ETAP TIP – No. 001

One-Line Diagram Presentation

Applicable ETAP Versions: 5.5.0, 5.5.5, 5.5.6
(For lower versions, some of the procedures below may differ in some ways)

One Line Diagram is the method of representation of modeling the electrical system in ETAP for network analyses. ETAP supports the creation of unlimited number of One-Line Diagram presentations. This feature provides you with the ability to customize each one-line diagram presentation to generate different graphical representations (element's symbol, size and orientation, annotation, hidden or revealed protective devices, grid display off/on, OLE object, etc.) while the electrical connectivity and consistency is maintained.

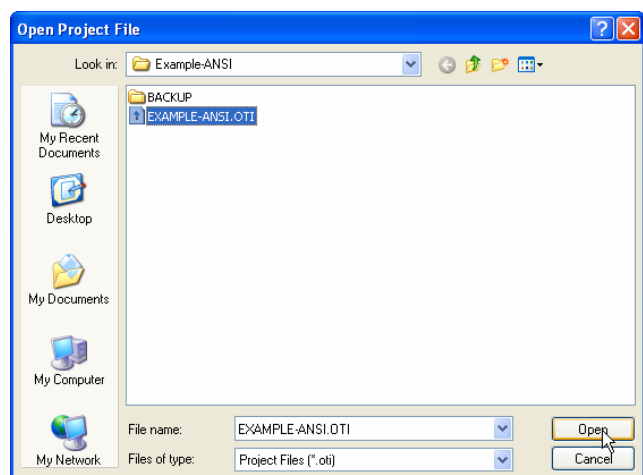The following are some of the reasons for having more than one One-Line Diagram Presentation:

1) Optimized Graphical view of a One-Line Diagram for certain study i.e. only the appropriate annotations and elements (Protective devices), OLE Objects are shown which have direct relation to a particular study to make the layout less congested.

2) To have individual One-Line Diagram presentation for each "Configuration" and associate each to different study cases and/or analyses. This will allow you to compare the result of different study cases and/or analyses graphically shown on One-Line Diagrams at the same time.

By default, when you create a new project, a white canvass window is displayed. This is your default One-Line Diagram View Window with default name "OLV1". Normally, this is where you model your electrical system's One Line Diagram. Successively, you can duplicate (create new One-Line Diagram presentation) this "OLV1" for any of the reasons mentioned above.

Illustration:

A. Open the example project:

1. Run ETAP 5.5.6 program
2. In the Main Menu, select "File→Open Project…"
3. Browse to folder "C:\ETAP 556\Example-ANSI"
4. Select "EXAMPLE-ANSI.OTI" then click "Open" button.
5. Enter and/or select the information appropriate on the dialog windows that appears successively and click "Ok" button.
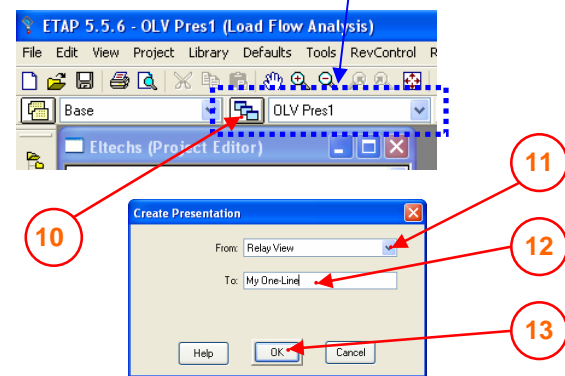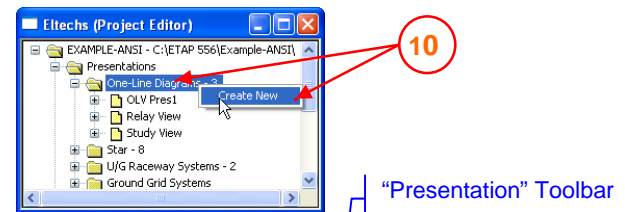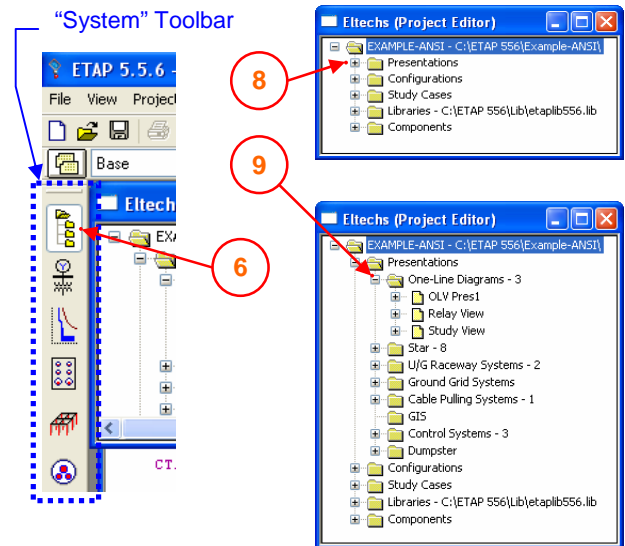
B. To Create (Duplicate) One-Line Diagram:

