# MIDIdocs

A place to put articles, howtos and guides about the MIDIbox universe. These articles are meant to complement the official user manuals on uCapps.de, going into a bit more depth on core concepts, features, workflows and usecases to help users learn more about how to do fun stuff with their MIDIboxes.

Feel free to add or link your own articles, and help document these amazing devices. Also, feel free to edit existing articles to add to or improve them. It'd be really great if you added something here - the better these devices are documented, the more usable they'll be, and it'll be easier for all of us to learn new things about how they can be used. It's also a great way to give something back to the MIDIbox project if you're not great with code or hardware design. If you don't have a Wiki account, ask in the Documentation Project forum, and hopefully an admin will set you up with an account.

Each MIDIdocs article is linked to its own "Discussion Thread" in the MIDIbox Forums where you can ask questions, make comments or corrections, and discuss the topics in each article.

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## MIDIbox SEQ V4

uCapps.de Overview
Official User Manual
MIDIbox SEQ Forum

<box 80% round #dddddd>The SEQ V4 is the flagship MIDIbox sequencer. It's really an incredible device. You should build one. Once you've built it, you should buy TK a beer to thank him for developing and constantly improving this amazing thing, and for offering it to the world as a free and open device.</box>

**READ THE MANUAL**. Then read it again. The SEQ is a complex device, with a huge number of features. You'll probably have to go over the manual a few times before you start to really understand it. Read through the other documentation on http://www.uCapps.de as well - there's a lot of information there that will help you understand how all the devices, software, and modules in the MIDIbox universe work, and how they fit together. These articles will be more helpful to you if you've already read over the documentation on uCapps.de.

In particular, the Frontpanel section of the User Manual briefly describes what each button does, and the Menu Pages section describes how to use each menu page on your SEQ. The Sessions section gives an overview of how Sessions work on the SEQ. TK has also put together some great Tutorials with audio examples.

### Hardware

- **Building a SEQ V4** - What are the components you need to build a basic SEQ V4? Where can you get PCBs and parts? A basic introduction, with links to other relevant and helpful information and resources. Also, check out Hawkeye's photo tutorial on how to build a SEQ V4. …and the uCapps SEQ Hardware Options page.

- **The MBSEQ_HW.V4 File** - This file contains configuration information about your SEQ's hardware - button, LED, and encoder assignments, some low level settings, etc. This file has to be in the root of your SD Card in order for the Wilba Frontpanel to work, and changes may be required to this file to add some of the various MIDIbox modules to extend the functionality of your SEQ.

## Basic Concepts

- **Trigger and Parameter Layers** - If you're new to the SEQ, you might be confused about trigger and parameter layers. What do they do? What's the difference?
- **Configuring Tracks** - An introduction to the SEQ's track types, and some info on initializing and provisioning tracks.
- **Chords** - How does the SEQ handle chords? How can you play chords in different keys? A bit of information on the Chord track type.
- **ALL and FAST Buttons** - Useful functions for quickly adjusting parameters and values on your SEQ.
- **MUTE and SOLO** - Fairly self-explanatory, but there's some functionality you might not be aware of.
- **Sessions** - The Official Manual gives a great overview of SEQ Sessions, and how you might want to use them.
- **Utility Functions** - Some info on COPY, PASTE, CLEAR, MOVE, SCROLL, and UNDO.
- **Force-To-Scale** - make idiotproof robot music by ensuring that you can't play off-key notes.

## Menu Pages

- **Official Manual - Menu Pages** - Start by reading this. TK's official manual has information on all of the SEQ's Menu Pages.
- **What the hell is a Mixer Map?** - Mixer Maps are a useful MIDI control feature. You can use them to send MIDI CC and Prog Change messages to your synths, and the SEQ can be programmed to send a series of MIDI messages to your synth whenever pattern changes occur in a song.
- **Using Bookmarks**

## Patterns and Songs

- **Working With Patterns**
- **The Pattern Remix function** - See also the Pattern Remix Documentation.
- **Phrase Mode**
- **Working With Songs**

### Intermediate Topics

- **Using the Bus1-4 Loopback Ports**
- **Transpose and Arpeggiator Tracks**
- **Live Recording**
- **Step Recording**
- **Track Morphing**
- **Loops**
- **External Control** - Using external MIDI controllers to control the functions of your SEQ. See also the SEQ V4 CC Implementation and Remote Functions documentation.

