

Introduction to the Tektronix Oscilloscope TDS 1002

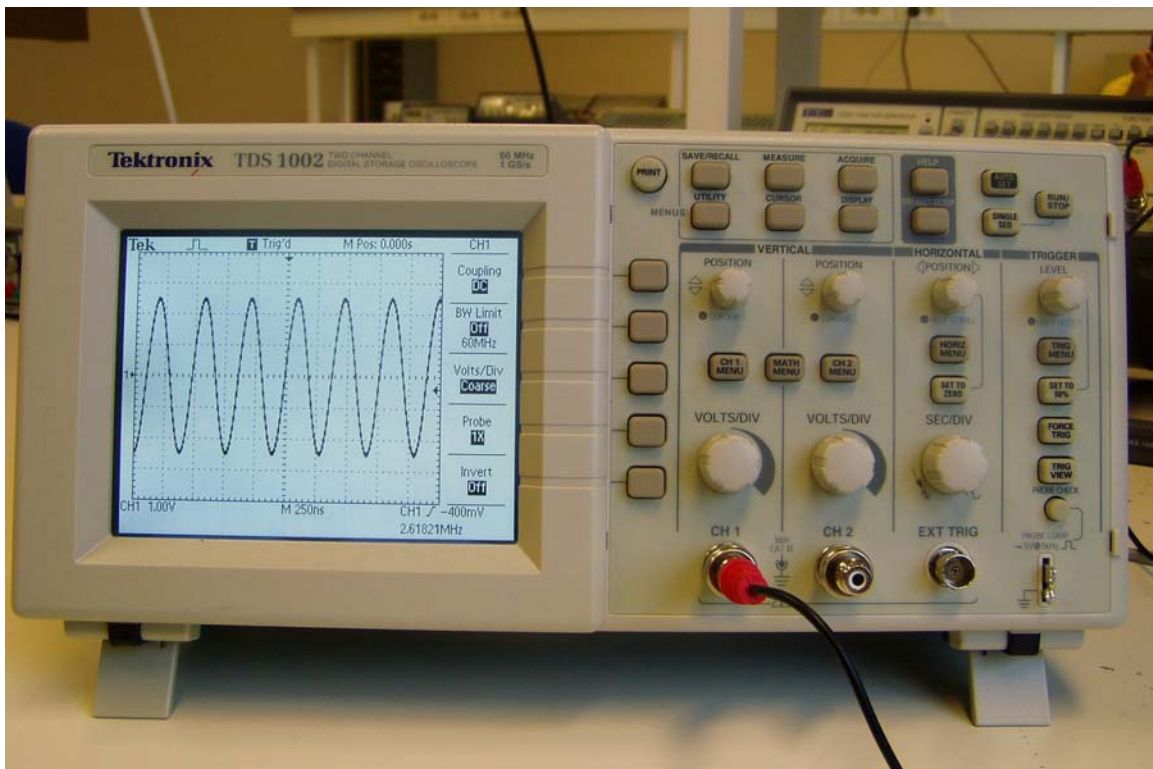
The proper use of laboratory instrumentation is the base line for measuring the characteristics of electronic circuits, as well as for trouble shooting. Among the most versatile instruments is the oscilloscope.

Primarily, an oscilloscope is used to measure pulse shapes vs. time. A key feature is the synchronization of the start of the trace with a specific state of the circuit, which is done by the TRIGGER logic. A TRIGGER can be derived from the input signal itself, for instance when it reaches a specified voltage, but it can also be an external signal applied to the EXT.TRIG input on the front panel, see below. An oscilloscope is also useful for measuring DC voltages.

