rewritten to run more like the firmware and in real time
- Initial size of IOSummary and CustomCan dialog increased to just under main window size
- Add "Find on schematic" to CustomCan dialog
- Highlight components on schematic and toolbar when not compatible with main code
- remove need for SOFT-OUTPUTS to require OUTPUT-DISTRIBUTER
- Optimise repeated component constant values (ON, OFF and VALUE)
- when AND, OR and XOR have more than 4 inputs scale to reduce real estate usage

Bugfixes

- Connected Mode – LINK-OUT state not updated if source signal from INPUT or OUTPUT
- Labels on INPUTS and OUTPUTS now list all related CAN signals
- Cut-n-Paste between calibration of different device type (and capability) could get IO wrong

Support for Main Code 2.22.x

- Up to 2048 components (from 512)
- Invertible inputs on all boolean component inputs
- More inputs on components (was limited to 4)
  - 8 inputs on AND, OR, XOR, ADD, MIN and MAX
- New components
  - Dynamic recursive filter (inputs for signal and filter constant)
  - Dynamic flash (inputs for signal, on time and off time)
  - Dynamic clip (inputs for signal, min and max value)
  - Accumulator (inputs for gain, reset, min, max, set and setValue)
  - Recursive filter
  - Clip

Rel4 2026-11-04

LifeCal – 2.17.23 to 2.17.33

Features

- Wait for recovery from reset after programming before reporting success
- Add info messagebox when double click to load calibration fails
- Rework item access dialog
    - Remove button to set both min and default from LRL and add as separate options
    - Make dialog work with invalid calibration as easier to edit with temp invalid state
    - Make dialog retain invalid state when changing view of calibration - treeview and group view
    - Highlight invalid areas where items dont comply with rules in profile or minimum logging rules
    - On OK run validate function and take cursor to first invalid item if validate does not pass
- Hotkey for TASKBAR button in Worksheets is NOW T for LR but B for Syvecs as T used in USB-Tools

Bugfixes

- Flat view in item access dialog
- Import/Change Software Version errors due to order of calibrations processed

LifeCfg – 2.17.9 to 2.17.12

Features

- Display device type eg "F88" in status bar next to software version
- Display minimum logging rate and allow it to be edited
- When programming, warn if min freq in config does not match min freq on device
- When editing min freq for first time, display warning that can only be programmed in LifeCal

LifeView – 2.17.15 to 2.17.21

Features

- Add beacon button to track map dialog (same as right click)
- Import CSV
    - Add progress bars to import activity
    - Add time/data row chooser - option for time-interval
    - Set FileMin and FileMax otherwise formatted values may appear as ####
    - Allow scientific notation to use e of either case eg 2.456e5 or 2.456E5

LifeDash – 2.17.24 to 2.17.33

Features

- Can bus monitor can now setup its own connection
- Rework Linearisation dialog
- Add support for 1.15.x main code
    - MISC tab - "Enable GPS TimeSlip" checkbox becomes "Primary TimeSlip" radio button choice
- ChangeType dialog now sets dash type eg “D5” and main code version
    - Future LifeDash versions will limit user interface to the ability of the main code set here
    - Remove monitoring items not supported by main code version, eg gpsTimeSlip only supported from 1.15.x
    - Status bar now shows main code version

Bugfixes

- Prevent crash when “Clear Internal Logging” is cancelled after initiating

- MATH modulus operator '%' should have converted right hand side to integer before checking for zero as "x % 0.1" and "x % 0" are not allowed
- NOT_SET is not normally permitted on LRCAN frames and could crash LifeDash (NOT_SET can happen if LRCAN is imported more than once)

Dash Main Code 1.15.2

- Requires boot 4.31
- Updated Beacon database – lots of new tracks for TCR
- If possible timeSlip will now be calculated using both GPS and distance data, creating 2 new monitoring items timeSlipGps and timeSlipDist. The "Primary timeslip" selected on MISC tab in LifeDash will determine which of these is copied to timeslip and used in derivative items like predictedLapTime.
- MATH modulus operator '%' should have converted right hand side to integer before checking for zero as "x % 0.1" and "x % 0" are not allowed

Dash Main Code 1.14.0

- Requires boot 4.31
- Correct Mid-Ohio GPS coordinates
- Allow background image to be chosen by MATH eg
  - frame == 0 ? Image("ball1.png") : Image("ball2.png")
- Variable rate ALARMS fixed
- Add MATH "Lookup" function to provide something like array lookup functionality
  - Lookup(index, x0, x1 …)

PduXSetup – 2.17.2135 2.17.2422

Features

- Add support for PDU main code 2.23
  - BREAKPOINTS
  - TABLE
  - RND-N
  - RND-Z
  - Increase component budget to 2048 for all PDUXB devices
- BREAKPOINTS component
  - A 1 dimensional array of floating point (F32) values used primarily as an index on one axis of a table
  - Current value highlighted during connection or simulation
- TABLE component
  - Performs a lookup on a multi-dimensional array of values
  - Up to 3 dimensions (X, Y, Z axes)
  - Interpolation can be set per axis
  - Values can be stores as F32 or U8, S8, U16, S16 (signed and unsigned integers) to save space
  - Current value highlighted during connection or simulation
- Add SHADOWs for BREAKPOINTS and TABLEs
  - This is a component that shares the same data as the master component
  - The data can only be edited on the master component
- New RND-N component to convert floating point value to nearest integer, eg 1.8 become 2
- New RND-Z (round towards zero)
  - For values above zero will round down eg 1.8 become 1

    - For values below zero will round up eg -1.8 become -1
- Expert Frequency Mode with respect to ON, OFF and VALUE
    - Frequency fixed at 1Hz to save budget
    - Frequency not editable
    - Frequency no longer displayed on schematic
- Add support for PDU main code 2.24
    - ODT-D – variation of ODT where current limits are inputs, thus dynamic
    - AlarmTime and MinCurrentTripTime range increased on OUTPUTS
- Add DualPole variant for PDUX3B/4B and remove AutoSport variant for PDUX6B
- Add device designations for 48V, autosport (AS) and dualpole (DP) to status bar

Bugfixes

- Correct value of LINK-IN, LINK-OUT, ON, ODI and ODT components while connected
- Update RFILTER simulation to more closely match the PDU firmware