DIZZY TUTORIAL

TEST.ASC is a sample ASCII file. TEST.SEQ is its corresponding sequence file. The first five lines of the sequence file contain two baselines from an actual construction project. The first one is the main baseline, about 3000 feet of road. The second one is a smaller side road called Alverson Boulevard. The third baseline is not at all realistic, but it serves as an example to demonstrate some special features.

Study the printout of The sequence file. The first line is an optional note. All notes must begin with a "@" character. This note identifies the baseline and its corresponding PVI filename. The sequence line itself begins on line two. Each sequence line must begin with a period. It may occupy any number of lines and may contain as many as 200 point numbers.

If you look at the plot, you will see that the project begins with point #3 at station 4+00, but the first point in the sequence file is #182. Point #182 was coordinated 400 feet from #3. That way the default beginning station 0+00 can be used. It is not necessary to begin all baselines at 0+00, but this practice can save time and help avoid blunders.

Now look at the last baseline and its corresponding plot. Note how 201*204 is used as an abbreviation to connect points #201 through #204. #205, like all radius points is entered with a minus sign. #206 is a PRC, not a radius point, but has a minus sign because it is at the end of a curve with a delta greater than 180 degrees.

Copy the test data files into the same directory as DIZZY.EXE. Now type:

DIZZY [ENTER]

This starts the program. Answer the following prompts as indicated:

Enter COGO file name >	TEST.ASC
(Wait for reformatting)	
Input first line of sequence file >	8
Input last line of sequence file >	8
Enter PVI file name >	[ENTER]
Enter first new point nummber >	[ENTER]
(default = xxx)	
Input station of point #201 >	[ENTER]
(default = 0+00.00)	
Input horizontal offset >	[ENTER]
(default = 0)	

By entering 8 for the first line of the sequence file, you have chosen to work with the third baseline. You could have entered 6, but lines 6 and 7 are comments and would be disregarded. This baseline occupies only one line in the sequence file, so 8 was also entered as the last line. There is no profile for this example, so no PVI file was entered. The default starting point number is one past the highest point in the file. You accepted it, but you could have entered a different number. No points will be overwritten without warning. You also accepted the default starting station, 0+00, and horizontal offset, 0.

A Heading will be printed and the main menu displayed. Answer the following prompts as indicated:

Pick menu item A

Input station interval > 0

Input first station > 0

Input last station > 10000
(coordinates are printed)

Input first station > [ENTER]
(return to main menu)

By using a station interval of zero, you have ordered the program to coordinate baseline points only at the break points (ends of tangents and curves) within the specified range. A very large number was entered for the last station only to ensure that the entire baseline was covered.

Now try it again, but enter 50 for the station interval. From the main menu:

Pick menu item A

Input station interval > 50

Input first station > 0

Input last station > 10000

Input first station > [ENTER]

This time Baseline points are coordinated at even 50 foot intervals plus break points. So far all of these points are on the baseline because you entered zero for the horizontal offset. Now change the horizontal offset. From the main menu:

Pick menu item C
(parameters menu is displayed)

Pick menu item H

Input horizontal offset > -10 (10 feet left)

Pick menu item E

A new heading is printed and the main menu returns to the screen. Now coordinate the 50 foot intervals again:

Pick menu item A

Input station interval > 50

Input first station > 0

Input last station > 10000

Now look carefully at the printout. There are two points at station 4+88.33. That is because it is an angle point (point #202 on the plot). It was offset perpendicular to each of the two tangents. All angle points and broken-back curve points will be offset both ways. Points on line and points of tangency (see 10+88.33 and 16+77.37) get only one offset.

It is not necessary to offset the entire length of the baseline. Try a shorter range.

Input first station > 200

Input last station > 700

Pressing [ENTER] at the first station prompt will return you to the main menu.

If you wish to coordinate specific stations at irregular intervals, it is possible to enter stations one at a time. From the main menu:

Pick menu item O

Input station > 530

Input station > 1254.87

Pressing [ENTER] from the "Input station" prompt will return you to the main menu.

Experiment with these routines. When you finish, go to the main menu, and enter "E" (Exit). The file will be reformatted back into an ASCII file and the screen will return to the DOS prompt.

