

The CEDRA Corporation's COMMAND OF THE MONTH

A monthly information bulletin

October 2011

FEATURED COMMAND
Displaying a Segment Length Value



Application Description

Recently a request was made to be able to echo or display the distance of a segment along a polyline feature. That is to say, it was desired to be able to pick a polyline feature and then make two picks denoting a segment along the polyline. It was the length of this segment that was desired.

Until this request was made, our software had the functionality to echo the overall length of a polyline feature. We, however, did not have the ability to echo the length of a segment along a polyline.

After a short review it was determined that in a very short period of time we could add the desired functionality.

The CEDRA Solution

To address the application described above, the  [Echo Feature] tool within the {CEDRA-Echo-Tools} toolbar, shown in Figure 1, can be used. This command is the second from the left tool with the number 2 displayed above the dimension line within the toolbar.

As mentioned above, the functionality to echo a segment length along a polyline did not exist at the time the request was made. However, it was determined that the [Echo Feature] command could be modified to provide the desired functionality. This modification involved adding an option to the feature confirmation dialog box which is displayed by the tool after the user selects a feature.

Echo Feature Overview

Using the  [Echo Feature] tool, the user is able to echo:

- the X, Y and Z coordinates of point features,
- the length and direction of two-point lines, as well as the elevation of each endpoint,
- the total length of polylines, as well as the length and direction from the start point to the end point of the polyline and their elevations,
- the radius, arc length, central angle, chord length and direction, and the elevations of the endpoints, and
- the perimeter, area and elevation of polygons.

Command Of The Month bulletin

This month's issue discusses how to echo or display the length of a segment along a selected polyline or polygon feature.

Direction values are displayed in degrees, minutes and seconds to a tenth, and are expressed as an azimuth, bearing and Cartesian rotation. The area of a polygon is displayed in square feet (square meters) and acres (hectares).

Additionally, the user is able to echo the distance between two points which are projected upon a selected two-point line, polyline, curve or polygon feature. In so doing the user is able to accurately display the length of a segment along a feature. This tool command makes use



Figure 1
CEDRA-Echo-Tools Toolbar

of the CEDRA-AVcad point snapping property.

Echo Feature Operation

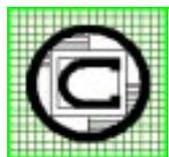
To use this menu command, the user should:

- **1 Click** at the  [Echo Feature] tool.
- **2 Click** in the ArcMap display at a point, two-point line, polyline, curve or polygon. Refer to Figure 2.

If the feature selection click is made where there is no nearby feature, the program informs the user in the status bar to select a feature. In this case repeat Step 2.

- **3 Confirm, or not** the selection, see Figure 3. If a segment length on a polyline or polygon is to be echoed, **check** the option Pick Two Points on the Feature, otherwise leave the option unchecked.

If the option Pick Two Points on the Feature is checked perform the following, otherwise proceed to Step 6



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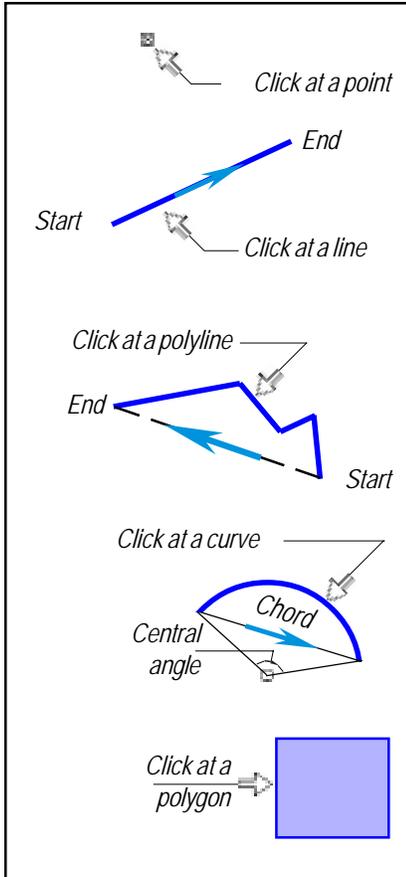


Figure 2
Echo Geometric Properties of Features

- 4 Click in the ArcMap display to define the first point that will be projected upon the selected feature.
- 5 Repeat Step 4 to define the second point.

Having confirmed the feature and if the option Pick Two Points on the Feature is not checked, the tool displays the appropriate information message box of Figures 4 through 8.

If the option Pick Two Points on the Feature is checked and once the second pick has been made, the tool displays the information message box shown in Figure 9.

- 6 Peruse the information.