6. Click the [icon] "Project View" icon on the System Toolbar. (Toolbar on the Left Side of the Screen). The Windows Explorer-like "Project Editor" dialog window will be displayed

7. On the "Project Editor" dialog window, you will see Five (5) major folders; Presentations, Configurations, Study Cases, Libraries, and Components

8. Expand the "Presentations" folder by clicking the "+" sign adjacent to it or double clicking the title. You will see sub-folders; One-Line Diagrams-X, Star-X, etc. where "X" denotes the number of presentation(s) available.

9. Expand the "One-Line Digrams-3" folder (similar to Step 8). Under the "One-Line Diagrams-3" folder, you will see the name of the available One-Line Diagram presentation(s). Note: In this example project, 3 presentations are available. You can right-click (or double click) on the title and select "View" on the pop-up menu to view the presentation.

10. To create new one line diagram presentation, right click on the "One-Line Digrams-3" folder and select "Create New" on the pop-up menu.

[Or]

From the "Presentation" Toolbar (Active only when the [icon] "One Line Diagram" icon on the System Toolbar is selected), click the [icon] icon The "Create Presentation" dialog window is displayed.

11. On the "From" pull down text box, select which presentation you want to copy (since in this exercise, we already have 3 presentations, we can choose which presentation we want to duplicate). Let's select "Relay View"

12. On the "To" text box, key in the desired name of the new One-Line diagram to be created. Let's key in "My One-Line"

13. Click "Ok" button. The new One-Line Diagram has been created.

14. To view the newly created presentation, perform step 9 similarly.

15. You can now change the appearance of the presentation (i.e. change the size, symbol, or orientation of the elements) by working directly on the elements or associate it to other "Configuration".

The following is a sample illustration of the use of multiple one line diagram presentation:

a) Open the "Relay View" presentation (See Step "9" above) or select it from the "Presentation" toolbar

b) Open the "My One-Line" presentation (See Step 9 above) or select if from the "Presentation" toolbar (see Step "a")

c) Arrange the Two windows such that they are adjacent to each other without overlapping. See Fig. 1.

d) Click the "Relay View" window to make it active or select if from the "Presentation" toolbar (see step "a"). Set the configuration to "Normal" on the "Configuration" toolbar. See Fig. 1.