BASELINES WITH PROFILES

The first baseline in TEST.SEQ has a profile which is defined by a separate file, TESTV1.PVI. Familiarize yourself with the PVI file format described under the heading "PVI FILE." Study the printout of TEST.PVI. The entries must be separated by commas. In this example the entries are arranged in columns for readability, but that is not required.

This road was designed with a superelevation diagram defining the superelevation transitions. This data was transferred to the text file TESTV1.SUP. Note that the superelevation file must have the same name as the corresponding PVI file, but with the .SUP extension. Most streets will not have such complex superelevations, and of course utility profiles will have none at all, so the .SUP file has limited applications.

From the DOS prompt, type "DIZZY" then:

Enter COGO file name > TEST.ASC
(wait for reformatting)

Input first line of sequence file > 1

Input last line of sequence file > 3

Enter PVI file name > TESTV1

Enter first new point number > [ENTER]

Input station of point #182 > [ENTER]

Input horizontal offset > [ENTER]

Input vertical offset > [ENTER]
(heading is printed and main menu displayed)

Pick menu item A

Input station interval > 50

Input first station > 1000

Input last station > 1500

The stations are coordinated and printed. Unlike the previous example, these points have elevations. The elevations were computed directly from the PVI file which would normally be centerline finish surface. Now enter a horizontal offset and do it again. From the main menu:

Pick menu item C (change offsets)

Pick menu item H (horizontal offset)

Input horizontal offset > 20 (20 feet right)

Pick menu item E (exit to main menu)
(heading is printed and main menu displayed)

Pick menu item A

Input station interval > 50

Input first station > 1000

Input last station > 1500

The stations are coordinated and printed. Examine the elevations. They have not changed. That is because the vertical offset is still zero. All vertical offsets are relative to the baseline elevation. Even if there is a superelevation file present, it is disregarded unless you specify it in the vertical offset.

Go back to the parameters menu and change the vertical offset to -1, then coordinate the same range of stations again. Each of these new elevations is one foot below the baseline elevation. The superelevation file has still not come into play.

Now change the vertical offset again. This time enter the letter "S" at the vertical offset prompt. Leave the horizontal offset at 20. Now coordinate stations 10+00 through 15+00 again. This time the elevations differ from the baseline elevations by varying degrees. that because different stations have different superelevations. What you are looking at is the finish surface elevation 20 feet right of the baseline.

Suppose you want the elevation to be to subgrade, which is 11 inches below finish. Change the vertical offset again. This time enter "S-11/12". Note the use of a simple arithmetic expression to denote inches.

Maybe you have no superelevation file, but you have a PVI file for a road with a simple 2% crown. Enter "-2%" for the vertical offset. Do not forget the minus sign if it slopes downward from the middle.

Remote vertical offsets can be assigned by using parentheses after the superelevation. Enter "4%(12)" for the vertical offset. The offset points will be assigned the elevation of a point 12 feet from centerline at +4%, but the offset itself does not have to be 12 feet from centerline. The remote vertical offset also works with variable superelevations and with arithmetic expressions. Try using "S(-10*2)-1". You will get the elevation of a point 20 feet left of centerline and down one foot. Remember to use the
minus sign when working on the left side. The program will not assume that you are working on the same side as the horizontal offset. Whenever a superelevation is entered without a distance in parentheses, the horizontal offset distance is assumed.

Experiment with different horizontal and vertical offsets. Refer to the instructions for specific offset and file format rules.

HP-95 USERS

TDIZZY.EXE is the HP-95 version of Dizzy. To be used effectively, this program and supporting data files should be copied into the C:\TDS_DAT directory.

TDIZZY.EXE works with TDS coordinate files, not ASCII files, so no reformatting is done. Large non-sequential coordinate files are discouraged. As with the TDS software, these files slow the program execution to a frustrating pace.

There is no difference in the format of the sequence, PVI, or superelevation files. These files can be created in a PC text editor and transferred to the HP-95 using ZIP or KERMIT. They also can be created and edited in the HP-95, using the built-in MEMO program. Refer to the HP-95 users guide for instructions. The lines of the sequence files should be limited to 39 characters. That way one line will not wrap around the screen and be mistaken for two lines. Remember, it is important to keep track of the line numbers.

