MIOS

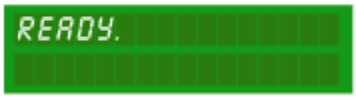
Overview

MIOS is the Operating System of the Chip. This Page covers MIOS and the BOOTLOADER (or Bootstrap Loader). General Informations can be found in the Intro-Article: what is a MIDIbox.

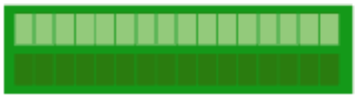
There are two versions of MIOS: The (older) **MIOS8**, used for MBHP_Core modules equipped with 8bit PIC uControllers and **MIOS32** used for the Core_STM32 modules with 32bit STM controllers. If you are planning to build a new MidiBox, you should use the newer Core_STM32 that allows much more complex devices.

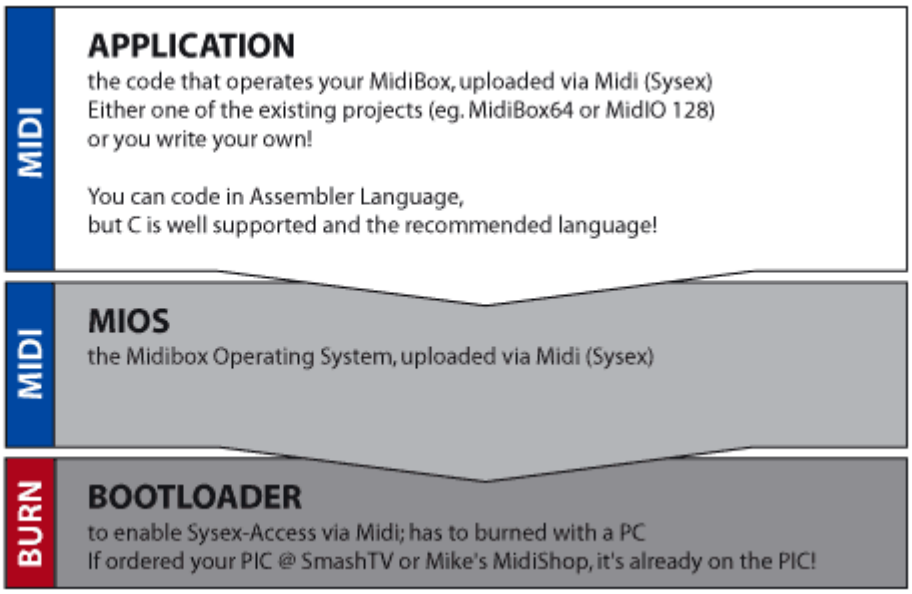
MIOS8

LCD Output (e.g.)



LCD Output


LCD Output



MIOS8 is used for MBHP_Core modules equipped with PIC18F452, PIC18F4620 or PIC18F4685.

The Article MIOS Bootstrap For Newbies (also available as MIOS Bootstrap in different languages) contains important informations about how to upload MIOS - the operating system - and an application.

Developers should consult the related project pages or Application Development.

Documentation

- Introduction uCApps
- Change Log uCApps
- MIOS project summary RSS feed
- MIOS-Downloads uCApps

- Bootstrap Loader uCApps
  - check out pic_programmer_modules to know how to get the Bootstrap Loader onto the

PIC.

- Application Development Section
- MIOS running on a PIC18F4620 (for certain future applications)

Frequently Asked Questions

 MIOS FAQ - Questions and Answers !

MIOS32

MIOS32 is used on Core_STM32 boards, equipped with the 32bit STM32F103RE processor. MIOS32 is prepared for other 32bit uCs as well and allows platform independent applications.

MIOS32 on a CORE_STM32 is more powerful than MIOS8:

- MIOS32 uses the realtime operating system FreeRTOS and allows simple multitasking with different priorities.
- It also supports native USB MIDI for faster code upload and MIDI transfer.
- Interfaces such as SPI and I²C can be used with DMA, allowing fast transfer at low CPU load
- Besides hardware multiplier and division units the STM32F103RE provides more peripherals:
  - CAN or USB (can not be used in parallel)
  - SPI
  - I²C
  - Timers
  - DAC
  - ADC
  - I2S for Audio DACs
- The STM32F103RE provides 512kB of Flash and 64kB RAM
- BankSticks are replaced by SD Cards for more and faster memory

Documentation

- Core32 Introduction uCApps
- MIOS32 Download uCApps
- Toolchain setup guide for Windows
- MIOS32 manual and function overview

See Also

Mios studio