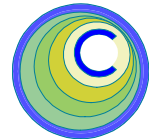


# The CEDRA Corporation's COMMAND OF THE MONTH

A monthly information bulletin

June 2006

FEATURED COMMAND  
Modify  
Annotation Features



## Application Description

In the May 2005 issue of this bulletin we discussed various ways for annotating maps, while in the September 2005 issue we updated that discussion with the introduction of the **CEDRA-Text-Tools** toolbar. This month's issue addresses how to mass-modify the font style, size, color and position of text strings.

Users who create maps and/or drawings have faced many a time the need to change certain attributes of a multitude of text strings in a document. These users will find that the [Modify Annotation Features] command of the {Text Properties} combo box (see Figure 1) may answer many of their needs.

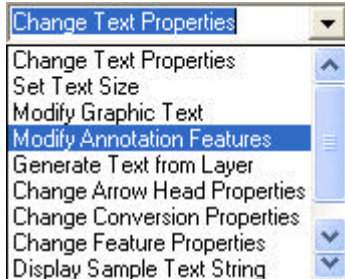


Figure 1  
Text Properties Combo-Box

For example, one may have prepared an annotated map at a scale of 1"=100' (1:1200), and now it is desirable to change the map to a scale of 1"=50' (1:600). In doing so, the original annotation features will double in size. Since this may not be desirable, the user can use the [Modify Annotation Features] command to mass reduce the size of the annotations. Furthermore, if certain an-

notations pertain to specific lines (like sewer pipe sizes to sewer pipes, or bearings and distances to boundary lines), the [Modify Annotation Features] command offers the user the ability to reposition these annotations with respect to their associated lines.

### Command Of The Month bulletin


*This month's issue addresses how to mass-modify the font, font style, size, color and orientation of text strings.*

## The CEDRA Solution

To demonstrate the use of this command, let us assume that the user has created some annotation features by employing any of the various CEDRA annotation commands. Alternatively, a blank ArcMap® document could be opened and a few text strings introduced, some of which may be close to line features.

Once the appropriate ArcGIS® document is opened (note that this command is not available in ArcView® GIS) containing the CEDRA annotation features, perform the following:

- Click at the layer(s) in the Table of Contents (TOC) that contain the annotation features to be processed by this command.

- Click on the Select Features tool, , in the **CEDRA-ArcView3-Tools** toolbar., and select one or more annotation features.
- Click at the {Text Properties} combo box and select the [Modify Annotation Features] command to display the dialog box of Figure 2.

If the [Modify Annotation Features] command is invoked without having previously selected any annotation features, a message box with the warning:

*No annotation features have been selected for processing.*

will be displayed. In such case, click at the OK button to acknowledge, and perform the above steps in the indicated sequence.

In perusing Figure 2, the reader will notice four choice, and two input data fields. Of these six data fields or parameters, the top two (*Mode of Operation:* and the *Reposition by:*) parameters contain the commands for modifying annotation features, while the remaining four parameters provide support information for the top two.

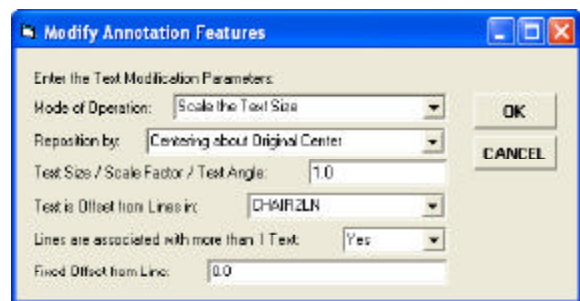
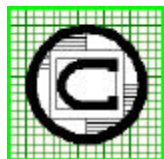


Figure 2  
Modify Annotation Features Dialog Box



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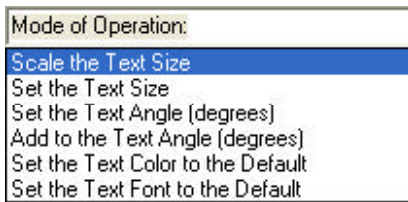


Figure 3  
Mode Of Operation Choices

Upon completion of the processing by the [Modify Annotation Features] command, the selected annotation feature(s) will remain selected for additional processing.

Presented below is a discussion of all of the data fields presented in Figure 2.

### Mode Of Operation

The *Mode Of Operation*: parameter contains options that enable the user to modify the display and orientation of one or more annotation features, or text strings, but not to reposition them. The available options are seen by scrolling down in the *Mode of Operation*: choice data field (see Figure 3). Their descriptions follow.

