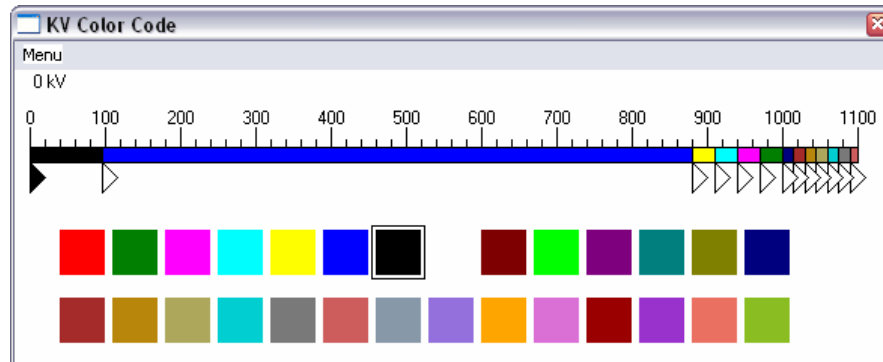


# What's New in Version 12 of ASPEN OneLiner

The following are the new features in version 12 of *ASPEN OneLiner*.

1. **Allow relays and fuses on switches.**
2. **Ability to import relay settings directly from SEL 5030 rdb files.** Previous versions required you to export the relay settings to text files before you can import the data.
3. **Reclosing option for lines and switches.** You can specify the number of operations and the reclosing intervals in the relay-group dialog box.
4. **Enhanced stepped-event analysis command simulates logic schemes (including DUTT, PUTT, POTT, POTT-PUTT, DCB and custom schemes), and reclosing of lines and switches.** The stepped-event report viewer window now has mouse-click commands to focus the one-line diagram on the event location. You can also save the events to a disk file as a fault-specification list or as a configuration for the Create Relay Test File command.
5. **Enhanced logic scheme modeling:** User can include logic schemes as part of another logic scheme equation and specify new “Signal only” flag for logic schemes. These features allow you to simplify the scheme logic equation to make it easier to read and to maintain. Additionally the logic scheme dialog box had been re-designed for ease of use.
6. **Faster fault simulation.** The improved simulation logic benefits commands that simulate faults of different phase connections (e.g., 3-phase and single-line-to-ground) at each bus. These commands include bus fault summary, line-end/line-out summary, fault location, and breaker rating checking. The improved logic also speeds up solution of networks with very large mutual groups.
7. **Separate per-unit/physical-unit options for displaying voltages and currents on the one-line diagram and for solution reports.** Previous versions use the same per-unit/physical-unit flag for both currents and voltages.
8. **Special color code:** A new Diagram | Color | Special Color Code command lets you select special colors for fictitious object created by boundary equivalence and for objects with or without certain tag strings.
9. **Enhanced one-line diagram color code:** We have doubled the number of “stops” in the kV Color Code dialog box. We have also doubled the number of colors available.



10. **Auto-Save feature:** *OneLiner* saves the data to a temporary file once every 5 minutes. When you reopen the same olr file after an unexpected program termination, *OneLiner* will ask you whether you wish to restore the last saved data.

11. **Lock one-line graphics command.** By executing the Diagram | Lock One-Line command you can prevent the one-line graphics from being disturbed while you simulate faults and make changes to the relay settings. When the graphics is locked, the message “Locked 1-L” will appear in the status pane at the bottom of the main window. You can unlock the graphics any time by executing the same command.
12. **Use a fuse curve to calculate fault clearing time in arc flash hazard calculator:** This new option allows you to run the arc flash calculation in parts of the network that do not have fuse models. Note the “Use fuse curve” radio button and fuse curve name in the dialog box below.

13. **Arc flash hazard calculation in batch mode.** You can now perform arc-flash calculations in batch mode for a set of buses. You enter the batch mode by *not* selecting a bus before you execute the Fault | Arc-Flash Hazard Calculator command.
14. **Flicker-free drawing in all the windows.**
15. **Improved Diagram | Show/Hide Buses in Areas or Zones command.** You can now select multiple zones or areas for showing or hiding. Previous versions could show or hide only one area or zone at a time.
16. **Option to use a thicker pen for drawing the curves in the OC Curves Window.** You can specify the curve thickness by changing the “Line Size” parameter in the Misc | Options dialog box.
17. **Graphic shapes in Overcurrent Relay and Distance Relay windows.** You can create “polyline” shapes in both windows. In the Distance Relay Window, you can also create “arc” shapes. The shapes can be saved in the Previous Collections files.



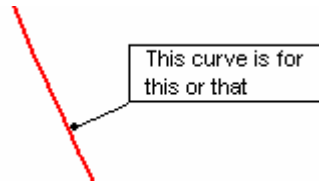
A polyline shape with 3 segments.



