Using the USB cable GEV 189

1. Unlike the old serial Dsub9 com port the Universal Serial Bus port allocation procedure for serial devices is horrible. If you have time to spare and are happy to fiddle with your computers system settings then go ahead. If not leave this well alone: installing this cable can be anything but simple and you will need to use the Windows Hardware Device manager; if you don't have access to this forget it.

2. Like most USB serial devices the cable will need drivers installed for each USB port you intend to use it on: you cannot assume because you have installed the drivers once they will work on the next port you use. Make sure you have the drivers CD supplied in a drive on your system *before* you plug the cable in for the first time. Windows will run the *new hardware found* response when the cable is plugged in. You will need to restart the system after installing the drivers.

3. TheoLt only has port allocations from Com 1 to 8 do not attempt to install the cable unless you are confident you can assign a port address in this range.

4. Unsafe Make and break connection. A feature of USB serial cables is the poor stability on reconnection. If you pull the USB connector out of the computer it's all over for your TheoLt session. If you replace the cable in the same USB port TheoLt will find it on re-start, if you plug it back into the wrong port you will need to go to the TheoLt settings and find the new comport number. If you don't know the comport number then the only way to find it is via the Hardware Device Manager.

5. Safe make and break: if you need to break the connection (to move the instrument etc.) it is essential to unplug at the Lemo end not the USB end: the Lemo connector can be plugged in and out of its port happily: the USB cannot!

Lemo

The Lemo can be yanked in and out of the instrument, as can the old Dsub9 connector: the USB must never be disconnected unless the comms session is over.

Dsub9

USB

Reassigning the port number on the PC
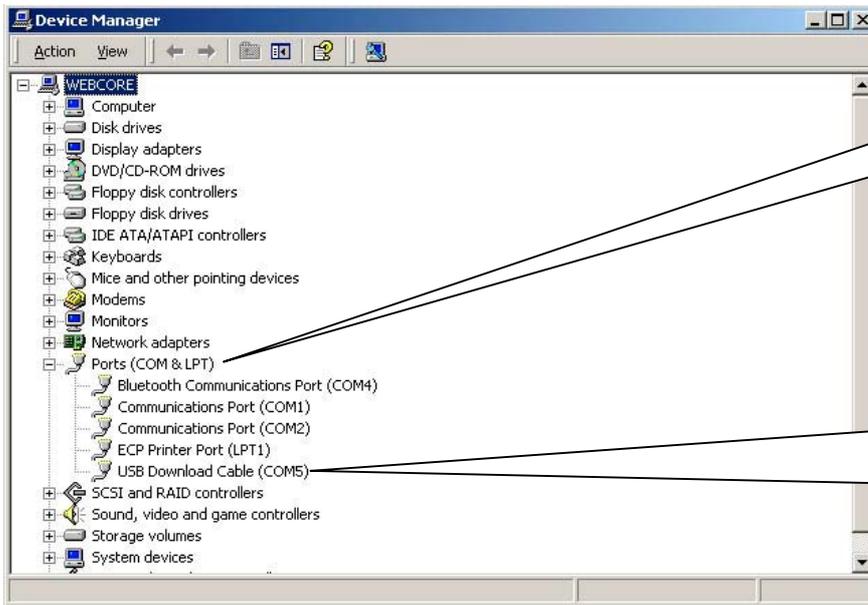
Right click on the USB download cable in Hardware Device Manager

