

Subject : Hantek 6022BE 20MHz USB DSO

Reply on : July 15, 2019.

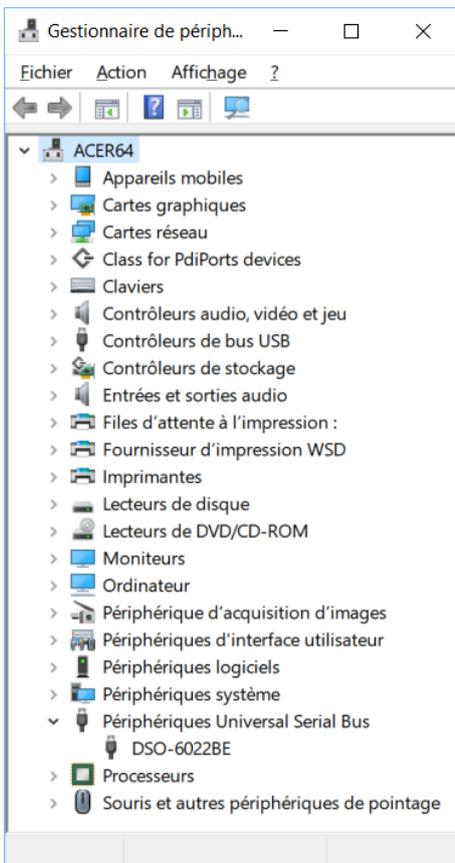
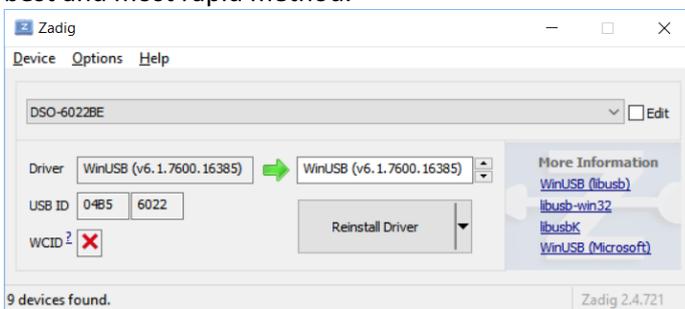
Hi Martin,

Before every thing, thank you very much for your OpenHantek6022 project. It will transform Hantek 6022BE hardware into an Oscillo - spectrum Analyzer for PC.

My PC is an ACER Aspire M3400 2.60 GHz RAM 16 Go, X64 running under Windows 10 family version 1709. Original Hantek6022BE v1.0.6 software had been installed and used.

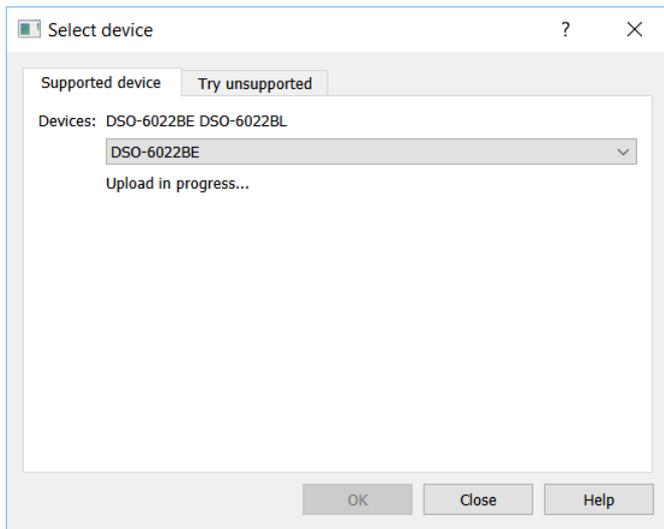
So through Windows 10 device Manager, i had to uninstall Hantek 6022 driver 2. After Hantek 6022BE hardware disconnection and reconnection, I checked in Windows 10 device Manager that Hantek 6022BE has been completely uninstalled.

Then with Zadig v2.4 i installed for Hantek 6022BE a specific driver needed by OpenHantek6022. This is the best and most rapid method.

