

Using Node Commander[®]'s SEDT Function

G-Link[®], V-Link[®], SG-Link[®], SG-Link[®] OEM, DVRT-Link[™]

Overview

Node Commander[®] is MicroStrain's software for G-Link[®], V-Link[®], SG-Link[®], SG-Link[®] OEM and DVRT-Link[™]. Node Commander[®] contains a Sensor Event Driven Trigger (SEDT) function that allows the user to set a ceiling or floor sensor threshold that will automatically trigger a datalogging session. This technical note describes the step-by-step procedure for using SEDT with a G-Link[®]; the procedure is nearly identical for the other node types. The note assumes that the user has some familiarity with Node Commander[®] version 2.x and G-Link[®].



Step-by-Step

- Place the G-Link[®] flat on your desktop with the label up.
- Launch Node Commander[®] and establish communication with the G-Link[®] as normal.
- Right-click the Node (in our example we are using Node 727) and a drop-down menu will appear.
- Click Sample.
- Click Datalogging.
- Click Erase as shown in *Figure 1*.

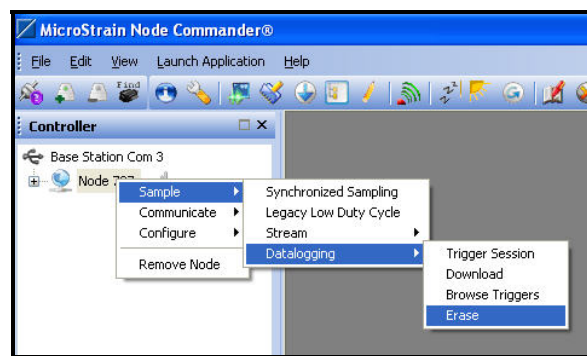


Figure 1 – Drop-down menu

- The Confirm Erase message box will appear. Click Yes and the message box will disappear.
- A progress bar will appear, indicate erasure and disappear when complete.
- Right-click the Node and a drop-down menu will appear.
- Click Communicate.
- Click Load Node Information.

- The ‘tree’ underneath the node will populate as shown in *Figure 2*. Note that the Num Triggers is 0 (zero). This indicates that erasure was successful and that no datalogging sessions exist on the G-Link®.

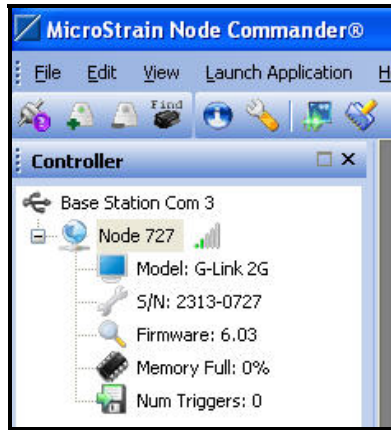


Figure 2 – Load Node Information

- Right-click the Node and a drop-down menu will appear.
- Click Configure.
- Click Configure Node and the Configuration window will appear.
- Click the Channels tab.
- Ensure that Channels 1, 2 and 3 are enabled and that the Physical Units Conversion is Acceleration in Gs as shown in *Figure 3*. If not, reconfigure the G-Link® to this state.

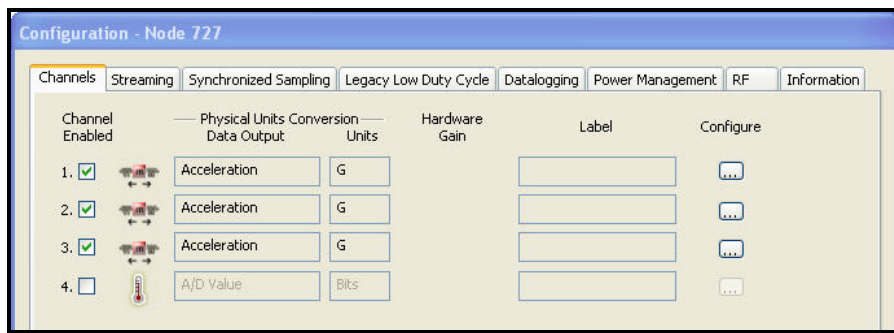


Figure 3 – Channels tab

- Click Apply.
- Click the Datalogging tab and the tab will appear as shown in *Figure 4*.
- For our demonstration:
 - set the Sample Rate to 512 Hz,
 - un-check Continuous Datalogging,
 - set the Sweeps to 3000 (5.86 seconds).
- This configuration sets a datalogging session where channels 1, 2 and 3 will each be sampled at 512 Hz for a period of 5.86 seconds.
- Check Enable Sensor Event Driven Trigger.
- A Warning message box appears. Read the message carefully and refer to the [SUMO](#) instruction below. Click Yes and the message box will disappear.