If you have a large number of unused ports (usually failed Blue tooth port assignments) you can uninstall them in the device manager.
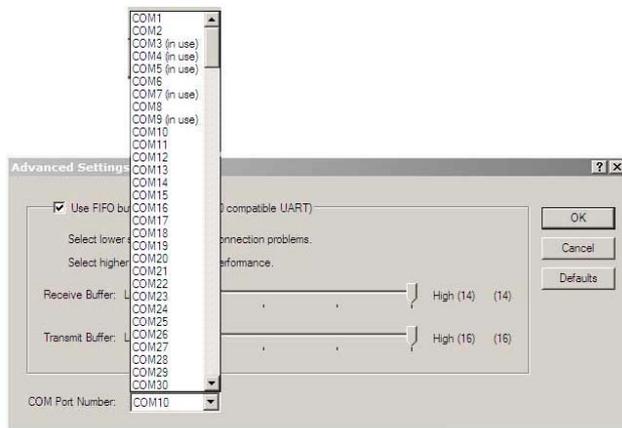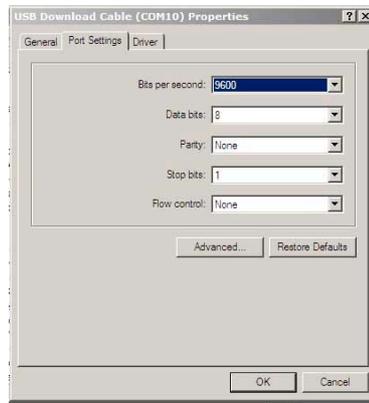
Select the *Port Settings* tab and then the *advanced* option:
Select a port that is not in use.
The new port assignment port may not be listed in the Device Manager until it is refreshed.

Setting up the 1200 for TheoLt
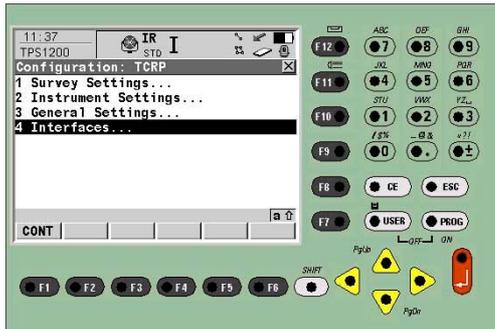
Note 1: Motor control functions are licence protected: the TheoLt motor functions will rquire a Leica licence key to be present on the instrument: if the key is not present only the joystick and fire functions will be available.

Note 2: There are 2 coms options on the 1200: the wireless Bluetooth and the Lemo cable: the cable port is identified as port 1 and Bluetooth as BT3.

We will set up the 1200 to use the port 1 and then, when we are familiar with the interface selection procedure, look at Bluetooth

Power up the instrument and go to Config, then 4 Interfaces.
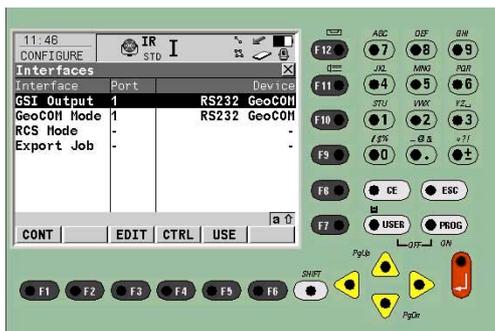
The desired out come is to have 2 RS232 GeoCOM devices using port 1, one set to GSI output and the other set to GeoCOM mode.

It is possible to have 2 devices set to use different ports: this should be avoided.

Note that the protocol for GSI out put is set to 'none'
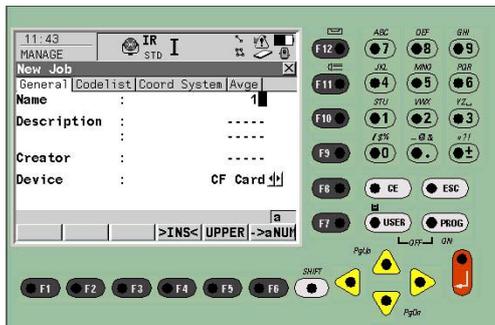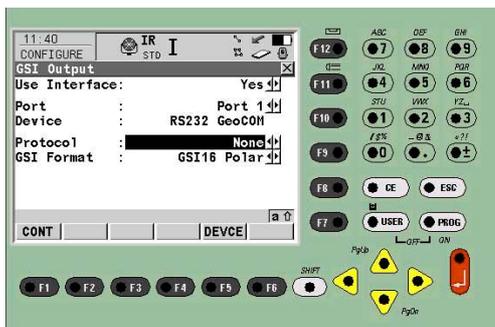
Return to the main menu and select Survey, and set up a new job: the only way an *all* key is available is if a job is written to the CF card.

Make sure the card is present and a job is ready for the echo of the RS3232 data.