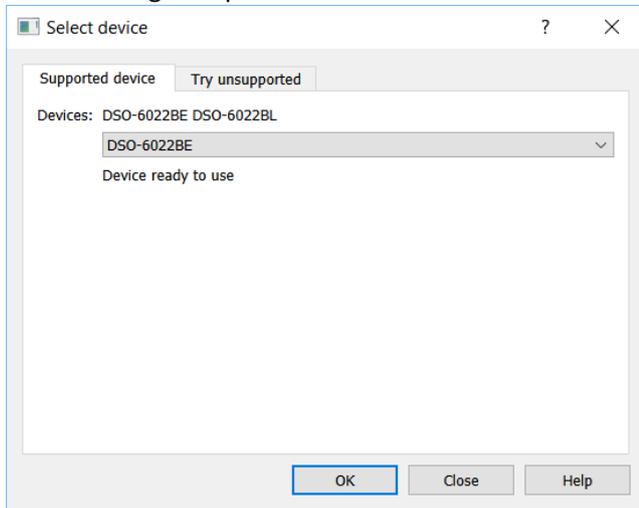


I restart Windows 10. and i installed your build b68.

When i start OpenHantek6022, it happens that upload process freeze or seemed very long. So, in that case i close the Select device window,



and I start again OpenHantek6022. Device is then ready to use. Click OK.



OpenHantek6022 run normally with WinUSB (v6.1.7600.16385) or LibusbK, but i couldn't install driver Libusb-win32 (may be i did something wrong).

I also tried to do the same installation on a PC running under Windows XP. Zadig 2.4.exe is not valid for XP. I need to use Zadig_xp-2.2.exe. I could install the driver WinUSB (v6.1.7600.16385). But I could not start OpenHantek.exe b68 : error message : win32 application non valid.

No problem for installation of Hantek\drivers 1 et 2, and use of Hantek6022BE v1.0.6 original software under Windows XP.

If i compare with Open6022BE v1.0 beta PR18, i appreciate FFT display and export under csv format, with several columns, which allow a separate signal treatment, using for instance Excel...

But we lost many commands :

- measures
- cursors
- signal recording

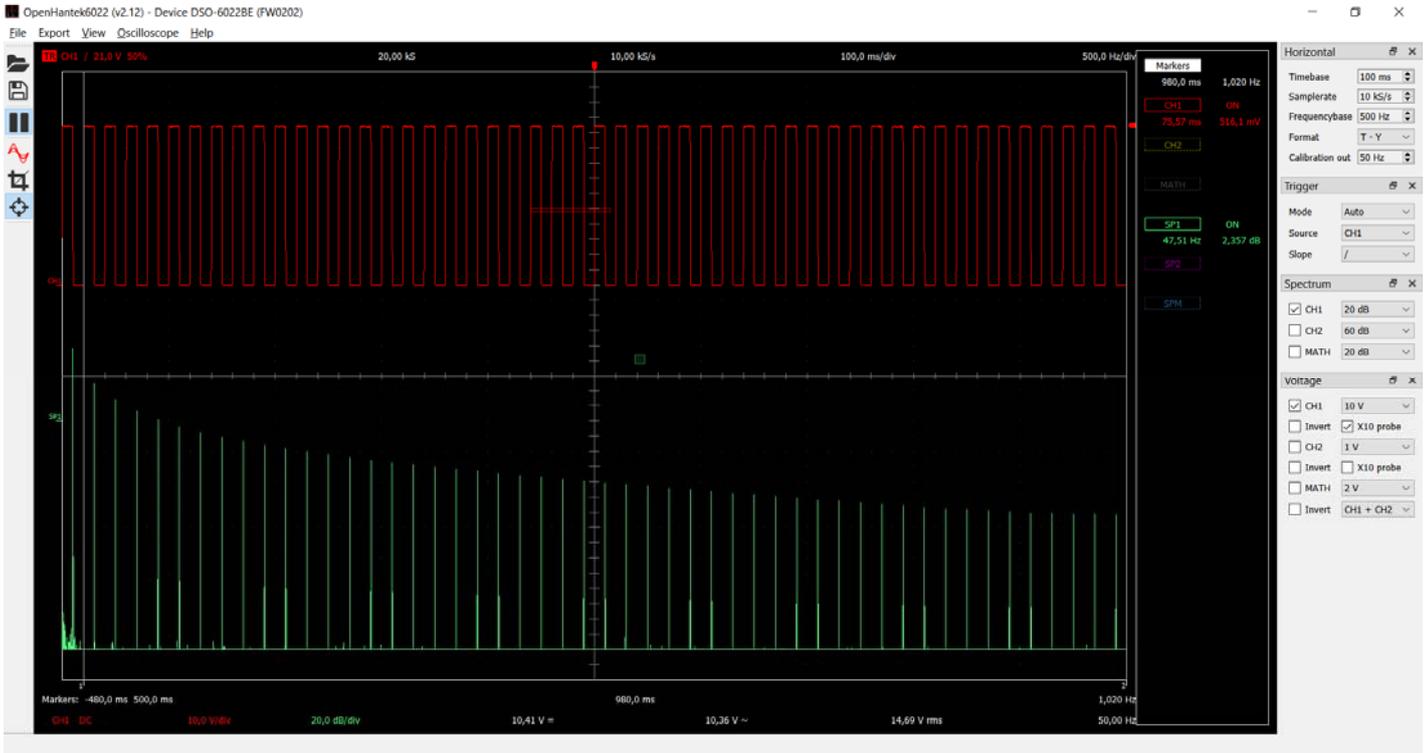
And we have :

