PosiTector Advanced (serial numbers 784000 and greater) and PosiTest AT-A instruments (with a color display) allow live streaming of measurement values to a USB connected computer.

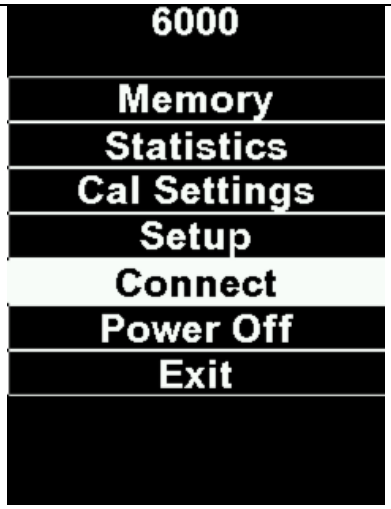
Using 3rd party data collection or SPC software, the PosiTector measurements can be captured as they are taken. This installation guide provides step-by-step directions for establishing communication between the PosiTector Advanced and a USB connected computer.

The included example uses Windows HyperTerminal *(not included in Windows 7 and newer)* for data collection. Any serial compatible SPC software can be configured to accept the PosiTector data stream. Proficient (by InfinityQS) and WinSPC (by DataNet systems) are two popular options.

**Step 1:** Download and extract the gserial driver (required for **Step 4**).

http://www.defelsko.com/usb/gserial.zip

**Step 2:** Setup the **PosiTector** to stream measurement data




a) Select **Connect**


b) Select **USB**


c) Ensure **USB Drive** is unchecked

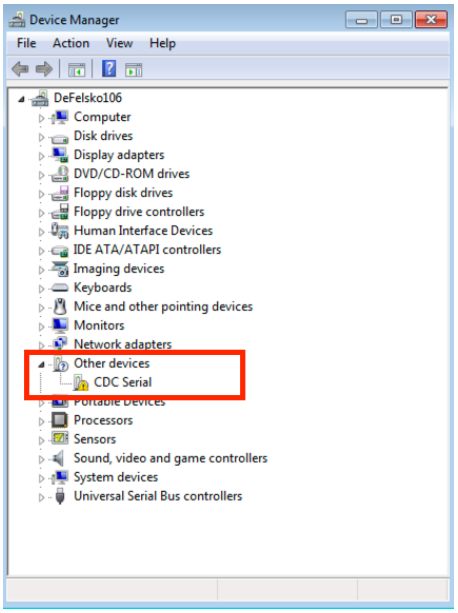

d) Select **Stream**

**NOTE:** If Stream is missing from the menu, update your gage.
See: www.defelsko.com/update/

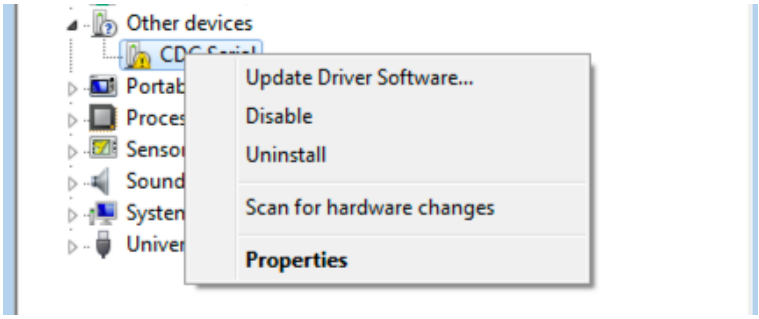
**Step 3:** Connect the PosiTector to the computer using the supplied USB cable.

