

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

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



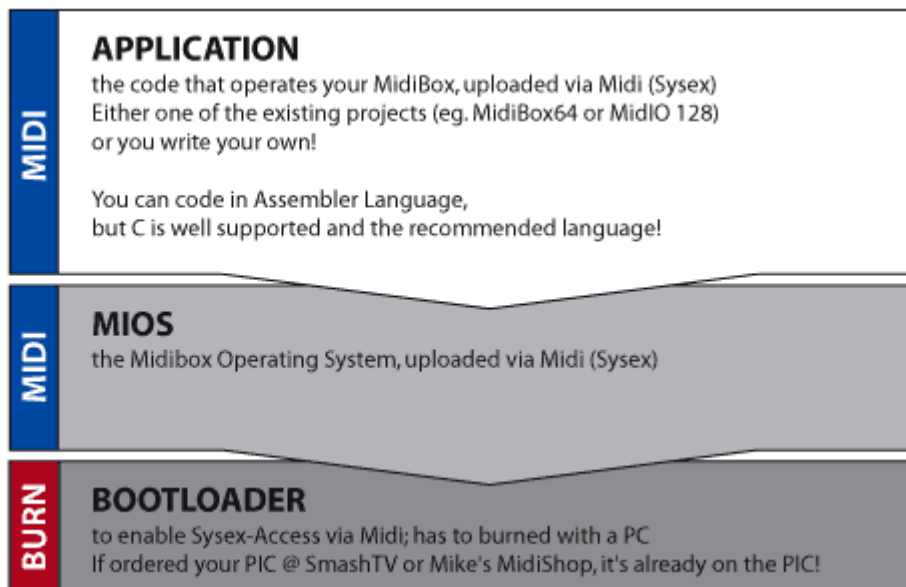
LCD Output (e.g.)



LCD Output



LCD Output



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](#)

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