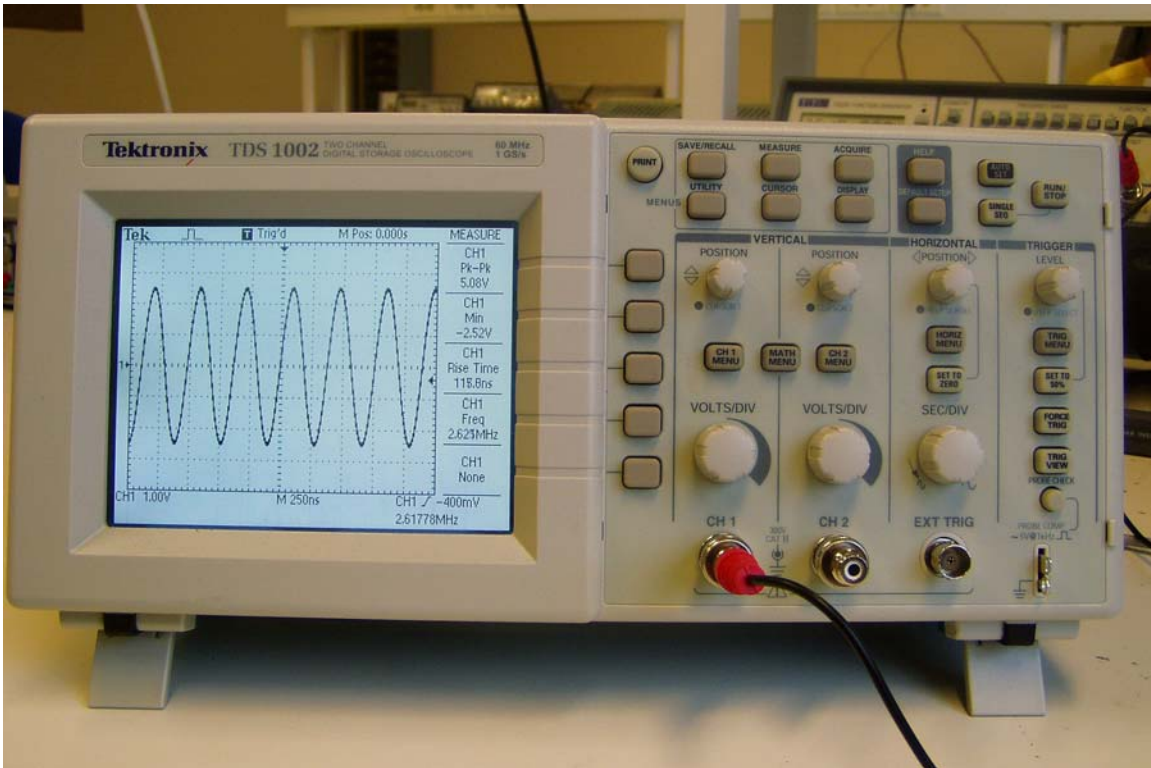
Preferably the inputs to the oscilloscope should be through special probes, in order to minimize the load on the external circuit under investigation. However, if a high accuracy is not required, one can also connect via coax cable or phone jacks.

By means of the MEASURE functionality, values of signal characteristics as frequency, rise time, voltage levels etc of the input signals can be measured and displayed on the screen.