- For our demonstration:
 - set the Type to Ceiling Trigger,
 - set the Channel to 1,
 - set the Threshold to 0.5 G.
- Click Apply.
- This configuration will cause the G-Link[®] to automatically begin a datalogging session when Channel 1 (the X axis accelerometer) senses an acceleration of +0.5G.

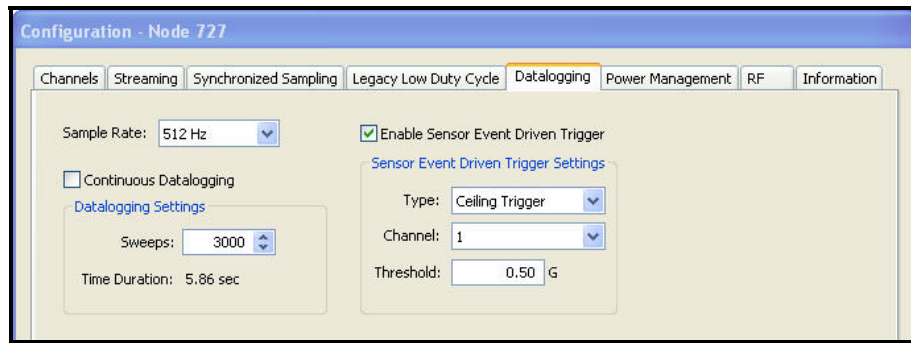


Figure 4 – Datalogging tab

- Click OK and the Configuration window will disappear.
- Without touching your G-Link[®], observe the Activity LED. It will be coming on and going off, coming on and going off about every second. This indicates it is in IDLE state and is awaiting instructions.
- Gently pick up the G-Link[®] in your hand while still observing that the G-Link[®] is in IDLE state.
- Now, quickly snap the G-Link[®] with a hand motion (just once), imparting an instant acceleration to it.
- Again observe the Activity LED and you will see that it has changed to continuous illumination indicating the accelerometer sensed a +0.5G acceleration and caused the G-Link[®] to start a datalogging session.
- After 5.86 seconds, the Activity LED will return to IDLE state indicating that the datalogging session has ended.
- Gently put the G-Link[®] down on your desktop.
- Right-click the Node and a drop-down menu will appear.
- Click Communicate.
- Click Load Node Information. You will note that we now have Num Triggers: 1, i.e., one datalogging session stored.
- Gently pick up the G-Link[®] in your hand again, snap it, and observe as before.
- Click Load Node Information. You will note that we now have Num Triggers: 2, i.e., two datalogging sessions stored.
- **You have successfully operated the G-Link[®] using SEDT!**
- Let's now disarm the SEDT.
- Right-click the Node and a drop-down menu will appear.
- Click Configure.
- Click Configure Node and the Configuration window will appear.
- Click the Datalogging tab.

- Un-check Enable Sensor Event Driven Trigger.
- Click Apply.
- Click OK and the Configuration window will disappear.
- Snap the G-Link[®] repeatedly, observe the Activity LED and note that the SEDT has been disabled.

SUMO

MicroStrain's G-Link[®], V-Link[®], SG-Link[®], SG-Link[®] OEM and DVRT-Link[™] nodes have a special function referred to as SUMO or Start Up Mode Override. SUMO provides the user with a manual method to exit special startup modes. SUMO can be triggered by turning the node off and on, and off and on, in rapid succession similar to a double-click.

This will place the node in a safe startup mode and prevent automatic execution of the following:

- all optional boot modes enabled via EEPROM location 18 or,
- over-aggressive sensor event driven triggers (SEDT).

In the case of SEDT, once the node is back in IDLE state, navigate to the Datalogging tab of the Configuration window and un-check the Enable Sensor Event Driven Trigger. At this point, readjust the ceiling or floor trigger to a level that does not immediately trigger datalogging.

Support

MicroStrain support engineers are always available to expand on this subject and support you in any way we can.