Select the new name with the enter key and Save the job with the *store* key. Cont will return to the measure screen
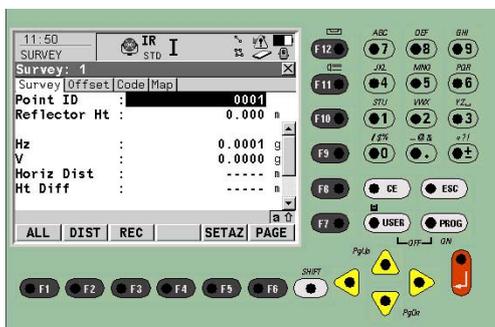
At the first measure screen select cont to get to the *all* key on Survey screen 1

Bluetooth connection: Instrument
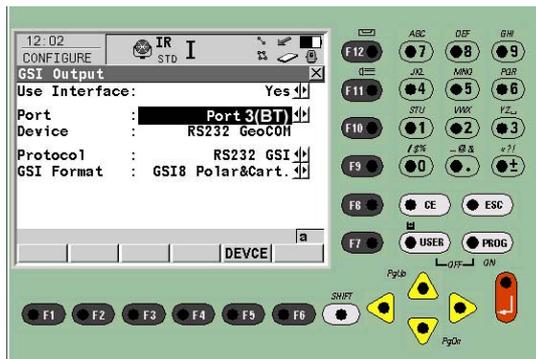
Go to the interface settings ,select the GSI out put and select Port 3 (BT) option
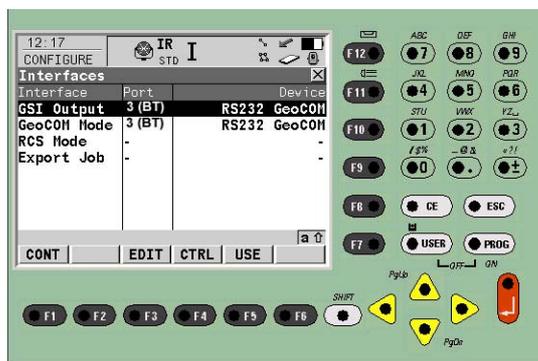
Now return to the interfaces screen and select CTRL for the 2 interfaces (GSI Output and GeoCOM mode) we will use.

You may get a 'device is being used by another interface message…' on the instrument when you try to select the Port3 (BT). If this is the case you can make a custom device to copy the GSI Output and GeoCOM settings for port 1 and assign them to port3
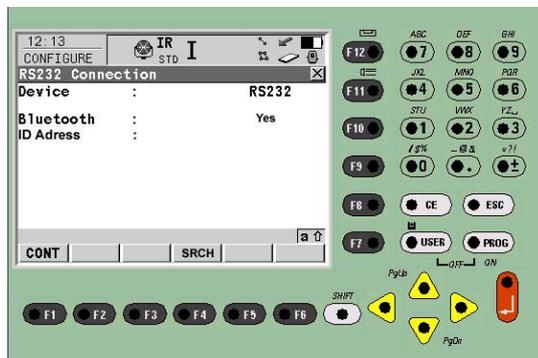
Make sure your PC has Bluetooth up and the connection paired (see 'Bluetooth Connection: PC')

The CTRL option takes you to the configure screen where *SRCH* will allow you to search for the PC you want to connect to so that the ID address can be found.

Once you have the ID address on the screen select *CONT* to return through the interface menus to Survey.

Bluetooth connection: PC

1. The Bluetooth connection on the PC will require you to have access to the *My Bluetooth places* browser. If you do not have access to this detection of the assigned com port for Bluetooth can be difficult.

