

DistriView – Work in Progress

We are hard at work on a new version of *DistriView*[™] that will be released later this year. This article highlights two of the new improvements in this release: the voltage profile display and the lineconstants calculator.

The voltage profile display is an x-y plot of the voltage magnitude along a

feeder. When you highlight a node and execute the voltage-profile command, a popup window will appear to show you a plot of the rise and fall of the voltage between the substation bus and the selected node. See figure on this page. An 'Options' command in this window gives you many options, such

as the unit of length on the horizontal axis and the voltage increment on the vertical axis.

The new line-constants calculator is design to simplify the data entry for overhead lines and underground cables. With this feature you can specify a line

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by choosing a predefined tower type and specifying the wire type for the various conductors on the tower. (Note: We use the word 'tower' loosely to mean the physical structure that holds up the conductors.) The built-in line-constants calculator will compute the required electrical parameters for you. For overhead lines, the calculator utilizes Carson's method and takes in



account imbalances caused by untransposed lines and the use of different conductors on different phases. Information on the tower configurations and wire parameters comes from a binary file called the Conductor Database.

The Construction Database file you receive with the new *DistriView* update will be preloaded with parameters for a large number of commonly used wires, including copper and ACSR conductors. All you have to do is to run an auxiliary program to enter the tower data and you are off and running!

The new release of *DistriView* is a 32-bit executable that runs on Windows 95, 98 and NT. The voltage profile display and the line-constants calculators are just two of the many improvements that are

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planned. We will describe other new features in future articles.

Relay Database – Work in Progress

Concurrent with the development of the Client/Server version, we are overhauling the Desktop and Network versions of ASPEN *Relay Database*[™]. The updated Desktop and Network version, to be named V98, will be released this fall. (The Client/Server Relay Database that works with the Oracle and Microsoft SQL Server engines will be available this summer.) This article describes the new feature in V98.

Version 98 represents a complete redesign of the *Relay Database*. We are changing both the data schema and the user interface in an effort to unify the look and feel across our entire *Relay Database* line.

In modifying the data schema, our goals are to make the database more flexible and easier to access. Specifically, we are: • Simplifying the data organization. We did away with many unnecessary links and indices to make the database less prone to data corruption. We also made other changes to speed up data storage and retrieval.





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• Changing some "memo" fields to character fields. Users will find it much easier to build queries and to format the data in tabular reports.

• Adding 'bonus' fields to most objects. Users can store any information they want in these fields. The new Database Administration Program lets them control which of the bonus fields will appear in the forms.

• Adding new fields for improved usability. Examples of this are the 2-character "group" field we added for SEL-5010 compatibility, and the "default-value" field for relay templates.

• Inserting cross-link tables. These new tables will allow users to link together any two of the following objects: relays, CTs, PTs, transformers, and telephones.

In V98, we have adopted a grid look for most of the forms. This was needed to accommodate the bonus fields and to make the forms truly customizable. The new Relay form shown on the last page and the Setting form on this page are examples. The new Schweitzer SEL-5010 interface is a new feature that will be welcome by users who use SEL relays. *Relay Database* V98 can read and store setting information from any database files created by the

> SEL-5010 program. It can also update setting in these files using information in the database.

The new *Relay Database* will come with a much larger collection of reports. For users who have created their customized reports, ASPEN will help them convert the reports at no charge.

Finally, we have redesigned the program logic to minimizing the network traffic between the front-end and the

database tables. Users with congested networks will find this new version much faster than the previous releases. V98 is also the first 32-bit executable that takes full advantage of the services offered by Windows 95, 98 and NT.



Employee Profile

Dr. Yi Zhang is the latest addition to the ASPEN team. Yi worked at Electric System Analysis Inc. (ESA) in Portland, Oregon, for 7 years before coming to ASPEN. At ESA, Yi was responsible for algorithmic development and maintenance of a power system simulation program called *EasyPower*. At ASPEN, Yi will apply his skills to the development of *OneLiner*,[™] *Power Flow*[™] and *DistriView* software. Yi grew up in China and received his Ph.D. degree in electrical engineering from the Electric Power Research Institute in Beijing.

Upcoming Events

OneLiner Training Class:

- Columbus, Ohio, September. 23-25.
- OneLiner Users Group Meeting:Spokane, Washington, October. 19.

New Users

ASPEN DistriView

- ABB, Ltd., Taipei, Taiwan
- Bonneville Power Administration, Portland, OR
- Coos-Curry Electric Coop., Port Orford, OR
- EDES, S.A., Buenos Aires, Argentina
- H.A. Simons Ltd., Trail, BC, Canada
- Seminole Electric Coop., Tampa, FL
- Tucson Electric Power, Tucson, AZ

ASPEN OneLiner

- City of Roseville, Roseville, CA
- Conectiv Solutions, Kenneth Square, PA
- DCG Technologies, LLC, Georgetown, MA
- ESCOM, Blantyre, Malawi
- Seminole Electric Coop., Tampa, FL ASPEN Power Flow
- City of Roseville, Roseville, CA
- ASPEN Relay Database
- Dixie Electric Membership Coop., Greenville Springs, LA
- Nashville Electric Service, Nashville, TN
- ASPEN Line Constants Program
- Oklahoma Gas & Electric, Oklahoma City, OK
- Turlock Irrigation District, Turlock, CA