- (a) **Scale the Text Size** This option enables the user to scale the selected feature(s) by multiplying the annotation's current text size with a user-specified scale factor. A scale factor greater than 1.0 enlarges the annotation(s), while less than 1.0 reduces the annotation(s). To scale the selected feature(s), the user should:
- Scroll down in the *Mode of Operation*: choice data field, and select the *Scale the Text Size* option.
  - Enter in the *Text Size / Scale Factor/Text Angle*: input data field the desired scale factor.

The operation of this option is also dependent upon the setting of the *Reposition by*: parameter, and its supporting data fields. Thus, peruse the **Reposition Annotation** section presented below before clicking at the *OK* button.

- (b) **Set the Text Size:** This option enables the user to set the text size of the selected feature(s) to a specific text size in terms of points. To set the text size of the selected feature(s), the user should:
- Scroll down in the *Mode of Operation*: choice data field, and select the *Set the Text Size* option.
  - Enter in the *Text Size / Scale Factor/Text Angle*: input data field the desired size of the text in terms of points.

The operation of this option is also dependent upon the setting of the *Reposition by*: parameter, and its supporting data fields. Thus, peruse the **Reposition Annotation** section presented below before clicking at the *OK* button.

- (c) **Set the Text Angle (degrees):** This option enables the user to set the Cartesian angle of the selected feature(s) in degrees with respect to the X-axis (easting). A positive angle orients the feature(s) counterclockwise, while a negative angle orients the feature(s) clockwise. To set the angle of rotation of the selected feature(s), the user should:
- Scroll down in the *Mode of Operation*: choice data field, and select the *Set the Text Angle (degrees)* option.
  - Enter in the *Text Size / Scale Factor/Text Angle*: input data field the desired angle of the selected feature(s), and then click at the *OK* button.

The angle of inclination of the selected feature(s) is changed to be the angle that was specified above.

- (d) **Add to the Text Angle (degrees):** This option enables the user to add a Cartesian angle in degrees to that of the selected feature(s). A positive angle rotates the feature(s) counterclockwise by the angle in degrees specified by the user, while

a negative angle rotates the feature(s) clockwise. This command is usually used to make slight adjustments to text angles. To specify the text angle to be added to the current text angle of the selected feature(s) the user should:

- Scroll down in the *Mode of Operation*: choice data field, and select the *Add to the Text Angle (degrees)* option.
- Enter in the *Text Size / Scale Factor/Text Angle*: input data field the desired angle to be added to the current angle of the selected feature(s), and then click at the *OK* button.

The angle of inclination of the selected feature(s) is increased or decreased by the angle that was specified above.

NOTE that there is a slight difference in the mode of operation for the following two modes of operation versus the four options discussed above.

- (e) **Set the Text Color to the Default:** This option enables the user to change the color of the selected feature(s) to that of the default text color. To change the text color of the selected feature(s), the user should:
- Click at the down arrow of the *Font Color* tool in the ArcMap **Draw** toolbar located at the bottom of the view (far right tool in Figure 4) to display the color palette, and select the desired color.
  - Click at the {Text Properties} combo box and select the [Modify Annotation Features] command to display the dialog box of Figure 2.
  - Scroll down in the *Mode of Operation*: choice data field,



Figure 4  
Portion Of The ArcMap Draw Toolbar

and select the *Set the Text Color to the Default* option, and click at the **OK** button.

The font color of the selected feature(s) is changed to the color that was selected above.

(f) **Set the Text Font to the Default:**

This option enables the user to change the font style (normal, bold and/or italic) of the selected feature(s) to that of the default font style. To set the text font style of the selected feature(s), the user should:

- Click at the **Bold (B)** and/or **Italic (I)** tool(s) in the ArcMap **Draw** toolbar located at the bottom of the view (see Figure 4). These two tools operate as on/off switches with repetitive clicking thereon. If neither is activated, the font style is normal.
- Click at the {Text Properties} combo box and select the [Modify Annotation Features] command to display the dialog box of Figure 2.
- Scroll down in the *Mode of Operation:* choice data field, and select the *Set the Text Font to the Default* option, and click at the **OK** button.

The font style of the selected feature(s) is changed to the style that was selected above.