e) Similar to Step "d", click the "My One-Line" window or select if from the "Presentation" toolbar. Select "Stage 1" configuration. "My One-Line" presentation is now associated with "Stage 1" configuration.
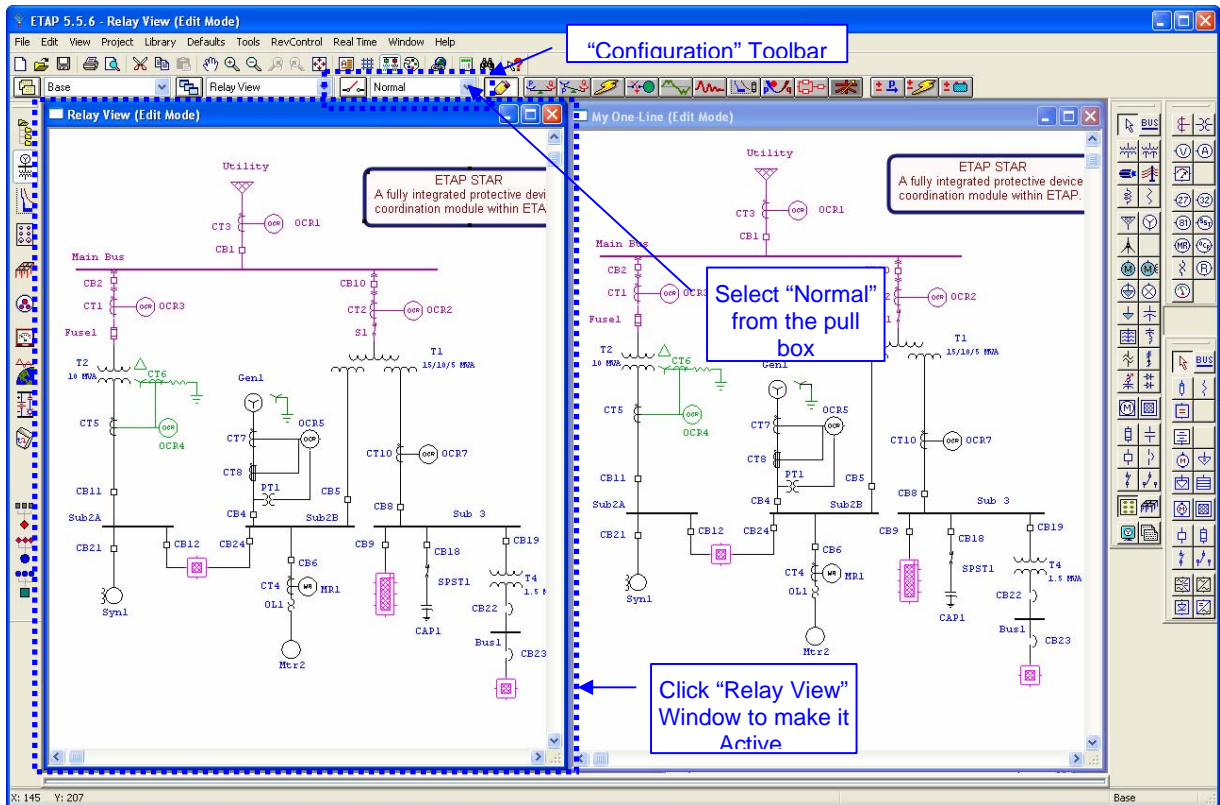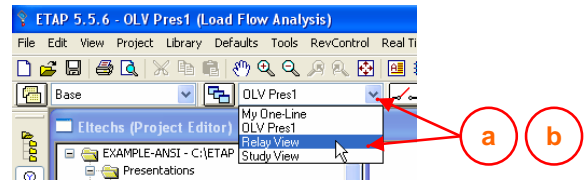

Fig. 1

f) With the "My One-Line" diagram window active, click [icon] icon to activate Load Flow Study mode. See Fig. 2.

g) Click [icon] icon on the Load Flow toolbar to run Load Flow. Enter a filename for the report and click "Ok" button. The result of load flow base on "Stage 1" configuration is now shown on the one-line. See Fig. 2.

h) Select "Relay View" window.

i) Similarly, perform step f) and g). The result of load flow base on "Normal" configuration is now shown on the one-line.