2. It is possible to run the Bluetooth options from the system tray icon.
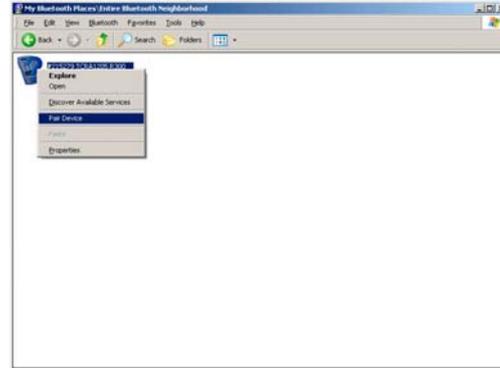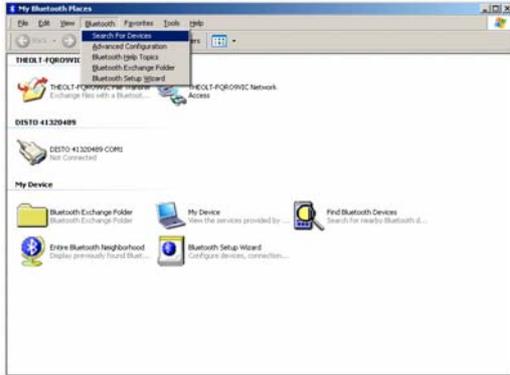
3.Open My Bluetooth places and use the *search for devices,* when the TCRA is found right click on its icon.

4.Select Pair device form the pull down list.
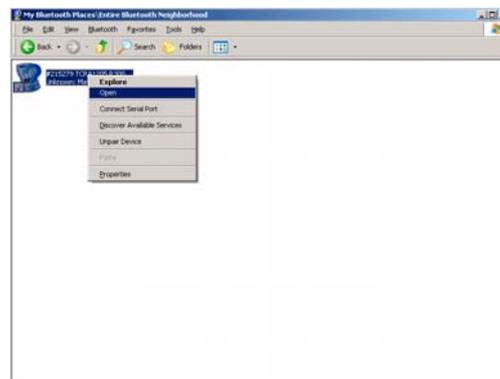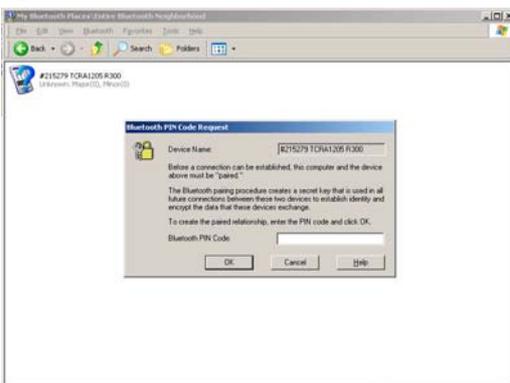
5.Enter the pin : it is 0000 (four zeros)

6.Open the device
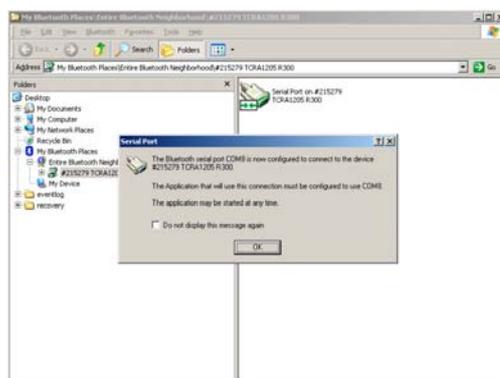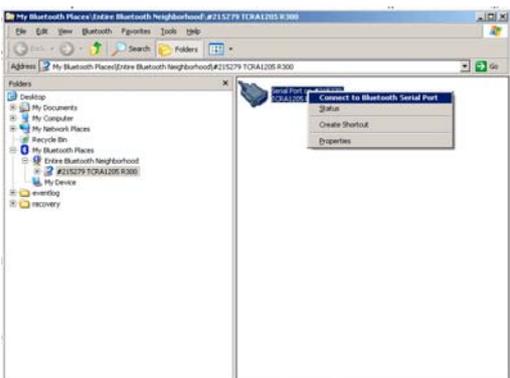
7.Select connect

8.Accept the message and note the assigned com port for the device. Note that the icon confirms the connection as well as the green blue tooth icon in the system tray

9. Once the connection is made you will need to get the 1200 to find the ID Address for the PC by using the Config,Interfaces /CTRL option. TheoLt will need to be set to use the com address shown as a property of the Bluetooth device : serial port. ThepoLt will not work until the ID Address has been established on the 1200 even though the port is shown to be connected in the Bluetooth dialog.