### Reposition Annotation

The options of the *Reposition by:* parameter (see Figure 5) are divided into three groups based upon whether an offset distance from an associate line is to be used or not. The options of all three of the following groups will also operate in conjunction with the *Scale the Text Size* and the *Set the Text Size* options of the *Mode of Operation:* parameter.

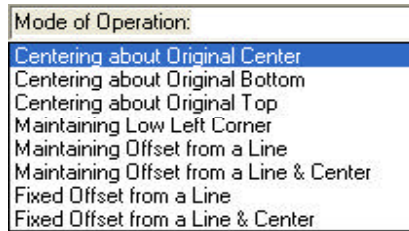


Figure 5 - Reposition Choices

1. The options of this group will not use any offset since they do not search for associate lines. These options operate only on the selected annotation feature(s), and they include:  
*Centering about Original Center, Centering about Original Bottom, Centering about Original Top, Maintaining Low Left Corner.*
2. The options of this group will use the current offset of the annotation from its associate line, and they include:  
*Maintaining Offset from a Line, Maintaining Offset from a Line & Center.*
3. The options of this group will use a user specified offset as the offset of the annotation from its associate line, and they include:  
*Fixed Offset from a Line, Fixed Offset from a Line & Center.*

As each of the options within the second and third groups process a text string, each option will search for a line that is located within a certain distance from the selection (highlighting) rectangle, which encompasses the text string. The said distance is equal to three times the fixed offset value plus the height of the above said rectangle. As such, the *Fixed Offset from Line* parameter is used to determine an annotation feature's associate line.

Regarding options of the first group, note that the option:

- *Centering about Original Center* will enlarge or reduce the text size about the center of the selection (highlighting) rectangle encompassing the text string.

- *Centering about Original Bottom* will enlarge or reduce the text size about the center of, and along the bottom edge of the selection (highlighting) rectangle encompassing the text string.

- *Centering about Original Top* will enlarge or reduce the text size about the center of, and along the top edge of the selection (highlighting) rectangle encompassing the text string.

- *Maintaining Low Left Corner* command will enlarge or reduce the text size about the low left corner of the annotation.

Each of the above four options, when selected, maintain the current angle of the annotation, and disregard the remaining (lower three) data fields of the dialog box of Figure 2 in repositioning the annotation.

Regarding the options of the second and third groups, note that the options:

- *Maintaining Offset from a Line* will project the low left corner of the selection (highlighting) rectangle encompassing the text string on to the associate line to determine the position of the annotation with respect to the associate line. It will then enlarge or reduce the text, and position its left edge along the normal line at the point of the above said projection maintaining the original offset distance from the associate line.

- *Maintaining Offset from a Line & Center* will project the center of the selection (highlighting) rectangle encompassing the text string on to the associate line to determine the position of the annotation with respect to the associate line. It will then enlarge or reduce the text, and position said center point along the normal line that bisects the associate line, maintaining the original offset distance from the associate line.

- *Fixed Offset from a Line* is similar to the *Maintaining Offset from a Line* with the exception that instead of using the original annotation offset distance, a user specified distance (entered in the *Fixed Offset from Line*: data field) is used.
- *Fixed Offset from a Line & Center* is similar to the *Maintaining Offset from a Line & Center* with the exception that instead of using the original annotation offset distance, a user specified distance (entered in the *Fixed Offset from Line*: data field) is used.

Also note that all options of the second and third groups require the selection and data entry in the following two data fields:

- In the *Text is Offset from Lines in*: data field, the user should scroll down and select the layer in which the associate lines reside.
- In the *Lines are associated with more than 1 Text*: data field, the user should scroll down and select the:
  - Yes* if there are more than one annotation associated with a single line.
  - No* if there is only one annotation associated with a single line.

With regards to the third group, a data entry must be made in the *Fixed Offset from Line*: data field. For the second group, the *Fixed Offset from Line*: data field is only used to determine proximity of a line to an annotation feature.

### An Example

The operation of these options is demonstrated by the example of Figure 6, in which three sewer pipes are displayed. Also shown in this figure are the annotation features depicting the pipe sizes, which purposely have been improperly positioned. The blue rectangles circumscribing the annotation features are the selection (highlighting) rectangles denoting that the annotation features have been selected.

It is noted that the sewer pipe features reside in a layer called SEWMAIN.