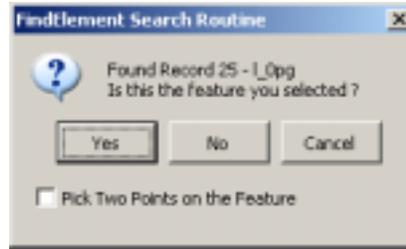


Figure 3
Feature Confirmation Query



Figure 4
Geometric Properties of a Point Feature

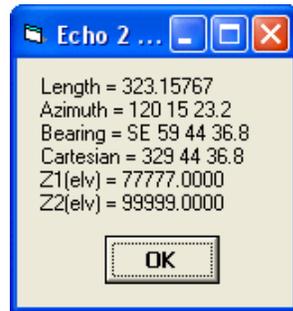


Figure 5
Geometric Properties of a Line Feature



Figure 6
Geometric Properties of a Polyline Feature

- 7 Click at the OK button to close the window.

The command remains active to repeat from Step 2.



Figure 7
Geometric Properties of a Curve Feature

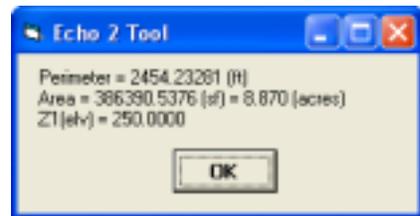


Figure 8
Geometric Properties of a Polygon Feature

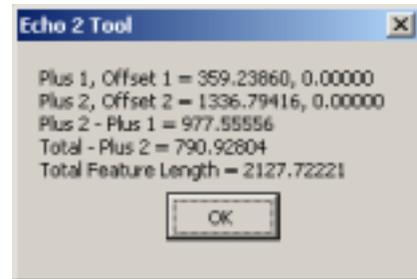


Figure 9
Geometric Properties of a Segment

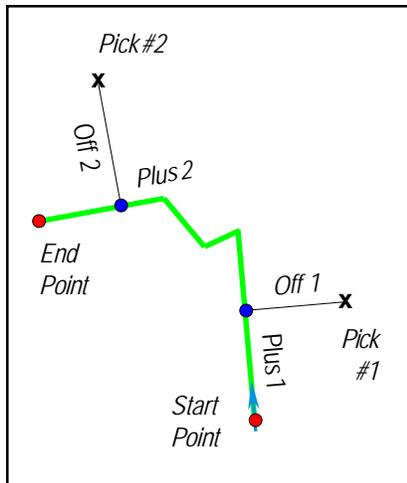


Figure 10
Segment Length Parameters

Note

When the option Pick Two Points on the Feature is checked, the tool will display a blue arrow that will be centered about the start point of the selected feature. The blue arrow denotes the start point and direction of the feature.

The Plus values indicate the distance from the start point of the feature to the point of projection of the pick.

The Offset values indicate the distance from the point of projection to the pick.

The Plus 2 - Plus 1 value shown in Figure 9 represents the length of the segment.

Point snapping is applied to the two picks that are made denoting the segment to be processed.

Figure 10 illustrates the information that is displayed in Figure 9, while Figure 11 is a screen image of what is actually displayed by the [Echo Feature] tool.

Summary

Users who have used the [Echo Feature] tool will find that the tool operates the same as before if the option Pick Two Points on the Feature is not checked. However, if the option is checked, the

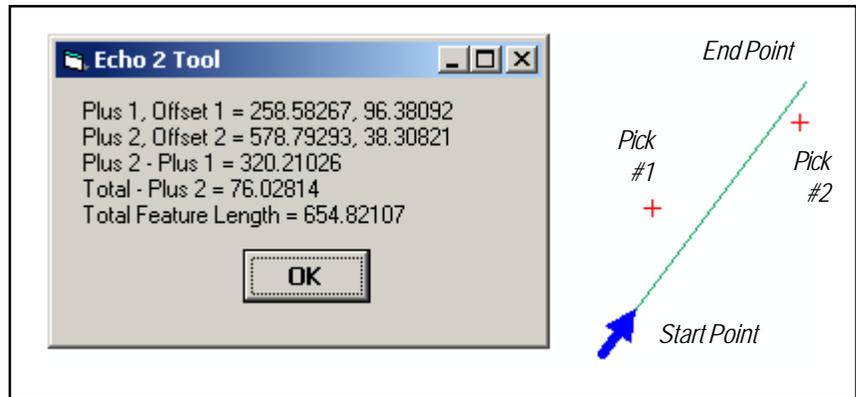


Figure 11 - ArcMap Display of the [Echo Feature] Tool processing a Two-Point Line Feature

user simply makes two more picks denoting the segment to be processed.

As it turns out, it only took one day to implement the modification. So that, users who feel that requesting modifications might take too long to implement may be surprised to find just how quickly certain modifications can be made.

Users with a software support agreement should check with The CEDRA Corporation on how to obtain a software update so as to be able to utilize this new functionality.

As always, users who have a need for functionality that is not presently available in CEDRA software should feel free to forward these requests to CEDRA, as well as, any other comments or suggestion you may have.

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