- no language file (here include a french translation of English file of original Hantek6022BE v1.0.6 software).
- no Demo mode

For the tests I used the 1Mhz square reference signal. Here after some observations :

- 1/ Big problems to find a correct adjustment of parameters for a normal display of the signal.
- 2/ Without a manual, I am very bored with the display values that seemed not in accordance with the signal.

Have a look on the following display image.



For instance, you can see that there is : Time base 100ms/div ; 50 divisions on the horizontal axis ; 50 periods of this signal 1MHz are visible on the screen = 50 microseconds. So we should have 1 microsecond by div. Problem, or not?

What means all these values on the bottom of the screen.



When i move the white markers 1 and 2 at the beginning and at the end of 1 period I found a difference of 20ms. Or normally I should have 1 microsecond. What is wrong?

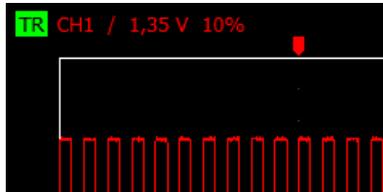
3/ Sample rate : 10 kSample / sec. Seem very insufficient for a 1 MHz signal

4/ Sometimes TimeBase freeze the software.

5/ No horizontal line for CH1 /CH2 measure cursor

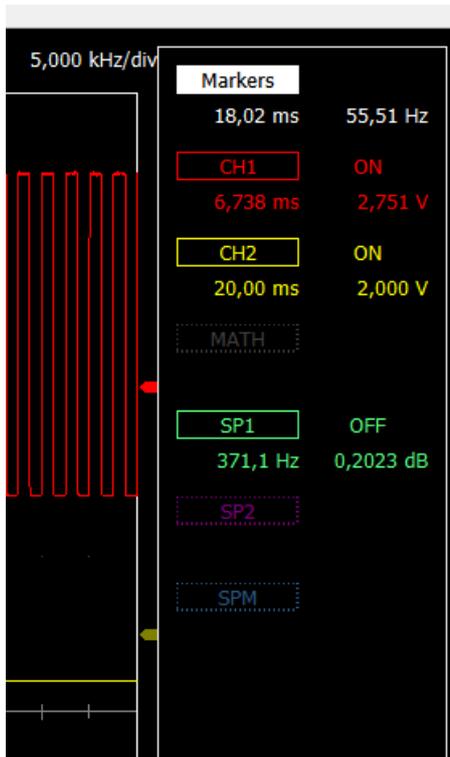
No cursor for amplitude measurements on Spectra.

How to use this red cursor, which give a value in percent (10% on the image)?



6/ If you move a small window (Horizontal, Voltage, Spectrum, Trigger) on the right side, you will have a lot of difficulties to reposition them.

7/ How to use the sensitive areas Markers, CH1..., On, OFF



8/ FFT – Very interesting. In addition we can use a csv file, with all the results.

Where is defined the width of the signal used for the FFT calculus?

How do you define dB for spectrum? Is-it equal to $10 * \log_{10}(V_f/V_{max})$, with $V_f = V$ for the Fourier frequency f .

What means Calibration out (cf. Window Horizontal)?

Is-it possible to measure V and V_f on the screen ?

CSV file : what are the units for t , V , f ?

Always 20 000 samples in the csv file regardless of sample rate 10, 50 or 100 kS/s. Is this useful?

Validity of the calcul :

- problem : positive values founded lines 102, 302,502... (with control value as indicated on the display image). I repeated the test several times (Timebase 100ms) and I found always the same problem. But no problem with Timebase 10 or 20 ms.

- with a 1MHz pure square signal we should find the fundamental at 1MHz, then sub harmonics at 3, 5, 7... Mhz. I intend to compare using CH1 recording with Excel but I have not conclude right now. I need definitions of units, which are not enough clear for me.

See *Frequency Domain Using Excel* by Larry Klingenberg http://www.stem2.org/je/Excel_FFT_Instructions.pdf and for French people <http://www.physique-appliquee.net/tice/excel/fft/fft00.html>

Office Calc doesn't include a FFT however you can see *FFT for LibreOffice Calc* by Andrew Que <http://www.drque.net/?category=1>

Regards.

Raxis13