

Fault-finding LaserMaze

This checklist will help you solve any communications breakdown in your **LaserMaze** system. For the vast majority of users, their **LaserMaze** is plugged in and operated without event. If a problem is found, it is usually with systems where customers have supplied their own PCs and the multiplicity of parts in the system can at first be a bit daunting. Hopefully the information below will enable you to get your system running quickly and painlessly.

Note: From February 2010, **Labyrinth** was renamed **PinPoint**. For the purposes of this document, the two names are inter-changeable, except where revisions to **Pinpoint** are referred to – these will not be available on **Labyrinth**.

Introduction

The communications system is quite simple, but everything must be in place correctly in order for the system to work.

- If **LaserVenture** did not supply the **PC** and the **PC** you intend to use does not have a serial card, then you must have fitted a serial card and installed the driver(s). (Incidental note: If you go to purchase a serial card and are informed by a young shop assistant that 'serial cards are obsolete', put them right by suggesting that they Google 'serial cards'! Serial cards are still, and will remain, the communication device of choice for many specialist products Then shop elsewhere)
- **Labyrinth** *must* be running and the comms port must be set to the correct value in the **Comms** box on the **Hardware** tab
- The 9 pin 'D' lead between the **Interface** and the **PC** must be connected to the correct comms port connector on the back of the **PC**. If the **PC** has only one comms port this is of course not an issue
- The Laser, Receiver (Sensor) and Switch modules, plus any Auxiliary modules, must be daisy-chained together with the supplied Cat5 cables and both ends of the daisy-chain must terminate at the Interface. The Interface should be as near to the modules as possible as the Cat5 cables have to carry power to the modules and long runs of cable can cause voltage loss. (*In normal use this is not an important factor*)
- The interface must be powered up using the low voltage supply provided and the power LED on the front of the Interface should be lit

Notes

- Although you may wish to have laser and receiver modules situated in the order of their IDs, for ease of locating them when setting up, this is not a system requirement – *any* module can be placed *anywhere* in the daisy-chain. Equally, you do not have to have laser modules one side and receiver modules on the other. There is absolutely no requirement for any sort of order. That includes switches and auxiliary modules

- When a laser module is not active there will still be a low-level glow from the laser. This is quite normal and should not be interpreted as a fault.
- We do not recommend that the 'D' lead be longer than 10 metres (33 feet)

What happens when you power up

- When the Interface powers up, the LED at the back of each module will blink one or twice as the processor initialises and checks its ID. Receiver module LEDs will flash once, laser modules two or three times
- If there is a valid data signal being received from the PC, via the Interface, then the modules' LEDs will then start to flash very fast. This indicates that data is being received and acted upon.
- You may see the message '**No response on Lasers....**' This will be because no data is being received from some or all of the sensors. That could be because (a) the comms port is incorrectly set up, (b) **Labyrinth** has not been started or (c) simply because the laser beams have yet to be aligned with the sensors.

After Power-Up

Once the modules are all receiving data, as witnessed by the fast flashing LED on their rear panels, you can click the **Align** button on the **Set Up** tab. This will allow you to turn lasers on without the system's safety features turning the beams off right away. Do not look into the laser beams. You can then line up the lasers and associate them as per the instructions PDF.

What to do if there is no response from the system

If you supplied your own PC, then the first steps of this checklist should not apply. However if there is any possibility that settings may have been inadvertently changed, it would be wise to check anyway.

- If you get a message before the main Labyrinth screen shows, saying '**There is no Comms Port**'. This means that **Labyrinth** has found no comms ports at all on the PC. An exclamation mark will appear in the **Comms** box on the **Hardware** tab. Check that you have fitted a serial card. If you have, then (a) perhaps it is not seated properly, (b) perhaps you did not install the driver(s). Until this is done, no comms port options will appear in the **Comms** box on the **Hardware** tab
- If you have fitted a dual serial port (many cards are dual) you may have selected the wrong comms port on the **Hardware** tab. Changing the port number or swapping the 'D' lead at the back of the PC may cure the problem
- If the Comms port setting appears correct, check that the 'D' lead is plugged into the **Interface** and that the **Interface** is powered up

- If the LEDs on the backs of the modules flash one or twice and then no more, this indicates that there is power going to the modules but no data stream – double-check the comms setting and 'D' lead. If need be, change the serial card
- If the LEDs on the backs of the modules do not flash at all, but the Interface LED is lit, then power the Interface down, unplug the Cat5 cables, open the cover and check the fuse FS2 at the left of the unit. Do not twist the fuse if removing it - this may cause later intermittency, compounding any problems. If the fuse has failed, then disconnect all the Cat5 cables and reconnect one at a time, starting from the Interface. This will allow a cable short to be identified. **Note** – there has never been a cable short with the cables we supply, so we consider the likelihood of a short to be so low as to be negligible
- Check that **Suspend Tx** has not been inadvertently checked on the Hardware Tab. Versions of **Pinpoint** from V1.01 upwards allow you to lock all the tabs except the Miscellaneous Tab, which need to be open for the system to be locked and unlocked.

Important

- **Only** when the system is fully connected, powered up, with the correct comms port setting and the LEDs on the backs of the modules flashing fast, indicating that data is being received, is there any point in trying to switch into **Align** mode and switch the lasers on
- If at any time a faulty laser or sensor is discovered, then that channel can be disabled by clicking the associated sensor panel at the left of the **Labyrinth** main screen.

Finally

- If you have a problem, change only one thing at a time. For instance, do not change the com port # *and* move the 'D' lead in one step of your checking
- If the problem persists, start from scratch, do not assume anything and write down what you have done, as you do it
- If the problem remains, then email us at sales@laserverture.co.uk, attaching your notes. Thank you.