

## PSA 5.0.0r Release Notes

The PSA 5.0.0r Release Note is applicable to the PSA-3000 and PVA-3000 family of test instruments.

### Summary

The version 5.0.0r is a **pre-release** of PSA 5.0 software for PSA-3000, PSL-3000, and PVA-3000 test instruments. PSA-3000 customers using version 5.0.0q are encouraged to upgrade to 5.0.0r to benefit from improvements in several one-click waveforms and with 802.3bt emulated power-ups. PVA-3000 customers will benefit from changes that are also incorporated into the final PSA 4.2 release, 4.2.10.

With pre-release 5.0 software, there is no longer a need to retain older PSA 4.2 software. The PSA 5.0.0r release provides access to all essential resources supported under PSA 4.2 software and offers updates beyond PSA 4.2 software in areas such as PSE automated test suites. Any user scripts written in PowerShell PSA under PSA 4.2 software should be fully compatible with PSA 5.0 software with just one exception: Scripts written for **proprietary 4-Pair PSE testing** under PSA 4.x may not be compatible with PowerShell PSA 5.0.

### PSA 5.0.0r Enhancements

Software Entity	Impact	Feature
PSA Interactive 5 4-Pair <b>Overload</b> waveform	Moderate	Enhanced to deal with “noisy” <b>Icut</b> thresholds where pairset <b>Icut</b> thresholds deviate by 15 or more mA and/or are somewhat unpredictable from cycle to cycle of overload processing.
	Moderate	Given dual signature emulations with Classes 1D – 3D, modified the logic for determining assigned class so that the optimized <b>Icut</b> scan range is deployed given PSE’s that perform 3-event (4PID) classification.
	Moderate	With LLDP emulated cases, the assigned class is now determined based on the LLDP power grant rather than the initial event count.
	Moderate	Added logic to process emulated Class 4 demotions to assigned Class 3 when selecting the <b>Icut</b> scan range
	Minor	Removed a corner case vulnerability where the scan loop could fail to produce a waveform.
	Minor	Enhanced status annunciation while powering, especially LLDP cases.
PSA Interactive 5 4-Pair <b>Low Power</b> <b>MPS</b> waveform	Significant	Fixed a vulnerability where given Single Signature emulation, the pairset loads were not coincident meaning that <b>Ihold_2p</b> was satisfied but not <b>Ihold</b> .
PSA Interactive 5 2-Pair <b>Overload</b> waveform	Moderate	Modified the 2-Pair overload waveform to have the same features as the 4-Pair overload waveform in the PSA 5.0.0q release. Waveform is less susceptible to duty cycle thresholds that are lower than <b>Icut</b> thresholds and will automatically handle class 4 to class 3 power demotions in both LLDP and non-LLDP power-ups.

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PowerShell PSA	Moderate	Enhanced <b>power_bt</b> to have ability to report event counts for <b>Class 4</b> (and proprietary class <b>PD4</b> ) power-ups so that demotions from Class 4 to Class 3 can be recognized using the reported event count.
	Minor	Enhanced <b>power_bt</b> to allow a power adjust to a user specified power level when an LLDP power request is not granted by the PSE. So, for example, a PD requesting 70 watts and receiving a grant of 51 watts can be programmed to draw a user-specified level such as 60 watts.
	Minor	Modified <b>power_port</b> to apply default mark current given Class 4 emulations with PSx-3202 blades. Historically this was only done with PSA-3102 blades.
	Minor	Enhanced processing of PSE Attribute files to automatically resolve and correct text case issues for various PSE attributes.
PSE Conformance Test Suite	Minor	PSE adaptive alteration to <b>det_i</b> to prevent waveform processing error with a very narrow class of PSE types.
	Minor	Computation change in <b>det_time</b> to compute <b>Tdet_eff</b> to better resolve PSE's with functionally longer back-offs.
PVA PHY Test Suite	Moderate	Refined the <b>pva_rx_100</b> test Link Monitor decision where results are reported as either <b>Link_mon</b> (0-100) or <b>Link_chk</b> (UP or DOWN). Improved consistency of this decision across the total population of PVA test ports.
PSA Software for Linux Hosts	Moderate	Enabled PSA Software (for PowerSync and PhyView Analyzers) to load and run in Linux environments that are 64-Bit and/or are configured with Tcl/Tk 8.5 versions. <b>NOTE!</b> Many aspects of PSA software have not been heavily tested under these conditions.

