

ASPEN OneLiner

Version 11.8 Update

Please find enclosed the installation CD for *ASPEN OneLiner*[™] version 11.8. This maintenance release contains fixes for all known bugs to date. If you have a license for the *Breaker Rating Module*[™], this update contains also an improved Check | Circuit Breaker Short Circuit Rating command. Version 11.8 is Windows 7 (32- and 64-bit version) compatible.

You can run `\11pf\setup.exe` on this CD to create a new installation or to update an existing installation. To update previous version of *OneLiner*, you must select the existing program folder when running the setup program.

Please write to support@aspeninc.com in English (suporte@aspeninc.com in Spanish or Portuguese) or call (650-347-3997) us if you have questions.

New Features and Improvements

- **New manufacturer-specific distance relay model:** Siemens 7SA522.
- **Enhanced Disguise network ID command:** Fields processed by this command now include (1) bus number, (2) name of buses, areas, zones, branches, relays, and breakers, and (3) file comments.
- **Open OLR file as Read-Only:** You can open OLR file as Read-only by marking the a read-only check box in the File Open dialog box.
- **Open DXT file from command line:** You can specify the DXT file name in the command line to open it in *OneLiner*.
- **New command-line switches:** You can now use command-line switch `-O` to open file as read-only, and `-R` to run a PowerScript[™] file.
- **New PowerScript functions:** DoArcFlash, FullRelayName, FindEquipmentByTag, ExportNetwork, ExportNetworkPSSE, LoadDataFile, GetObjMemo, GetObjTags, ProgressDialog, and BoundaryEquivalent.
- **New PowerScript sample program:** ArcFlash,prefault.bas, VSag.bas, VSagEx.bas, VSag_Show.bas, Progress.bas, boundary.bas, export.bas, FindByTag.bas, MemoTag.bas, ShowHideBus.bas, SPCCoord.bas, prefault.bas, and rlytimebr.bas.
- **New PowerScript handles for accessing bus parameters:** BUS_dSPCx, and BUS_dSPCy, BUS_nVisible.
- **Write access in PowerScript for bus parameters:** BUS_nArea, BUS_nNumber, BUS_nTapBus, BUS_nZone.
- **Store X/R and breaker rating options in OLR file:** Previously these options were saved only in the PC registry. When OLR file is opened in PCs with different options default value, fault simulation and breaker rating results might differ. Storing the options in OLR file will address this issue completely.
- **New keyboard shortcut for View | Plain 1-line command:** You can now press X (upper or lowercase) on the keyboard to remove all fault solutions and information displays (e.g. network impedances and phasor probes) from the one-line diagram.
- **New Breaker checking option ‘Compute breaker duty for out-of-service protected equipment’:** This option lets you create a breaker rating report for all the breakers in the OLR file, regardless of the in-service status of components in the breaker’s protected equipment lists. In previous versions, the out-of-service components are ignored in

breaker duty calculations. The checking result will remain unchanged if this option is set to the default value of False.

- **Improved display of stepped events:** The program now shows the breaker open time next to the breaker in the one-line diagram. The program shows “relay tripped” if the relay has tripped, but the breaker has yet to open.

Bug Fixes since Version 11.7

- The Delete button in command File | Info | Tags dialog box did not work.
- Distance relay type REL316-4 simulation did not work correctly when all protection zones are enabled.
- In simulation of distance relay types SEL321P__, SEL311P__ and SEL421P__ directional element the INORM parameter default value of 5A was used all the times regardless of actual user input value.
- Simulation of directional element logic of SEL321G__, SEL311G__ SEL421G__ , SEL321P__, SEL311P__ and SEL421P__ distance relay types did not follow the logic diagram published in SEL document in some cases.
- The line end/out fault summary command did not perform line-end fault simulation at correct line end when there are tap buses on the line. Also running line end/out fault summary command immediately after simulation of a classical fault caused program crash in some cases.
- The Read change file command did not process zone data correctly.
- Corrected format of date stamp in commtrade header file created by command Export | Relay Test file to make it follow US conversion of: mm/dd/yyyy.
- Fixed the Check | Breaker short circuit rating command logic to calculate breaker duty for open switches in breaker protected equipment list.
- Running intermediate fault simulation sometime caused program crash when performed after the Check | Breaker short circuit rating command.
- Running fault simulation sometime caused program crash when performed after the Network | Boundary equivalent command.
- The Mutual pair property dialog box did not save all the digits entered by user.
- The transformer damage curve was not displayed correctly in the OC window when MVA option is selected for x-axis.
- The Minimum melt time multiplier is displayed in the curve legend box even when total clearing time is selected.
- Menu command Show Phasor | TTY and Clipboard was missing in Relay group and Generator popup.
- Logic for additional filter in Data browser did not work well for date fields.
- Fixed an error that caused R and X in the Mutual Pair dialog box to be trimmed to 5 or 6 digit-long.
- The program did not correctly simulate the negative-sequence directional logic in SEL relay. As the result, simulation of distance relay types SEL311P__, SEL311G__, SEL411P__ and SEL411G__ may report the directional element being restrained (because of low I2) when it is not.

