Technical Tips from   INLAND GPS

Using Nikon DTM-A-series instruments with Trimble Survey Controller

This Technical Tip provides instructions for configuring Nikon DTM-A-series instruments and Trimble Survey Controller software so they will work with each other.

Apparently Trimble did not do a very thorough job of investigating older-model surveying instruments when it added conventional-instrument support to the Survey Controller software. The Nikon DTM-A-series instruments were introduced in early 1990 and were the first models sold under Nikon's Topgun trademark. Survey Controller provides only one option under the Nikon brand and it does not work with the DTM-A-series instruments operating in their Nikon RS-232 mode.

The solution is to configure the Nikon DTM-A-series instrument so it emulates a Sokkia (formerly Lietz) SET-series instrument by following these steps:

1.   Level the instrument. Press and hold the [2nd] button while you press and release the [PWR] button. This will put the instrument in setup mode. Release the [2nd] button. Tilt the telescope to index the vertical circle and you will be in the first of several setup screens.

2.   The first setup screen establishes the communication mode. Press the [1] numerical key until the upper line of the display reads "Comm Mode: SET". Press the [ENT] key to accept this setting and move to the next setup screen.

3.   The second setup screen is for the serial-port communication rate. Confirm that this is set to "Baud Rate: 1200". Press the [ENT] key ti accept this setting, then press the [0] numerical key to end initial mode setting.

4.   The instrument should now be displaying circle reading on both lines of the display. Press and release the [2nd] button, then press and release the [7] numerical key. This puts the instrument in the mode where you can select how the EDM responds when the instrument is in the SET-emulation mode. Press either the [1] numerical key (fine mode) or the [2] numerical key (coarse mode), the top line of the display will now read either "SET EDM Mode: 1" or "SET EDM Mode: 2". Press the [0] numerical key to accept and set the chosen setting.

That takes care of the instrument.

In the Survey Controller, set the Instrument portion of the Survey Style as follows:

Manufacturer:	Sokkia
Model:	SET (Basic)
Baud rate:	1200
Parity:	None
HA VA status rate:	Never

Store these setting in the Survey Style and the two devices will be ready to work together.