Technical Note 23

Summary of measure in case of USB communication problems

In some rare cases it is possible that the USB communication between a JETI device and the PC fails. This can have several reasons which are often connected with the power supply of the device.
JETI devices are designed that they can be powered via USB rather than to use an additional power supply. An USB port can supply maximum 500 mA at a voltage of 5 V. The real voltage and the limit of the current might be lower.
The following issues have to be checked in case of USB connection problems:

1 USB driver

JETI devices are based on USB communication via the FTDI driver solution. It is necessary to use the actual driver to avoid known communication problems. The driver version will be found here:
Device manager/ Ports/ USB Sertial Port [actual port number]/ USB Serial Port Properties/ Driver Version.
The actual driver can be downloaded at:

JETI Homepage/Support/Software and Drivers/Drivers and Firmware
or
FTDI Chip Drivers

2 Hardware

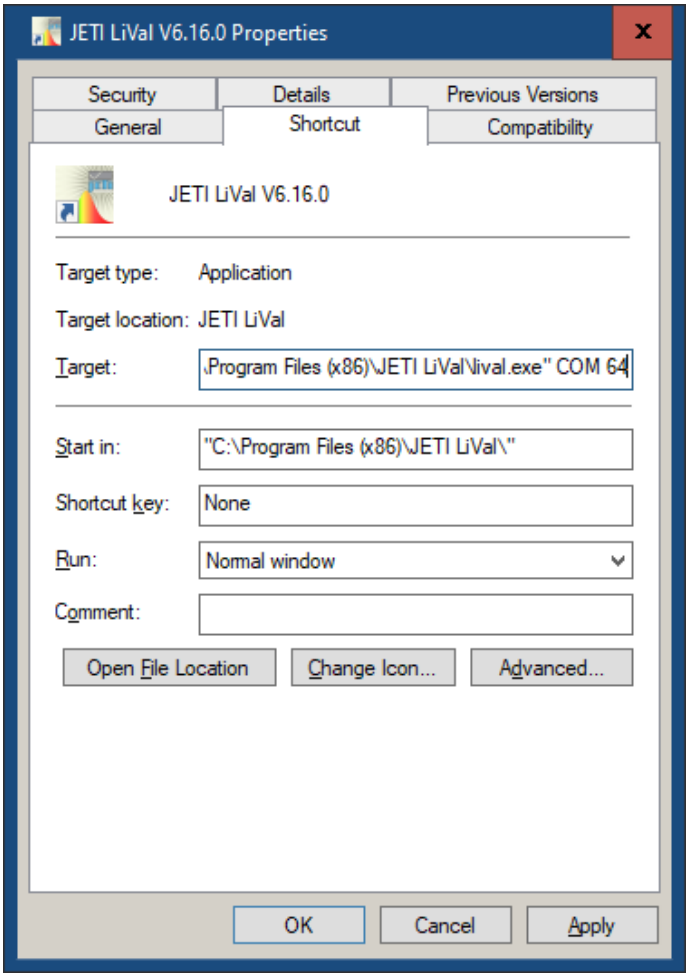
2.1 USB cable/ connector

Please do use only the supplied or another high quality USB cable. Bad cable quality or damaged contacts can cause the problem. Do not use USB extension cables. Use only up to 3 m long cable although 5 m are stated in the USB standard.
Do not use a USB extension cable because the additional connection can cause additional loss preventing a safe communication.
If a device and the cable are intensively used or the plugging is often done improper, then the USB connector of the cable and its counterpart at the device can be damaged preventing the communication too. Change the cable or return the instrument for replacement of the connector.

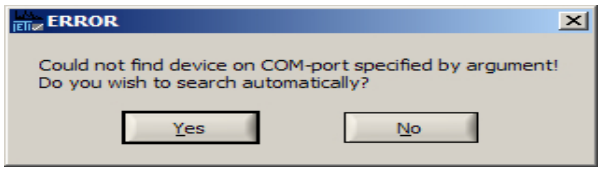
2.2 USB port at PC

Change the USB port and try another one.
Do not use the USB port on the front side of the PC. It may be internally connected with a cable not matching the USB standard.
Sometimes the automatic search of the COM port after starting the software fails (especially if there are other COM ports (Bluetooth serial ports, USB virtual com ports,…) installed on the PC. Use the direct specification of the COM port in such cases:
The software JETI LiVal accepts an argument at starting time which defines the COM port to use. If no argument is given (standard) the automatic will be used. Otherwise pass COM and a value from 1 to 256 for the corresponding ports COM1 to COM256.

To do this, edit the program's shortcut as follows: right-click the software icon on the desktop and select 'Properties'. The following dialog appears:



Type the number of the COM port to be used after the filename of the executable in the 'Target' box (COM 4 for COM4 in this example). Use a space sign between the filename, the tag COM and the port number.
If no device can be found on the specified port the software asks to perform an automatic scan.



2.3 Power supply via hub

If you use a hub take an active one. Passive hubs may limit the available current even if only one port is used!

2.4 Power supply via external source

specbos 1211 is designed to be used with USB power supply only. In case of connection problems, e.g. caused by a non sufficient USB power, it can be helpful to use an additional external power supply.
Order the power supply at JETI or use one with the following data:

9V/ min. 1300 mA , Inner pin diameter 2.1 mm and +

3 PC issues

3.1 Energy saving settings

The interruption of the supplied power will stop the USB communication. This can be caused by false setting of the energy saving mode. Please check (and perhaps change) the energy saving setting. It can be found in Windows at: Control Panel/ Hardware and Sound/ Power options/ Change when the Computer sleeps/ Change advanced power settings/ USB settings/ USB selective suspend setting -> disabled (On battery as well as for Plugged in)

3.2 Latency timer

The latency timer should be set to a low value as 2 ms. This has to be done at:
Device manager/ USB Serial Port properties/ Port settings/ Advanced/ BM options: Latency timer
If the software LiVal is used, this value is automatically set to 2 ms and no further action is needed.

3.3 Reset pipe retry

In some rare cases, it may be necessary to increase the number of times the driver tries to reset a USB pipe on which an error has occurred, for example in noisy environments where a lot of USB errors occur.
The default value for the reset pipe request retry count is 50.
This value is held in the registry key located at:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\FTDIBUS\Parameters\RetryResetCount
It is recommended to set the value to 100 at least.
If you have checked all points and the problem still occures then contact JETI. Please provide the following information:

- Operating system
- PC or Laptop
- Hardware and serial number
- Length of cable
- Version of USB driver
- USB 2 or USB 3

4 Service

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