This download contains the bootloader firmware (BOOT1) and example projects that can be loaded onto the SBC44UC USB board (from Modtronix Engineering) via the bootloader PC program. No PIC programmer is required. Each project's hex file can be found in the '_output' directory, i.e. *flash1_output*, *Demo_output*.
The projects can all be modified and compiled using the free MPLAB IDE and MPLAB C18 C compiler from Microchip.

To programming the SBC44UC with an example bootloader project

- Launch PDFSUSB.exe
- Insert Bootloader Jumper (see Modtronix SBC44UC Documentation) and connect the demo board to a PC to enter Bootload mode. LED on board will flash fast (about 10 times per second).
- Click 'Load HEX File' to select a hex file from an '_output' directory
- Click 'Program Device'
- Reset the demo board to run the new program

===== BOOT1 =====
This project contains the code for the bootloader supplied with the SBC44UC. It is a modified version of the Microchip Bootloader. For details, see the "Bootloader" section on Microchip's web site. For details on using the bootloader, see documentation for the *PICDEM FS-USB* on Microchip's web site.

To compile the project, do the following:

- Install Microchip's Free MPLAB IDE
- Install Microchip's Free MPLAB C18 Compiler
- Start the MPLAB IDE, and open the *boot1.mcw* workspace in the *boot1* folder.
- Click on *Build All* button. This will create the hex file in the *_output* folder

===== FLASH1 =====
This project contains a very simple application that can be uploaded to the SBC44UC via the Bootloader. It simply flashes the system LED.

===== CDC1 =====
This project contains 2 examples that both implement a virtual serial port. It is a modified version of the Microchip "Communication Device Class (CDC) firmware". Windows drivers are located in the *cdc1\src\inf*. For details, see the "CDC" section on Microchip's web site. This firmware provides direct emulation of a serial port on a PC. As the SBC44UC is attached to the PC, a virtual COMx port is created. All PC software using a COM1-4 port will work without modifications with the virtual COM port if only at a much higher speed (approx 1Mbit/s). For these examples, the serial port settings of the PC are:
115200 kbits/sec, 1 stop bit, no parity, no handshaking
See Microchip Application Note AN956 for details.

Example 1 writes the text "Hello World" to the virtual serial port every second.

Example 2 Echos "Received: x" showing the character received via the virtual serial port.