

SwissMicros

Serial connection



DM-15L



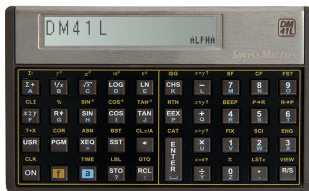
DM-15



DM-16L



DM-16



DM-41L



DM-41

You can connect your SwissMicros calculator to your computer using a USB (mini B) cable. A terminal emulation utility on the computer side is used to talk to the calculator. Here we cover how to establish proper serial connection between a SwissMicros calculator and a computer. Note that OS X has a built-in terminal emulation utility called « screen » which does the job very well.

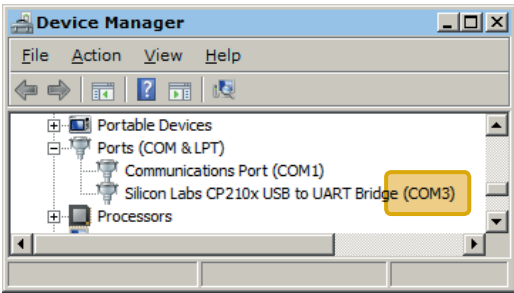


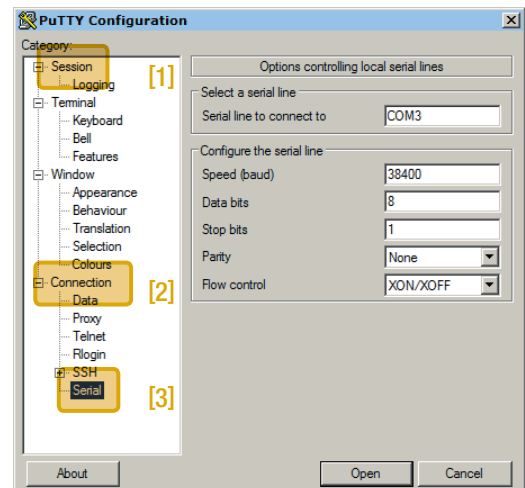
Setting up serial connection in OS X

1. install Silicon Labs USB Driver ([download link](#))
2. connect calculator to computer with USB cable
3. open Terminal
4. check presence of calculator's serial port by listing it; to do this, enter the following in Terminal:
`ls /dev/tty.s*`
5. Terminal should return:
`tty.SLAB_USBtoUART`
6. configure the line and start monitoring serial data in Terminal by entering:
`screen tty.SLAB_USBtoUART 38400,8n1`
7. the monitor window opens; it's completely blank when it starts



Setting up serial connection in Windows

1. install Silicon Labs USB Driver ([download link](#))
 2. download PuTTY ([download link](#))
 3. connect calculator to computer with USB cable
 4. open Device Manager and find the line name given to the calculator's serial controller (here : « COM3 »)
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5. start PuTTY, go to *Session* [1] and select *Serial* in the panel on the right; go to *Connection* [2] → *Serial* [3] and configure the serial line using these values :
 - *Serial line to connect to*: name found at step 4
 - *Speed*: 38400
 the rest should be left to default (check image below)



6. click *Open* to start monitoring serial data
7. the monitor window opens; it's completely blank when it starts

Save and restore state

Here we cover how to save and restore the calculator “state”, which includes the complete contents of what HP called the “continuous memory” (stack, registers, programs, etc).

The following requires that you have completed the steps on page 1 “Serial connection”.

Saving calculator memory

1. with serial monitor window open, put calculator in *Serial Console* mode: turn calculator off, then press and hold the alpha key **C**, press **ON** briefly, and then release alpha key **C**
2. the monitor window returns (for the DM-41 model):
`DM41 turned on`
`DM41 ready`
3. to dump contents of calculator memory, enter:
`s`
4. the memory dump appears under the prompt
5. this dump can be copied, pasted and saved to a text file (including the short line at the top which describes the calculator model) to be later restored to the calculator

Restoring calculator memory

1. with the monitor window open, ready the calculator by entering:
`l` (lowercase «L»)
2. the command prompt changes to:
`waiting for data...`
3. copy all characters from the memory dump, including the short line at the top which describes the calculator model
4. paste this in the monitor window*
5. monitor window outputs:
`Read OK`
and the command prompt returns to (for the DM-41 model):
`DM41>>`
6. calculator memory is now restored

* PuTTY defaults the paste command to the right mouse button in Windows; check configuration in *Window* → *Selection*

Set time and date

Here we cover how to set the internal clock and calendar of the calculator. As a reminder, you can display the internal clock and calendar on the calculator’s LCD display so: turn calculator off, then press and hold the alpha key **A**, press **ON** briefly, and then release alpha key **A**.

The following requires that you have completed the steps on page 1 “Serial connection”.

Getting calculator internal date and time

1. in the serial monitor window, enter:
`t`
2. the monitor window returns date, time and day of the week in format:
`YYYY-MM-DD HH:MM:SS DDD`

Setting date and time

1. the command to set date and time is
`ts`
2. and the arguments to the command are formatted so:
`ts <YYYYMMDD> <HHMMSS>`
3. for instance for September 22nd of 2016, 6:30 PM, enter the following command:
`ts 20160922 183000`
4. date and time are now set