- Fixed an error in the Check | Breaker Short Circuit Rating command that caused the program to hang when the command is run immediately after an intermediate fault simulation. This error happened only when the data file has a large number of buses.
- Fixed an error in the Boundary Equivalent command that caused program to crash subsequently when a fault is simulated. This problem happened only when some transmission lines were removed from their mutual groups in the equalized network.
- The Export Relay command did not handle the date filter correctly. Fixed
- Logic for handling the script parameters BR_nType and BR_nHandle did not work for switches. Fixed.
- Arc flash report on the TTY Window showed wrong values in the breaker time field when clearing time is set at “Manual”. Fixed.
- Stepped-event logic did not correctly simulate the reclose action of a recloser when the recloser is on a transformer or phase shifter. There is no problem when the recloser is on a line.
- The field that displays the series capacitors’ operation flag in the Bus Fault Summary and in the Line-End/Line-Out report files did not open correctly in Excel. Fixed.
- CSV data browser reports that contain memo field with commas did not open correctly in Excel. Fixed
- Fixed a bug in the Export Relay Test File command that caused wrong duration of the pre-fault state to be recorded in COMTRADE files.
- Modified the Check | Primary/Backup Relay Coordination command logic to take into account the phase-element model that is included in some ground distance relay types, such as P441__.
- The message dialog box displayed by the distance-relay parameter validation logic something disappeared behind the OneLiner’s main window. Fixed
- Fixed a bug that hangs the program when a voltage-sag analysis (with intermediate faults) is perform in a network with series capacitors. The problem happened when the program tries to simulate an intermediate fault on a series capacitor.
- Fixed a bug that caused the program to bomb when an overcurrent ground relay is added to a relay group that is next to a bus with internal index greater than 32,767. This problem afflicted only very large networks.
- Added 8 more test points for reclosers, in the OC Curves Windows's Show | Relay Test Values command.
- Added logic to verify that the branch IDs are made up of valid characters. This check is done whenever a file is opened. If found, the IDs are replaced, and a message box pops up to let you know what happened.
- Fixed a bug in the breaker-checking logic that complained that the operating KV of the breaker is higher than the maximum-designed kV, when in fact the two kVs are the same. This error was caused by numerical roundoff.
- Fixed a bug that assigned strange circuit IDs to new branches.
- Fixed a bug that caused the program to bomb when simulating a bus-to-bus fault.
- Fixed bugs in boundary-equivalent logic that hang the program when the number of buses exceeds 32,767. This problem afflicted only very large networks.
- Fixed an error in reading switched-shunt data in a change-case file. The program happened when the program tries to add a switched shunt to a bus that had been deleted.

- Read-change-file and paste commands did not check for the uniqueness of recloser. This resulted in multiple devices having the same name within a relay group.
- Fixed a bug in the Create Relay Test File command always show the relay quantities in the same order.
- Fixed a bug that gave slightly different results between the first time and the second (and subsequent) time you execute the Check Relay Coordination command. The problem was caused by an uninitialized global variable that tells the program whether the outage lines are grounded on both ends.
- Changed the Check | Relay Loadability command logic to check a relay with rating of the line behind it only when: 1) there are exactly two lines connected to the bus; and 2) the rating of the line in front of the relay is higher.
- Modified the bus dialog box to allow state-plane coordinates between one million and ten million to show up with more significant digits, without the 'E' floating-point notation.
- Added new system parameters in DXT file's header section: switch reactance, lineB, and ignore-phase shift option.
- Fixed an error in the Specify Fault dialog box in the Create Test File command. The intermediate-fault specifications were not always listed correctly.
- Fixed an error in the Save Test File Configuration command.
- Enhanced export-to-PTI logic to process delta-delta-wye 3-winding transformer's RG2+jXG2 grounding impedance. We also changed the format of the line's zero-sequence impedance in sequence file in such a way that very small number do not get exported as .00000
- Enhanced the Check | Relay Loadability command to handle current for reverse zone check. We also fixed an error in the check-in-zone option.
- Fixed a bug that caused zone data to be read in incorrectly in the File | Read Text Data command.
- Fixed a bug in the export-to-PTI logic for bypassed series capacitors.
- The import-relay-setting command did not work when the relay settings contains underscore characters. Fixed.
- The paste mutual command did not work correctly leading to file corruption when the pair was removed earlier using the command "Remove all mutual pairs involving this line".
- Fixed the PSS/E to ASPEN data conversion program to correctly handle data files that contain mix of Tab and space characters between data fields.
- Fixed the PSS/E to ASPEN data conversion program to make sure that fixed shunt ID fields is read in the same way from RAW and SEQ files.
- Fixed a bug in the stepped-event analysis logic that gave wrong trip times when a relay trips while another relay has tripped previously but the breaker has yet to open.

New and Updated Overcurrent Relay Curves

- **ABB.RLY:** Multiple pickup range of the DPU_I curve was incorrectly entered as from 1.5 to 40. The correct range is from 1.2 to 45.
- **COOPER.RLY:** Added curves for the Cooper ELS full range CLF oil immersible fuse.
- **BUSSMANN.RLY:** Added curves for the Cooper KRP-C Low-peak time delay fuses.

- **SHAWMUT.RLY:** Added curves for the A825X fuse.