When creating a TDS point list, you will not be asked which method will be used for transferring it into the field computer. That would be redundant since it is already in the field computer.

A partial listing of TEST.ASC:

```
1,372750.42,1663416.33,107.72,PT "A"
2,373306.39,1663800.56,107.1,PT "B"
3,373076.507,1663651.048,-9999,4+00
4,373397.2904,1663893.1093,-9999,N35+00
5,373629.76710387,1663990.29137163,-9999,10+50
6,373881.905,1664017.016,-9999,B53+50
7,374149.9,1664367.19,-9999,B57+94.70
8,374240.85,1664534.47,-9999,B59+85.10
9,374267.45,1664564.2,-9999,B60+25
10,374118.45,1664379.13,140.51,PT "C"
11,374218.38,1664803.88,164.53,PT "I"
12,374285.15,1665088.81,179.73,PT "D"
13,374085.256,1664923.7,-9999,A69+00
14,374291.854,1665219.093,-9999,25+25
15,374257.529,1665633.584,-9999,30+00
16,374187.551,1665824.985,-9999,31+47.51
17,373283.89421762,1663794.13830578,-9999,PC6+51.96
18,373405.038,1663877.7235,-9999,PI7+99.142
19,373686.403,1664017.024,-9999,PI11+12.60
20,373397.29,1663893.109,-9999,PIN35+00
```

Sequence file TEST.SEQ:

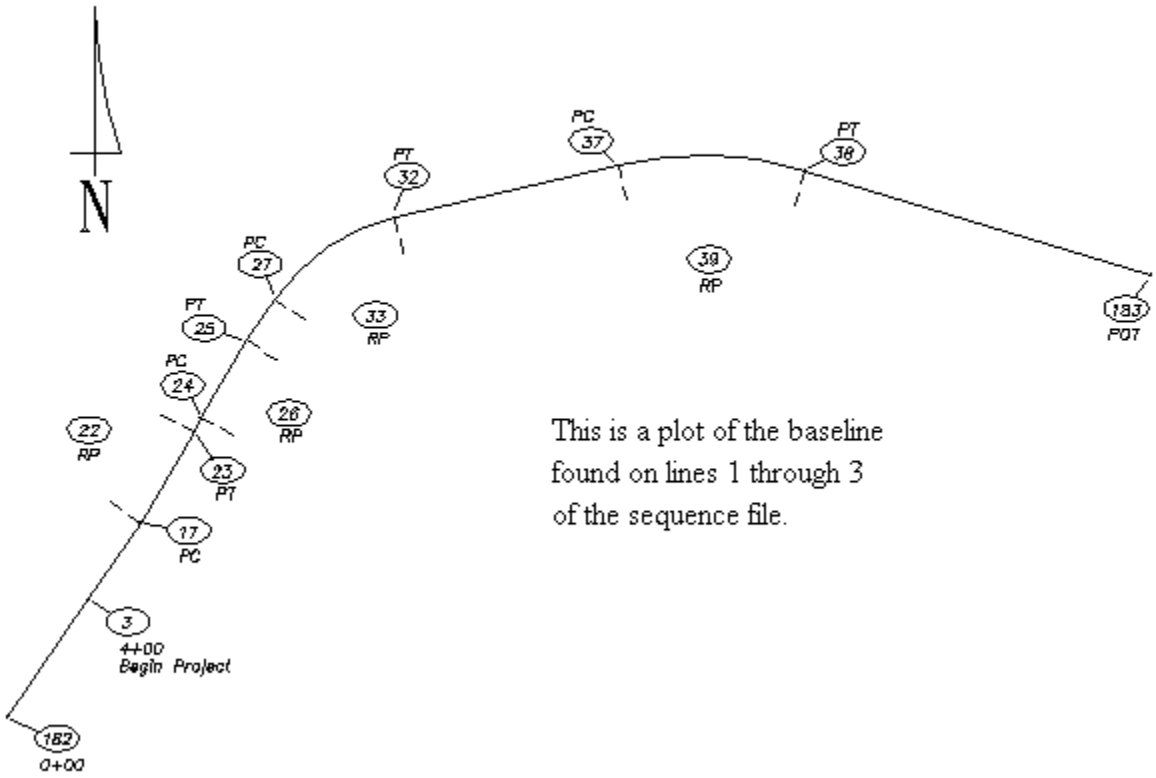
```
@ MAIN BASELINE -- PROFILE TESTV1.PVI
.182 3 17 -22 23 24 -26 25
27 -33 32 37 -39 38 183
@ ALVERSON Blvd -- PROFILE TESTV2.PVI
.200 13 -112 114 115 -113 116 14
@ THIS IS A SAMPLE TO SHOW SOME
@ OF THE SEQUENCE FILE PROTOCOLS
.201*204 -205 -206 -207 208 209
```