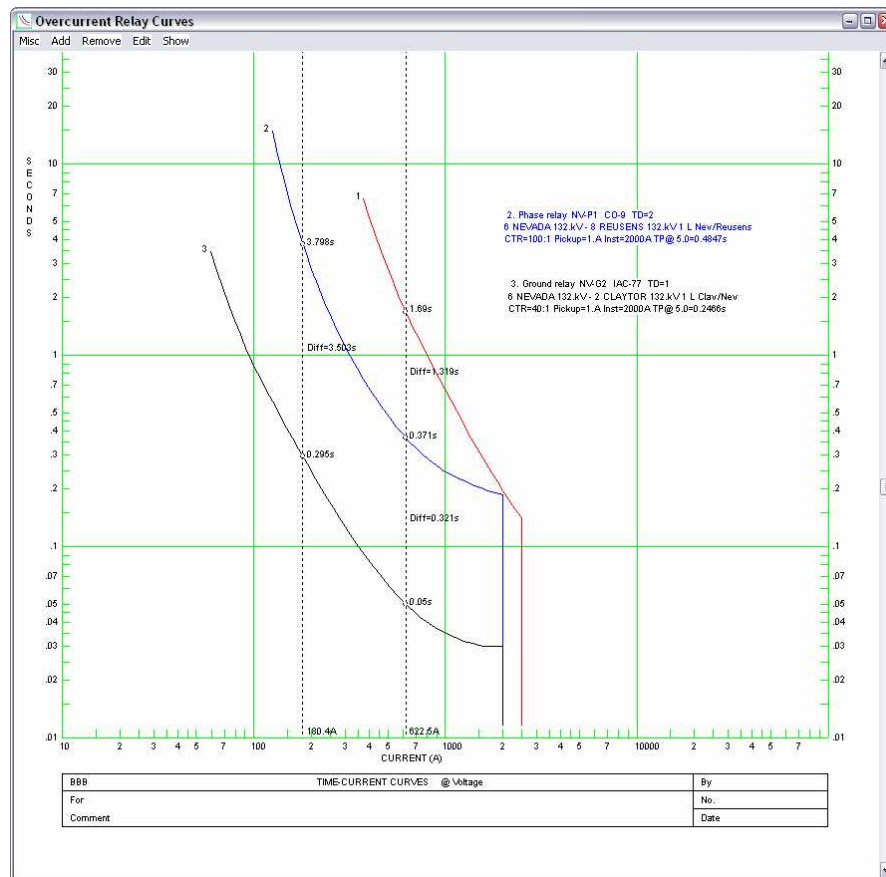
An arc shape with a 240 degree sweep angle.

18. **Ability to select a curve in the Curves Window by double-clicking on the curve itself.** Previous versions require you to double-click on the curve’s caption box. You can also bring up the floating menu by a right mouse click on the curve.
19. **Enhanced annotations feature in OC Curve and DS relay windows.** The annotation now has two parts: the header and a memo – just like the annotations in

the main window. In addition, you can embellish the annotations with callouts and other graphical elements. A callout example is shown below.



20. **New “time difference slider” in the OC Curves Window.** The slider is a vertical line that you can move left and right. When the slider intersects a curve, the (x,y) coordinates of the intersection – with x in amps or MVA, and y in cycles or seconds – are shown. When the slider intersects multiple curves, the program shows also the difference in time between adjacent curves. The sliders will appear on printed copy of the OC Curves Window. They can also be saved in the Previous Collection file.

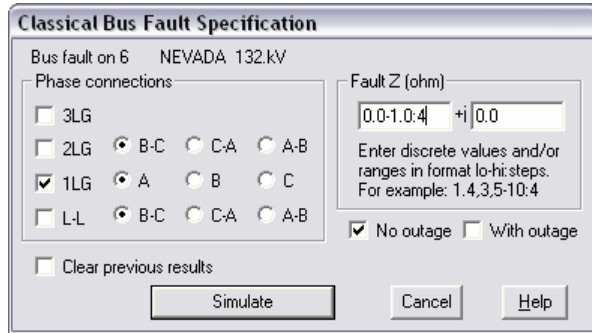


21. **Relay branch info in the relay caption:** In the Overcurrent Curves Window and Distance Relays Window, each relay caption now includes the branch info to help you identify the device. For example, the following caption for an overcurrent phase relay tells you that the relay NV-P1 is on the Nevada end of a line between Nevada 132kV and Reusens 132kV.

1. Phase relay NV-P1 CO-9 TD=2  
6 NEVADA 132.kV - 8 REUSENS 132.kV 1 L Nev/Reusens  
CTR=100:1 Pickup=1 .A Inst=2000A TP@ 5.0=0.4847s

22. **Enhanced Add tag command:** You can apply tag string to connected equipment, and highlight tagged objects on the one-line diagram.