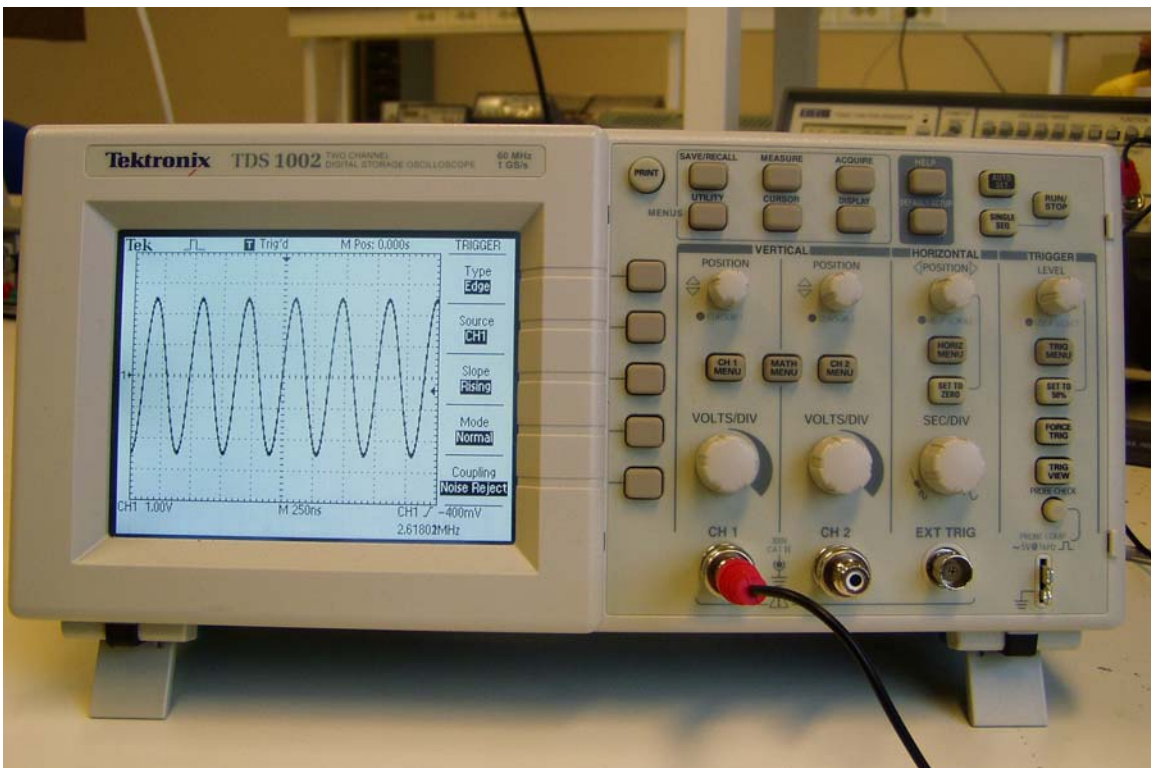
This note gives a very short introduction to the TDS 1002. This scope has two channels, named CH1 and CH2.



Each channel can be configured as shown on the menu in the figure above. Make sure that the COUPLING is set to DC if the DC level of a signal shall be measured.



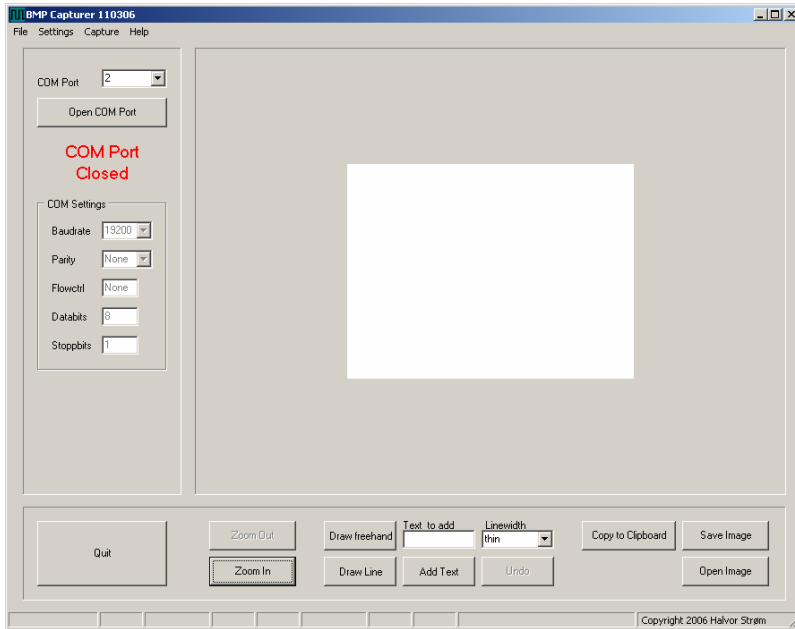
In the picture above the MEASURE menu is shown. By means of five push buttons to the right one can choose between different characteristics for any of CH1 or CH2 signals or a combination of these. Below a trigger menu is displayed. The rising edge of the CH1 signal is selected as trigger; the level is set by the TRIGGER LEVEL knob on the right and indicated by the horizontal arrow on the screen.