**Step 4:** Select **Device Manager** from within the Windows **Control Panel**

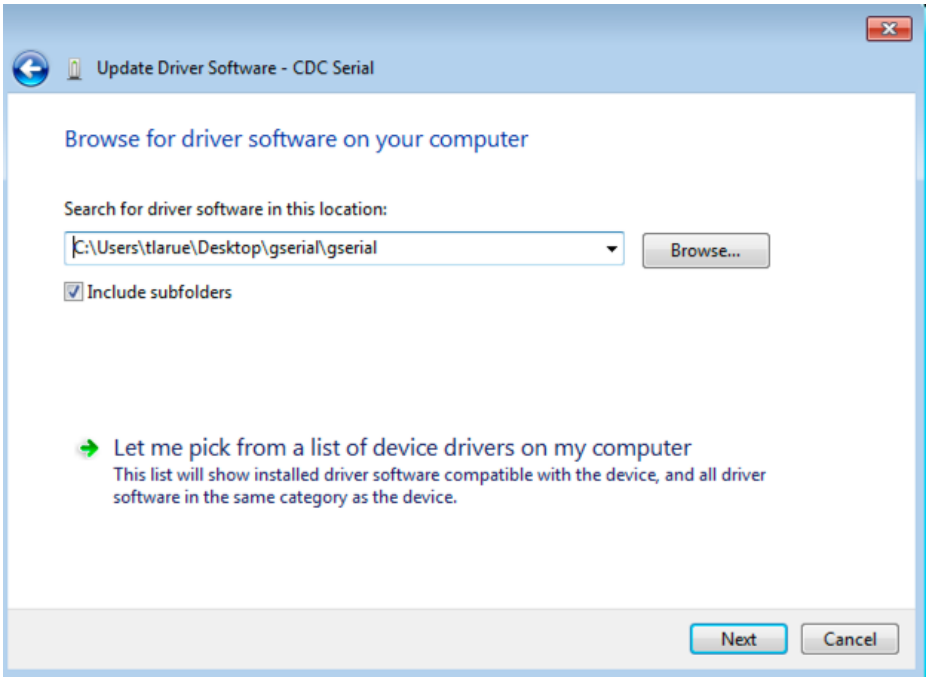
**CDC Serial** should be listed under **Other Devices.** *If not, ensure the gage is powered-on and connected to the computer.*



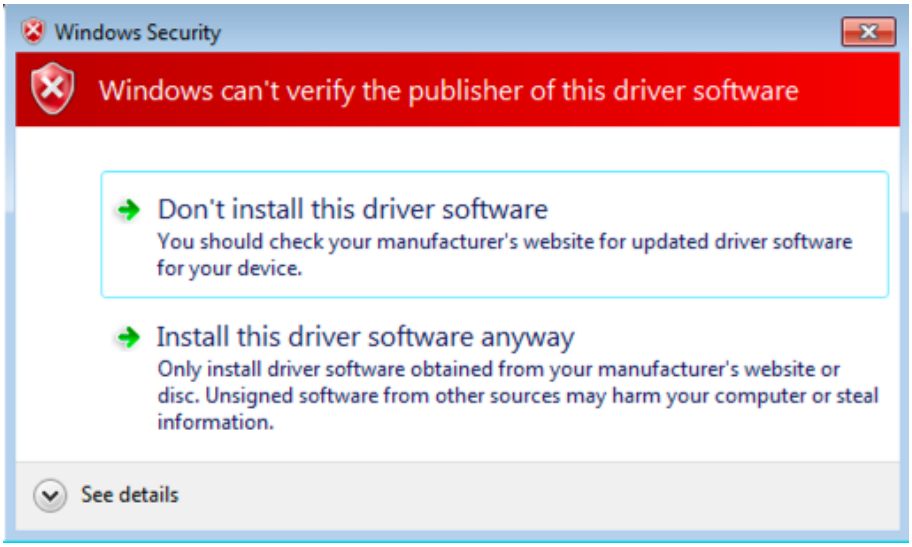
Right click **CDC Serial** and select **Update Driver Software**



