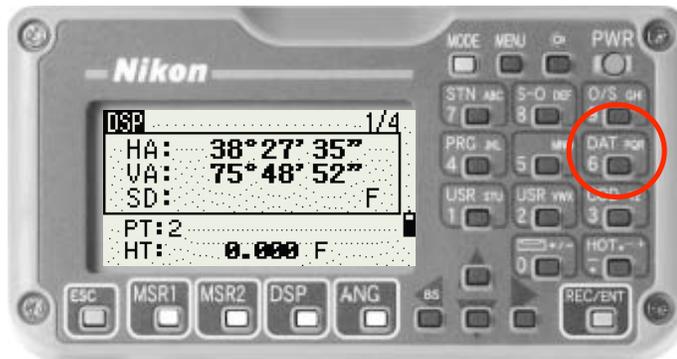


TST – Total Station Training

Session 2-1 Advanced Use of Total Station

Viewing Previously Recorded Data

The data logger portion of the total station will store more points than we will ever need to store. Previously stored data can be viewed at any time. The data such as previously recorded point coordinates can be viewed by pressing the **DAT** key



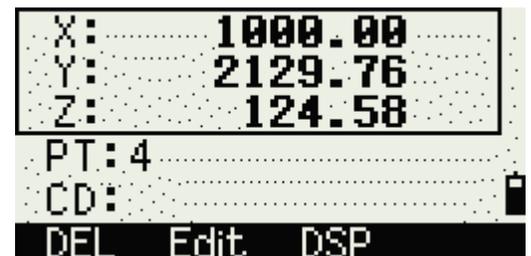
Pressing the **DAT** key brings up a list of known points from which to select the information needed.



Selecting a point and pressing **REC/ENT** will bring up that point's raw data.



If the total station has been set up in accordance with the settings guidelines discussed elsewhere in this class, then a second screen of the x, y, z coordinates can be displayed by pressing the **DSP** key which corresponds to the **DSP** soft key.

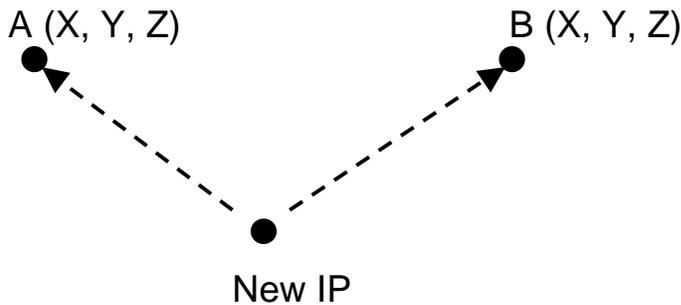


TST – Total Station Training

Moving the Instrument and Re-establishing the Coordinate System

Surveyors often call this process resection. The instrument has several options for accomplishing this process. The method below does not use the “resection” key.

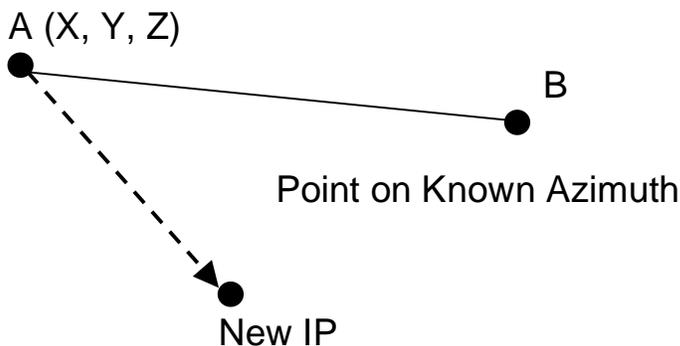
Resection accuracy is best if “the angle is not extremely acute or oblique.”



Station Setup in a Known Grid using Multiple Known Points

- at least 3 angle shots, or
- 1 angle shot and 1 distance shot

If 1 angle and 1 distance, then the distance between the points must be greater than the measured distance.



Station Setup in a Known Grid using a Known Point and Azimuth

- 1 known point and point on known azimuth

The suggested method for setting up the instrument within a known coordinate system for US&R is described in the text below.

1. Press the Station Key (STN)

Select 7 - Known Line



TST – Total Station Training

2. Input PT1

PT: Enter the point number of the starting point (P1).
HT: Enter the target height



3. Coordinates

Enter the known coordinates for the starting point (P1).



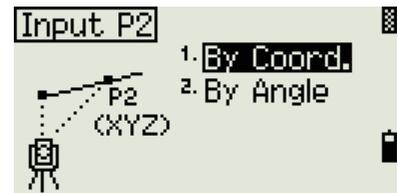
4. Sight P1

Sight the starting point (P1) and press the appropriate MSR key to measure the distance and angle to that point



5A. Input P2 Method: By Coordinate

Choose the method to locate P2, to be by coordinate.



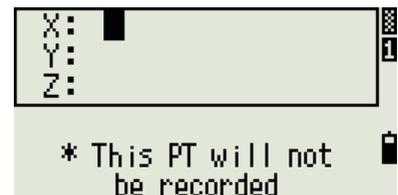
6A. P2 by Coordinates

PT: Enter the point number of the azimuth orienting point (P2).
HT: Enter the target height



7A. Coordinates

Enter the known coordinates for the azimuth orienting point (P2).



TST – Total Station Training

8A. Sight P2

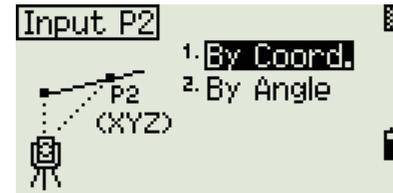
Sight the azimuth orienting point (P2) and press the appropriate MSR key to measure the distance and angle to that point



At this point, you've re-established your coordinate system and the instrument is ready to begin recording data from the new location tied to the X, Y, Z coordinate system already established.

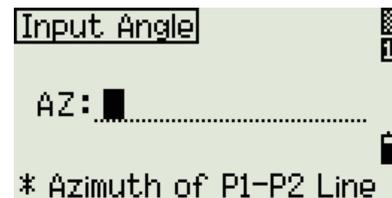
5B. Input P2 Method: By Angle

Choose the method to locate P2 to be by angle.



6B. P2 by Angle

Enter the known Azimuth angle



7B. Sight PT2

Sight the Azimuth point and press the appropriate MSR key to measure the distance and angle to that point.



At this point, you've re-established your coordinate system and the instrument is ready to begin recording data from the new location tied to the X, Y, Z coordinate system already established.