### PSA 5.0.0r Bug Fixes

Software Entity	Impact	Feature
PowerShell PSA	Significant	Enabled PowerShell PSA and PSA Interactive 5 to open without error conditions when <b>Demo Mode</b> is selected or when no instrument is found on the network. <b>NOTE! Demo Mode</b> does not have robust support in PSA 5.0 software – warnings to this affect will appear when software is opened. <b>NOTE:</b> PSA-1200 demo modes eliminated from PSA 5.0.
	Moderate	Corrected problem in Time Interval meter 'timint' where measurements taken in msec or seconds scale reported with zero rather than one decimal place precision.
PSE Conformance Test Suite	Significant	Corrected defect introduced in the <b>psa_report.xlsm</b> standard template in version <b>5.0.0q</b> that produced a macro error.

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PVA Metering	Moderate	Corrected a rare problem that could develop during PSD ( <i>power spectral distortion</i> ) local calcs where calibrations could possibly be associated with the wrong PVA test port. Though unlikely to happen with most PVA instruments, the impact of this would adversely impact measurements.
PVA Calibration	Moderate	Corrected a rare vulnerability where if two successive PSD calibrations on one pair of one port both produced error conditions, the calibration sequencer could overlook this can continue the calibration sequencing without terminating on an error.

### *PSA/PVA Firmware Versions*

PSA 5.0 software requires certain minimum versions of PSA/PSL test port firmware. The following versions are the current versions for each product. Sifos recommends updating firmware to these.

<b>PSA-3000 Controller:</b> ver <b>3.17</b>	<b>PSA-3202, PSL-3202 , PSA-3402:</b>
<b>PSA-3402 Controller:</b> ver <b>3.17</b>	Test Port ver <b>4.11</b> , ALC ver <b>16</b>
<b>PSA/PSL-3102 or PSA-3002</b>	<b>PVA-3102</b>
Test Port ver <b>3.28</b>	Test Port ver <b>3.0B</b>

### *PSA-3202/PSL-3202/PSA-3402 ALC Version 16 Update*

The ALC firmware within a PSA-3202/PSL-3202/PSA-3402 is a vital element affecting the instrument's ability to reliably emulate all **802.3bt** PD's and to test **802.3bt** PSE's under a wide variety of conditions. The current version of ALC firmware is **version 16**. Any instruments that are used for 802.3bt PSE testing either now or in the future must be updated to this version.

To examine current ALC firmware version, simply open **PowerShell Tcl** or **Wish** and execute the command:

`psa_config -alc`

### *ALC Update Instructions*

*This firmware update must be performed using either the PSA 4.2.09, PSA 4.2.10, PSA 5.0.0q, or PSA 5.0.0r software releases. These PSA software releases are available from the Sifos website Product Download pages.*

Updating any PSA/PSL test instrument to ALC version 16 is a very simple task. However, it should be performed when the instrument is not needed for a while as it may take from 3 to 10 minutes PER TEST PORT to complete. It is recommended to simply run this update overnight from a PC that is not busy performing other tasks.

To perform the ALC version 16 update to all PSA/PSL-3202 test ports:

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Unzip (install) the 3 files in [ALCv16.zip](#) to:

PC OS	PSA Software Release	Installation Directory
Windows 10, 8, 7, Vista	PSA 4.2	C:\Users\Public\Sifos\PSA1200\Contrib\
	PSA 5.0	C:\Users\Public\Sifos\PSA3000\Contrib\
Windows Xp	PSA 4.2	C:\Program Files\Sifos\PSA1200\Contrib\
	PSA 5.0	C:\Program Files\Sifos\PSA3000\Contrib\

Open PowerShell (Wish or Tcl), connect to instrument that will be updated, and execute:

**alc\_updater\_16**

When the update is completed, look for the indication:

alc\_updater\_16: UPDATES COMPLETED !!!!

Ports \*\*\*\* Updated Successfully!