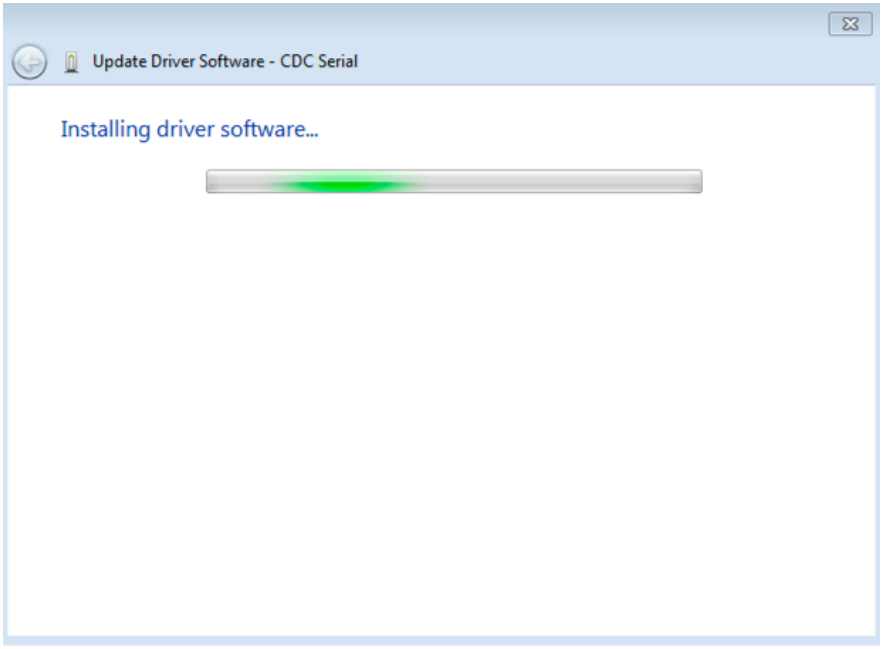

Select the **Browse** button and navigate to the **gserial** driver downloaded in **Step 1**. Select it.



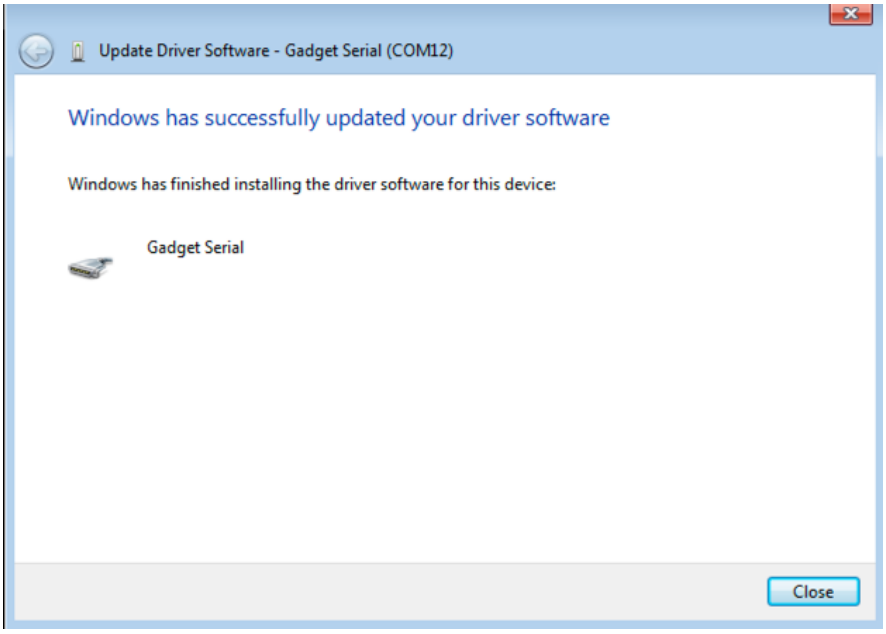
A Windows security error may display. Select **Install this driver software anyway** to continue.




**Installing driver software…** status bar will display



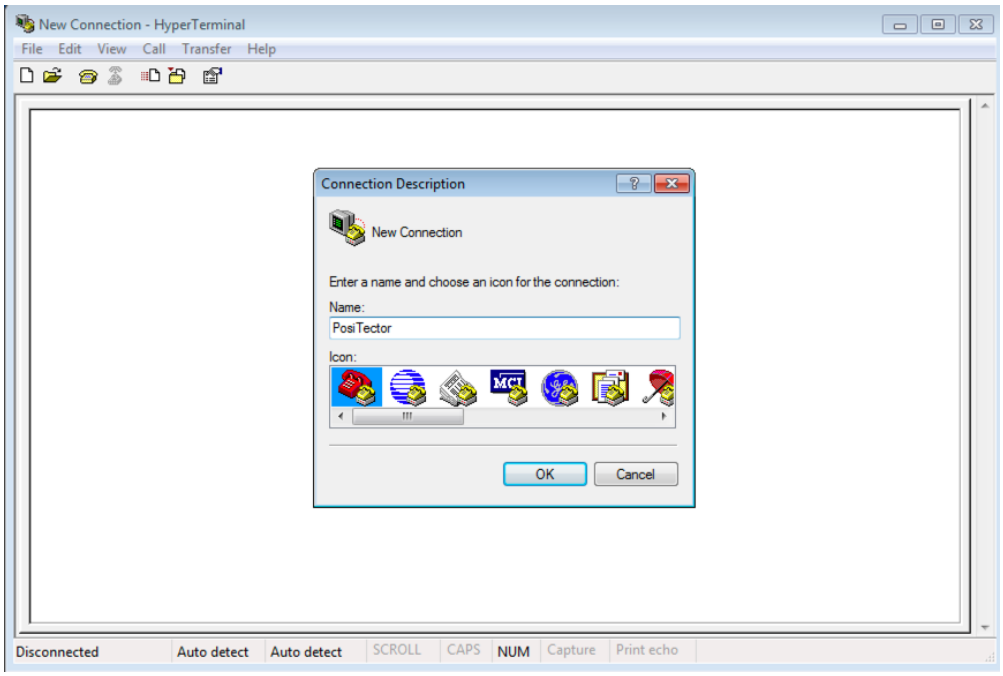
When complete, the following dialog box will display indicating successful installation of the Gadget Serial driver