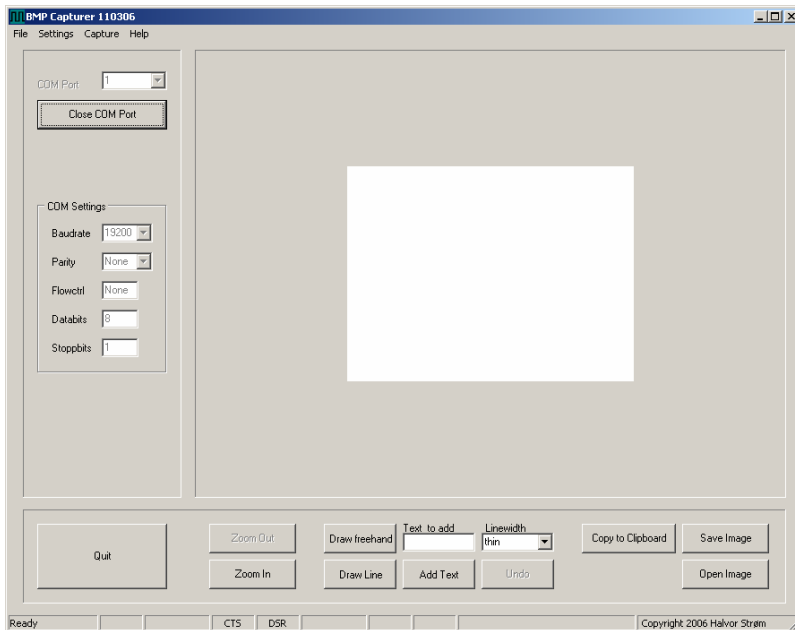
Copying of Tektronix screen dump to til PC

By means of a simple program on the lab PC one can print the TDS 1002 screen to the clip board of Windows. The program is activated by means of the **Shortcut to Tektronix.exe**

The following Graphical User Interface (GUI) comes up:



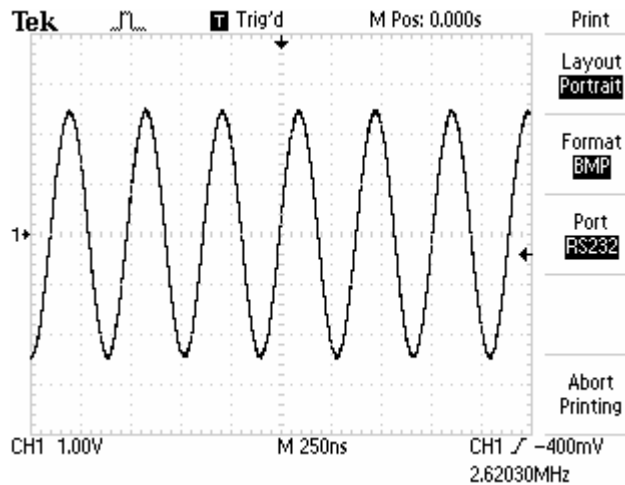
Set COM Port to 1, and **Open COM Port**



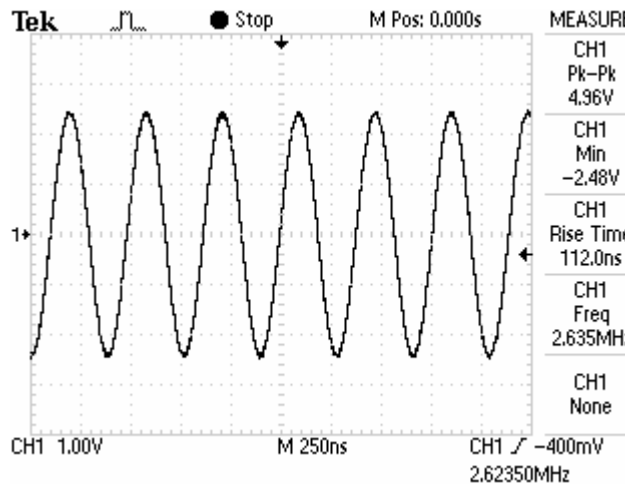
The printing to the window of the GUI is started by means of the PRINT button of TDS 1002. Before pressing PRINT freeze the screen by pressing RUN/STOP. Press RUN/STOP again to get out of the STOP state.

In case of transfer error, follow the instructions on the GUI, and start again.

Examples of screen dumps, imported (pasted) into Word:



TDS screen menu after *Utility*, *Options* and *Printer Setup*. Correct setting is **Portrait**, **BMP** and **RS232**.



The screen dump can be imported into Word after the command **Copy to Clipboard**.