j) You can now quickly compare the load flow effect between the "Normal" and "Stage 1" configurations as shown on "Relay View" and "My One-Line" One Line Diagram respectively.
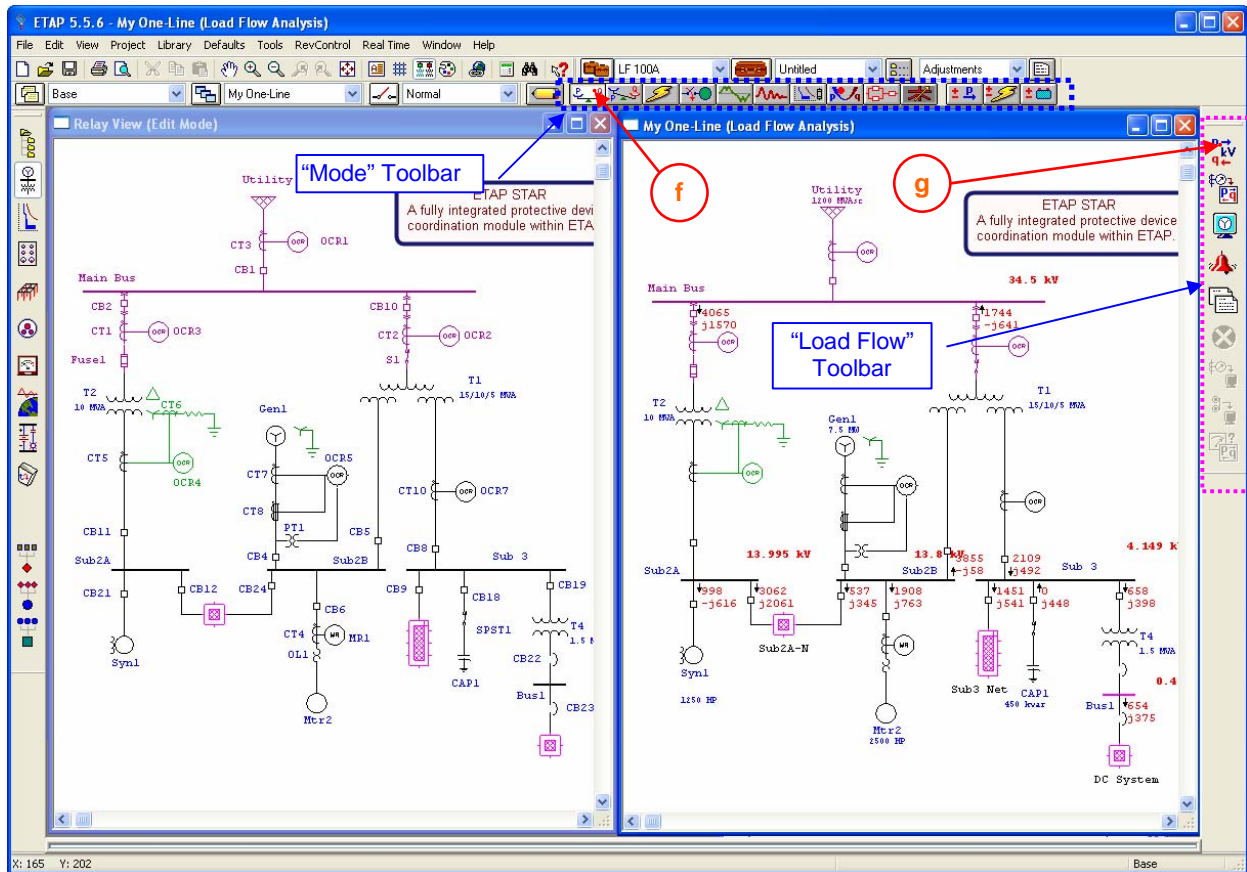

Fig. 2

Other Commands Available for the One-Line Diagram Presentation in the "Project Editor" window:

When you right-click a particular One-Line diagram from the Project Editor→Presentations→One-Line Diagrams (refer to Step 9 above), a pop-up menu appears. On the pop-up menu, the following commands are available:

View	-	Open the view for the corresponding One Line Diagram
Save	-	Save the One Line Diagram
Properties	-	Rename the One Line Diagram. You can also rename the one line diagram by double-clicking anywhere on the canvass of the one-line diagram window while you are in Edit Mode (The pencil Icon on the mode toolbar is active)
Purge	-	Delete permanently a One Line Diagram presentation
Print..	-	Send the One Line Diagram to printer
Print Preview	-	Preview the a One Line Diagram presentation in Print mode