The **Gadget Serial** will now be listed within the **Ports (COM & LPT)** in Windows **Control Panel**

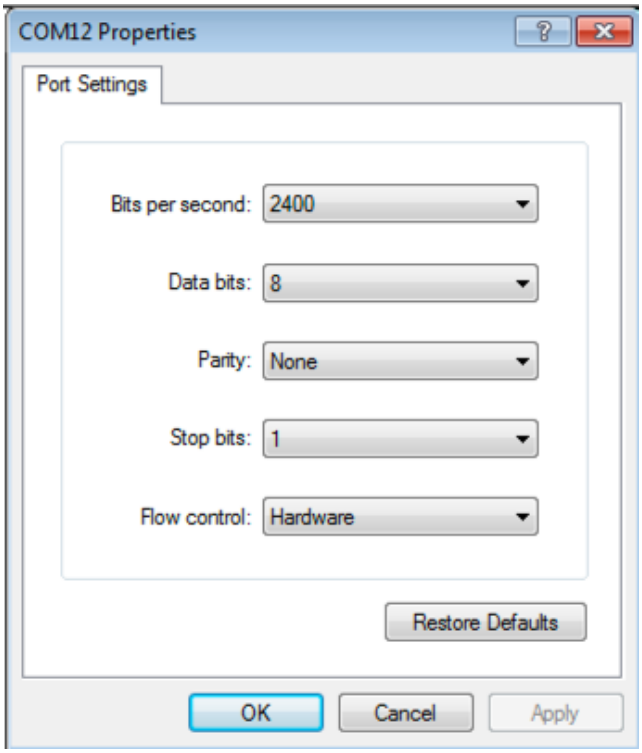
# Example Data Collection using Windows HyperTerminal

1) Open HyperTerminal (if available).
2) Enter a connection name (such as PosiTector) and click **Ok**.

