

Configuring Linux & Android USB Virtual COM Port Drivers for Mark-10 Instruments

Mark-10 instruments use a USB to Serial Port converter IC, CP2102, manufactured by Silicon Labs. Virtual COM Port (VCP) Linux and Android drivers may be downloaded from their website:

<https://www.silabs.com/developer-tools/usb-to-uart-bridge-vcp-drivers?tab=downloads>

Expand the list, if necessary, and click the link “**Linux 3.x.x/4.x.x/5.x.x VCP Driver**” to download the driver zip file. Follow these instructions to modify Silicon Labs’ default VCP driver for Linux or Android to work with Mark-10 instruments:

Extract the ZIP file. There is the file, “cp210x.c”. To customize the driver for use with our (the Mark-10) Vendor ID (VID) and your Product ID (PID), add a new entry to the “usb_device_id id_table[]” struct and compile the driver. It should appear as follows:

```
static const struct usb_device_id id_table[] = {
    ...
    { USB_DEVICE(0x10C4, 0xEA60) }, /* Silicon Labs factory default */ {
    USB_DEVICE(0x10C4, 0xEA61) }, /* Silicon Labs factory default */ {
    USB_DEVICE(0x10C4, 0xEA70) }, /* Silicon Labs factory default */ {
    USB_DEVICE(0x10C4, 0xEA80) }, /* Silicon Labs factory default */
    ...
    { USB_DEVICE(VID, PID) }, /* new entry */
    ...
    { } /* Terminating Entry */
};
```

A new entry needs to be added to the above id_table to use the Mark-10 PID, 0x83AA, as follows: (NOTE: The Silicon Labs’ VID, 0x10C4, remains unchanged)

```
{ USB_DEVICE(0x10C4, 0x83AA) }, /* Mark-10 default */
```

Once the USB Virtual COM port driver is installed and recognized, here is an example of how to achieve serial communication with our instruments. (NOTE: There is additional information in the Release Notes file contained in the zip file, CP210x_VCP_Linux_4.x_Release_Notes.txt.)

To request a load reading from our instruments via the serial port, first set the baud rate in the software to match the instrument’s baud rate, and open the port. Then transmit the following string, “?\r” (a ‘?’ character followed by a carriage return character, 0x0D, referred to as ‘\r’ in C or C#), out the serial port. The instrument will respond with the load reading string, for example, “5.032 lbF\r\n.” (The “\r\n” is a CR-LF (carriage return-line feed) pair (0x0D-0x0A). This is described in the respective instrument’s User’s Guide.

There is example C#.net software code posted on the Mark-10 website.

Please contact our Technical Support or Engineering staff for any needed assistance.