### Advanced Topics

- **Evolutions and Polyrhythms** - Using patterns of different lengths and timebases together to create interesting and evolving music.
- **Loopback Workflows** - Using the Bus1-4 tracks in creative ways.
- **Hardware Loopbacks** - Some interesting things you can do with a MIDI cable connecting one of the SEQ's output ports to one of its inputs. Some functionality is available when the SEQ is set up this way that isn't available with the BUS tracks. Watch out for feedback loops though.

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## Button LED Matrix (BLM) Control Surface

uCapps.de Overview
MIDIbox BLM Forum

<box 80% round #dddddd>The BLM is a button grid control surface with LED feedback that can be used as a controller for the MIDIbox SEQ V4, as well as for the SEQ V4L. The full-size BLM (the “16×16+X”) has a 16×16 button grid, with extra control buttons along the sides. Larger or smaller BLMs are possible - the BLM protocol scales to accommodate different button matrix sizes.

There are many BLM options available. You can build a hardware BLM - some users have designed PCBs, others have used veroboard. Ilmenator has created a 16x4 hardware BLM. A Lemur application is available that provides a virtual BLM on an iPad. BLM emulation software is available for Linux, Windows, and Mac computers. The Lemur app and the emulator software can be downloaded on this page.</box>

- **Novation Launchpad BLM** - Since firmware version 87, the SEQ V4 supports the use of two Novation Launchpads as a BLM control surface. Two Launchpads form a 16×8+X BLM, and up to four can be connected to make a full 16×16+X control surface. Setup instructions.
- **Using the BLM** - Some info on the features of the MIDIbox SEQ BLM and how it can be used.

See also the uCapps.de BLM Overview

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## MIDIbox SEQ V4 Lite (V4L)

uCapps.de Overview/User Guide
MIDIbox SEQ Forum

In addition to reading the V4L User Guide, it may also be helpful to read over some of the MIDIbox SEQ V4 documentation, since the V4L inherits most of its features from the SEQ V4.

- **The V4L as a MIDI Processor** - It's not just a sequencer! The V4L can also be used to process incoming midi signals. All incoming MIDI can be forced-to-scale, and effects (like delays and LFOs) can be applied to selected channels. With a configuration change, the processed notes can go out on the same channel they came in on.

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## User Projects

Interesting non-official MIDIbox Projects created by members of the community. There are a ton of these out there, here are a few of the better documented examples:

- **MIDIbox TIA:** A MIDI controlled Atari 2600 synth - user project created by Antichambre. Forum Discussion Thread
- **SEQ Track Position Display (TPD) Module:** an add-on module for the MIDIbox SEQ that adds direct control of tempo, as well as displaying the current track positions in a LED matrix, and a numerical step display. Created by Ilmenator.
- **SEQ 16x4 BLM:** a 4×16 Button LED Matrix for the MIDIbox SEQ. Created by Ilmenator.
- **Another Wiki Page Listing User Projects**

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## Other Useful Wiki Pages

Here are some other pages on this Wiki that might be informative or helpful to you. Many of them are fairly old and refer to previous versions of the MIDIbox core modules, etc. However, the current MIDIbox project evolved from these older implementations, so these earlier documents still contain information relevant to the current implementations.

- **What is a MIDIbox:** An introduction.
- **The MIDIbox Hardware Platform:** An overview of the various hardware components and how they fit together.
- **MIOS:** An introduction to the MIDIbox Operating System.

- **uCapps.de Introduction (FAQ)** An older document containing answers to many MIDIbox noob questions.

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