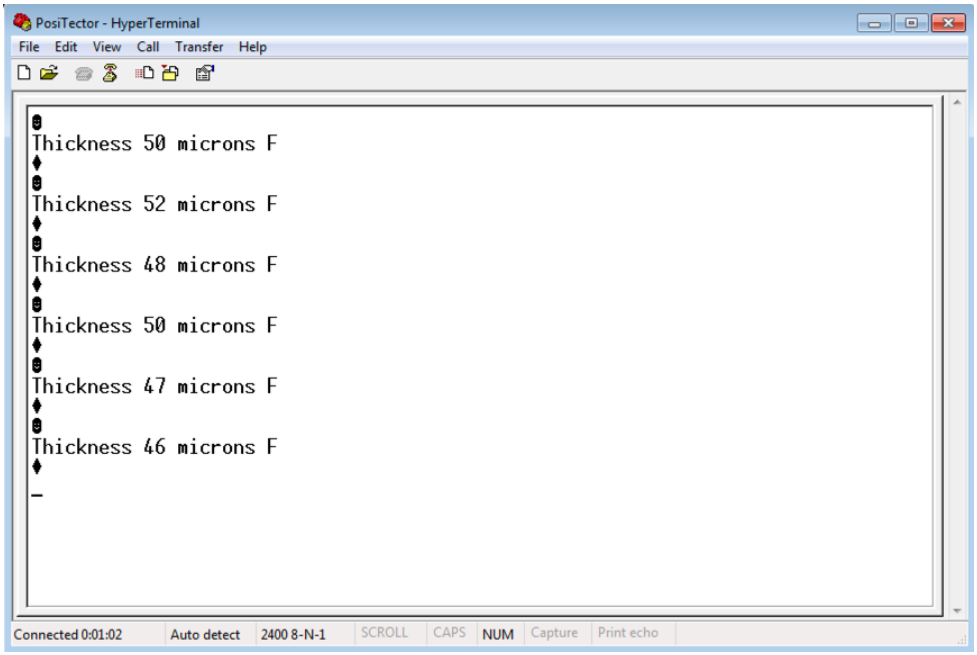



Select the COM port assigned by the Gadget Serial during the installation process. In this example, the Gadget Serial device was assigned COM12).

Use the default Port settings as shown below and click **OK**.




Successful measurements, as they are taken, should now display within the HyperTerminal window.



## Data Stream Format

For the purposes of this document, the following conventions are used:

STX = ascii STX character (0x02)
EOT = ascii EOT character (0x04)
CR = ascii carriage return character (0x0a)

Each reading is output using the following layout:

STX CR
READING
EOT CR

A READING may consist of multiple values, for example a PosiTector DPM with 5 or 6 values. A READING is output using the following layout:

VALUE1 CR
VALUE2 CR
...
VALUEN CR

Each VALUE# consists of 3 or 4 fields. The fields are:

LABEL VALUE UNIT MATL

PosiTector 6000 Example: Thickness 50 microns F

**LABEL** describes the data type being displayed. LABEL will display one of the following values:

Thickness - Thickness measurement. *PosiTector 6000, UTG, 200*
Roughness - Roughness measurement. *PosiTector SPG, RTR*

N - Non Ferrous thickness. *PosiTector 6000 FNDS Duplex probe*
Zn - Zinc layer thickness. *PosiTector 6000 FNDS Duplex probe*

*PosiTector 200*

Layer_1 - Layer 1 thickness
Layer_2 - Layer 2 thickness
Layer_3 - Layer 3 thickness

*PosiTector DPM*

Ta - Air temperature
Ts - Surface temperature
Td - Dew Point temperature
Ts-Td - Delta temperature
Tw - Wet bulb temperature
RH - Relative humidity

*PosiTector RTR*

H/HL - Height / Linearized Height
Pd - Peak Density

*PosiTest ATA*

Pressure - Pressure
Duration - Duration
In Hold - Number of seconds into hold time when pull ended
Status - Pull status VALUE contains status of the pull
    0 = No Pull occurred
    1 = Pull occurred
    2 = Pull cancelled
Limit - Maximum pressure
Hold_Time - Number of seconds to hold Limit
Dolly_Size - Dolly size in mm
Rate - - Rate to increase pressure
P/F - - Pass / Fail status VALUE:
    0 = Fail
    1 = Pass

*PosiTector SHD*

HD - ShoreD hardness
HA - ShoreA hardness
t - Duration in seconds

*PosiTector SST*

Conductivity1 - Referenced conductivity
Conductivity2 - Sample conductivity
Temperature1 - Reference temperature
Temperature2 - Sample temperature
Duration - Duration
Volume - Sample Volume
Surface Density - Surface Density

**VALUE** contains the numeric value corresponding to value being measured. This is either a float with period separator, or integer value as appropriate.

**UNIT** contains a string describing the unit of measure for the value being measured. UNIT will contain one of the following values:

*PosiTector 6000, UTG, 200*, *SPG, RTR*

mils - thousands of an inch, or mils
um - micron
mm - millimeter
inch

*PosiTector DPM, SST*

C - Degrees C
F - Degrees F

*PosiTest ATA*

psi – pounds per square inch
MPa – megapascal
N/mm^2 - Newtons per millimeter squared
N - Newton
s - seconds
psi/s
MPa/s
N/mms
N/s

*PosiTector SHD*

Shore_D - Shore D hardness
Shore_A - Shore A hardness

*PosiTector SST*

uS/cm
mS/m
mg/m^2 - milligram per m squared.
ug/cm^2 - microgram per cm squared.
ml

**MATL** is optional. It may be blank. In cases where non blank, it will consist of one of the following values

*PosiTector 6000*

N - Non ferrous substrate.
F - Ferrous substrate

*PosiTector RTR*

C - Coarse tape grade
XC - Extra Coarse tape grade