Profile TESTV1.PVI:

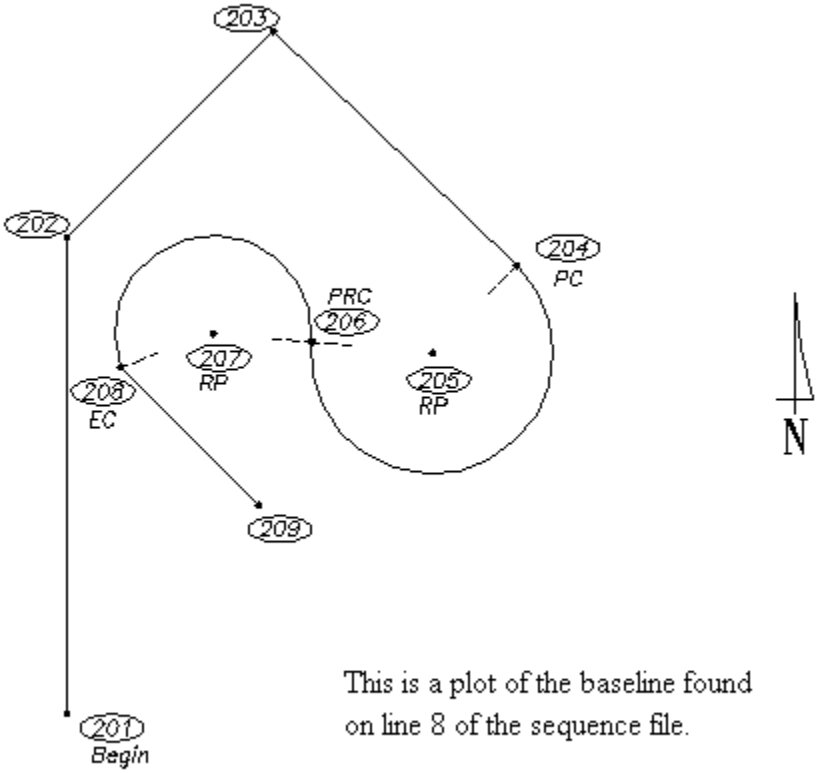
```
 400,  107.12,    0
1035,  108.14,  530
2115,  172.94,  500
2600,  184.12,  150
3000,  187.20,    0
4000,  187.20,    0
```

Superelevation file TESTV1.SUP:

```
   0.00,   -0.02000,    1
 464.96,   -0.02000,    1
 684.96,    0.02000,    1
 788.75,    0.02000,    1
 830.00,    0.01250,    1
 897.10,    0.01250,    1
1075.85,   -0.02000,    1
1264.38,   -0.02000,    1
1464.38,   -0.06000,    1
1695.70,   -0.06000,    1
1895.70,   -0.02000,    1
2326.35,   -0.02000,    1
2506.35,   -0.05500,    1
2860.24,   -0.05000,    1
3000.00,   -0.03000,    1
   0.00,   -0.02000,   -1
 559.15,   -0.02000,   -1
 585.00,   -0.01530,   -1
 695.25,   -0.01530,   -1
 709.00,   -0.01280,   -1
 895.45,   -0.01280,   -1
1075.85,    0.02000,   -1
1264.38,    0.02000,   -1
1464.38,    0.06000,   -1
1695.70,    0.06000,   -1
1895.70,    0.02000,   -1
2326.35,    0.02000,   -1
2506.35,    0.05500,   -1
2860.24,    0.05000,   -1
3000.00,    0.03000,   -1
```



This is a plot of the baseline found on lines 1 through 3 of the sequence file.



This is a plot of the baseline found on line 8 of the sequence file.