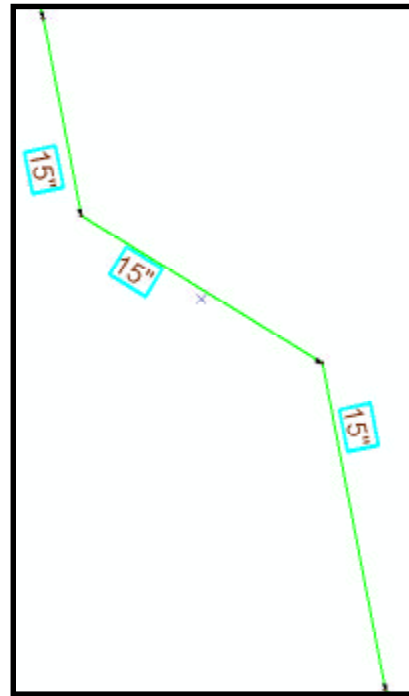


Figure 6  
Reposition Annotation About A Line

The object of the example is to center the pipe size text strings about their corresponding pipes, and position them at a specified offset from the associated pipes. To attain this, once the annotations have been selected, the user should:

- Click at the {Text Properties} combo box, and then select the [Modify Annotation Features] command to display the dialog box of Figure 2.
- Scroll down in the *Mode of Operation*: choice data field, and then select the *Scale the Text Size* option.
- Enter 1 in the *Text Size / Scale Factor / Text Angle*: data field, if the current text size is to be maintained, or any other desired scale factor.

Alternatively, in the above two steps a text size may be set explicitly as was described previously. If it is desired to place the text normal to the lines, or if it is desired to

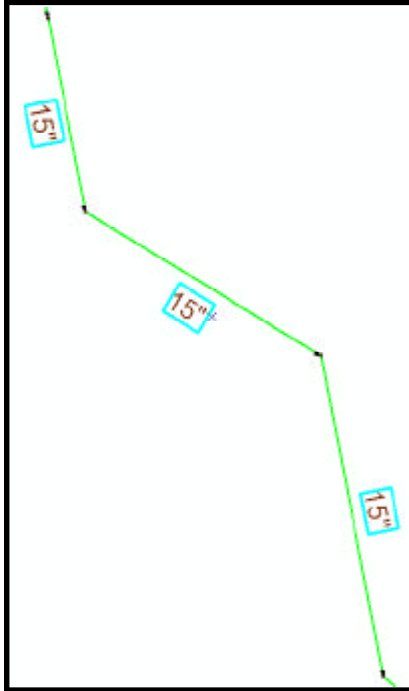
modify the font color, or style, such modifications should be done afterwards as separate operations.

- Scroll down in the *Text is Offset from Lines in*: choice data field and select the layer from which the lines reside. In the subject example select the SEWMAIN layer.
- Scroll down in the *Lines are associated with more than 1 Text*: choice data field, and select the *No* option.
- Enter in the *Fixed Offset from Line*: data field the offset distance of the annotation from the line in world units, such as 15 (denoting 15').
- Scroll down in the *Reposition by*: choice data field, and select the *Fixed Offset from a Line & Center* option, to denote that the annotation is to be centered about the annotation's associate line and offset a specific distance from the associate line.
- Click at the OK button to carry out the repositioning of the selected annotation feature(s). See Figure 7.

It can be seen from Figure 7 that the annotation features have been centered about the feature's associate lines and are offset from the lines a uniform distance of 15 feet.

Note that the repositioned annotation remains in its original layer. That is to say, no new annotation is created, but rather, the existing annotation has been modified.

Expanding upon the example stated at the beginning of this bulletin where a new map at 1"=50' is to be created. The user may wish to preserve the annotation that was used in the 1"=100' map prior to modifying any annotation. This can be accomplished by making a copy of the 1"=100' annotation and then modifying the copy of the annotation.



**Figure 7**  
**Annotation Repositioned About A Line**

In so doing, the user would have two annotation layers, one for the 1"=100' map and one for the 1"=50' map.

Note, if the annotation features are stored in a personal geodatabase (PGD), it is possible to make a copy of the PGD by using Windows Explorer functionality and then renaming the PGD to a unique name (make sure to maintain the .mdb extension).

### **Summary**

The [Modify Annotation Features] command augments the CEDRA Annotation commands in the preparation of maps and drawings. The ability to mass annotate and modify text proves to be a great productivity tool. We invite our users to try this command and let us know their comments.

*If you have a request for Command Of The Month, feel free to phone, fax or e-mail your request to The CEDRA Corporation.*