23. **Ability to enter more than one fault impedance value in the Specify Classical Fault command dialog box:** For example, by entering “0.0-1.0:4” for the fault resistance, the program will automatically simulate five different faults: one with fault resistance  $R=0.0$  ohm, one with  $R=0.25$  ohm, one with  $R=0.5$  ohm, one with  $R=0.75$  ohm, and one with  $R=1.0$  ohm.



24. **Trial Adjustment command in the OC relay window now works for fuses:** You can change the fuse size with the horizontal scrollbar.
25. **Trial Adjustment command in the OC relay window works without fault currents:** You can adjust the time dial and pickup of relays or the size of fuses, even when no fault currents are available. The program refreshes the screen in real time to show you what the curves look like with the new settings.
26. **Enhanced support for Fault Specification File (.FLT):** You can now save parameters of existing fault simulations in .FLT file using the *Batch command & Fault Spec. file / New* command. You can also save FLT file with all the faults simulated in stepped-event analysis. The *Batch command & Fault Spec. file / Open* command and the *Specify Simultaneous Fault* command will let you run simulation of faults stored in .FLT file.
27. **PowerCalc Spreadsheets:** You can add unlimited number of Excel-compatible spreadsheet objects to the one-line diagram. PowerCalc spreadsheet calculation can include OneLiner network data and fault simulation solutions. PowerCalc display on the one-line can incorporate select spreadsheet cells, which is refreshed dynamically with calculation result.
28. **Improved boundary equivalent network generation logic:** The program detects if any of the equipment being retained has the equivalent-equipment ID. When found, additional processing of the equivalent network is applied so that the network will not contain parallel circuits having the same ID.
29. **Additional “compensated” options for voltage restrained and voltage controlled phase relays.** These new options mimic the method used by Beckwith and SEL to protect generators that are connected to the system through delta-wye transformers. The restrained voltages of this method are the line-to-line voltage measured on the generator side of the transformer. For example, for the phase ‘a’ generator current, the restrained quantity is  $(V_{ab}-V_{ca})/1.732$ .
30. **Bus sorting option in the Place Bus dialog box.** The buses can be sorted by bus name or by bus number.

## Installing ASPEN OneLiner Version 12

To install *OneLiner* Version 12 on your PC, here is all you need to do:

1. **Backup your data, just in case.**
2. **Run d:\1LPF\setup, assuming d: is the CD drive on your PC. Windows administrative privilege is required.**

The setup program will create a directory on your hard disk and copy the program files there. The program directory is c:\Program Files\ASPEN\ 1LPFv12 by default.

The setup program also creates a folder named “ASPEN OneLiner v12” under Windows’ Start | All Programs menu. Within this folder are icons for running OneLiner, the Overcurrent Curve Editor, the Case Comparison Program and other auxiliary programs.

Starting with version 12, all the library files referenced by the program – including the overcurrent curve library files (\*.rly), the distance relay library file (usually aspen.drl) and the line table file (usually aspen.ltb) – must reside in the Library Directory.

If you are upgrading from version 10 or version 11, the program will re-use the existing Overcurrent Library Directory folder as the new OneLiner Library Directory. The version-12 setup program will copy your distance library file and the line table file to this folder, if they are not there already.

If you are making a new installation of OneLiner v12, the setup program will create a Library Directory at c:\Documents and Settings\All Users\ASPEN1LPF\_LIB (the location varies depending on your Windows version) and put all the library files there.

## Version 12 Installation Questions and Answers

**Q: Does OneLiner v12 work under Windows 7 and 8?**

**A:** Yes. There are no known problems.

**Q: *OneLiner* v12 complains that the Hasp key cannot be found when I start up the program under network access. I didn’t have this problem with version 11.**

**A:** Your network-key initialization file needs to be copied to the new program directory. More specifically, copy the file NETHASP.INI from the v11 program folder (usually c:\Program File\ASPEN1LPFv11) to the v12 program folder (c:\Program Files\ASPEN\ 1LPFv12).

**Q: Do I need Windows administrative privilege to setup version 12 if I choose not to install the key driver?**

**A:** This version of the setup program will not start unless you have Windows administrative privilege.

**Q: In the Configuration Program, what is the “Access to remote HASP HL-net key via Sentinel Runtime (experimental)” option?**

**A:** SafeNet, the manufacturer of the HASP keys, is offering a new way of hosting network keys that lets you customize and monitor the network-key connection through a web browser. This new method does not require the use of a stand-alone license-manager software. Please contact ASPEN tech support ([support@aspeninc.com](mailto:support@aspeninc.com)) if you are having trouble with the current network license manager and wish to try this alternative approach. To make the new system work, we will have to exchange your network key with a new one.