

INTRODUCTION

PCB_111000_UNO has been developed for any one who would like:

- A brief introduction to the Atmega 328 hardware and the task of writing C programs for it.

- Some pre-designed electronics that enables them to get started straight away.

Background

WinAVR, Atmel Studio and Arduino all have a great deal in common. Many projects can easily be transferred between them. And of course projects can use elements of all three. This is the case with PCB_111000_UNO.

- Most of the system code was developed with WinAVR

- The hardware relies on the UNO and Arduino compiler

- User projects are probably best developed using Atmel Studio

WinAVR was probably the obvious choice ten years ago, but more recently many programmers seem to have migrated to Atmel Studio. Arduino which offers all the hardware and software needed to get started has also become very popular especially with newcomers to microcontroller programming.

This project continues PCB_111000_UNO part 1 which introduced

- PCB111000_1 a plug in pcb for the UNO

- PCB_111000_UNO which consists of PCB111000_1 plugged into a UNO.

- “UNO_bootloader_for_hex&text_V6.hex” a new bootloader for the UNO

This project (part 2) provides everything needed to complete the assembly of PCB_111000_UNO and program both Atmega 328 devices.

There are 3 attachments

- pcb_design_and_assembly.zip (which includes Eagle files)

- PDF file “Setting_up_PCB111000_UNO”

- WinAVR_and_UNO_files.zip

The third attachment WinAVR_and_UNO_files.zip gives:

- Hex files for “PCB_A_Mini_OS_I2C_V18” the mini-OS and bootloader for PCB_A.

- Source files for the mini-OS

- Arduino project “Project_programmer_UNO”, enabling it to program to the PCB_A device

- Two sample user projects (Proj_1B_LEDdisplay and Proj_2C1_random_LEDs_UNO)

- A “Hello world” text file

Project PCB_111000_UNO part 3, to be posted later will give a selection of sample projects.