

mini **mad**



the hardware companion of MadMapper
User guide

1024
architecture





miniMAD

miniMAD is a all-in-one dedicated device for video mapping and LED mapping based on the Raspberry Pi platform.

It is easy to use, small and versatile, for your future video mapping projects.

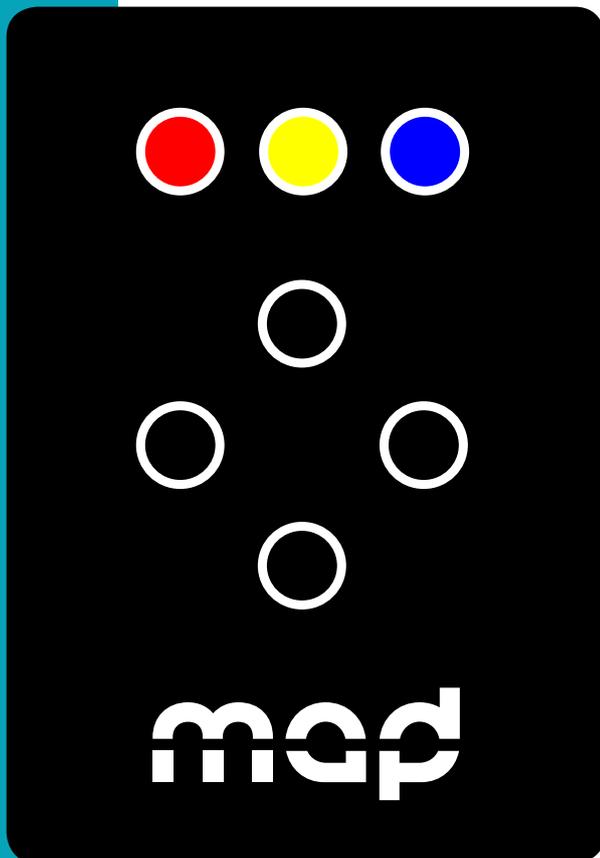
www.madmapper.com

Designed and developed by garageCube and 1024 architecture

CONTENTS

VIDEO PLAYBACK	FEATURES	3
	Surfaces Medias Projectors Export to miniMAD Network synchronization	
	CONTROLS	6
	Buttons Keyboard Network synchronization	
DMX/ARTNET PLAYBACK	FEATURES	9
	Record DMX sequences Export DMX sequences	
	CONTROLS	10
	Buttons Keyboard Micromodul8	
INFORMATION	SPECIFICATIONS	12
	Technical Specifications In the box Activate and update	
	ACCESSORIES	14
	Power Supply Lock	

VIDEO PLAYBACK / FEATURES



SURFACES

miniMAD supports 3 types of surfaces:

- Quads (including mask and mesh warping)
- Triangles
- Masks

Other surfaces (Circle, Lines, 3D Surfaces) and FX are not supported yet.

MEDIA

miniMAD 3 supports a single media at a time on every surfaces.

Every image files supported by MadMapper will be exported to miniMAD.

During the export process, movie files will be transcoded and their size adapted to maximize the performance depending on the selected projector's resolution.

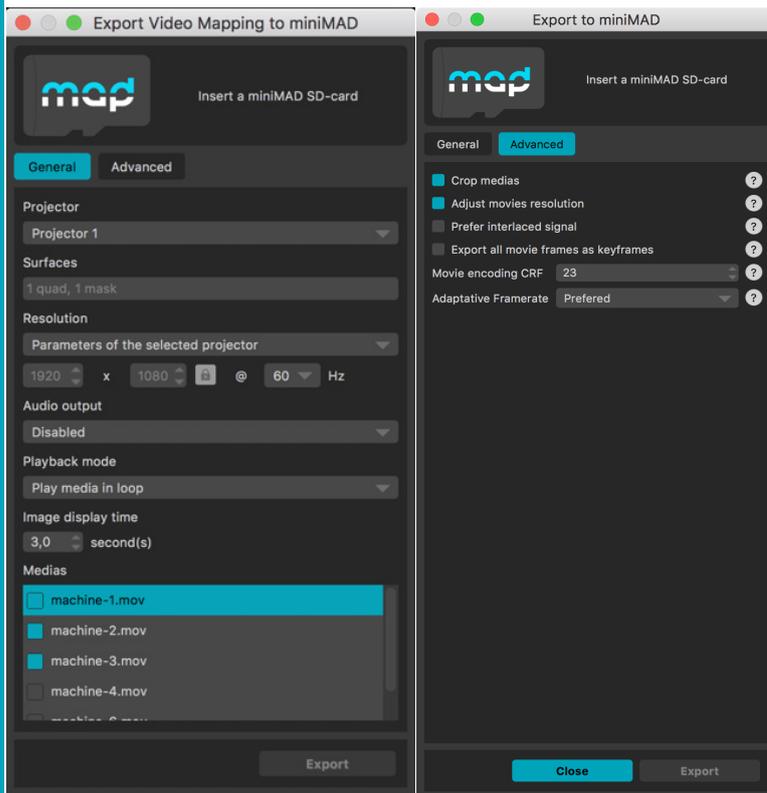
PROJECTORS

The device supports a single projector connected to the HDMI port.

The maximum supported resolution is 1080p (1920×1080).

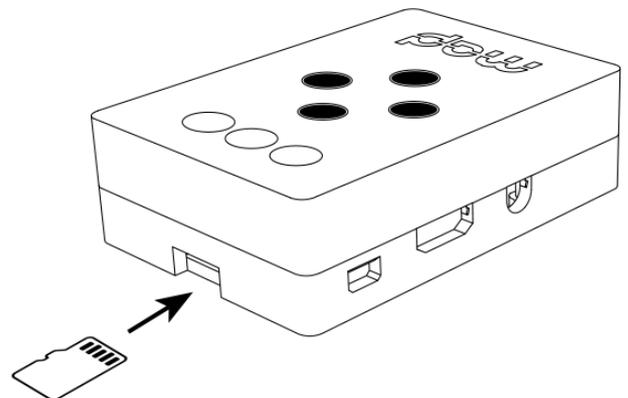
In case the selected resolution is not supported by the actual connected projector, the device will use the projector's default resolution and display a notification.

VIDEO PLAYBACK / FEATURES



EXPORT TO miniMAD

Insert the provided SD-card in your computer using the bundled microSD card adapter. If necessary, update miniMAD as advised before exporting.

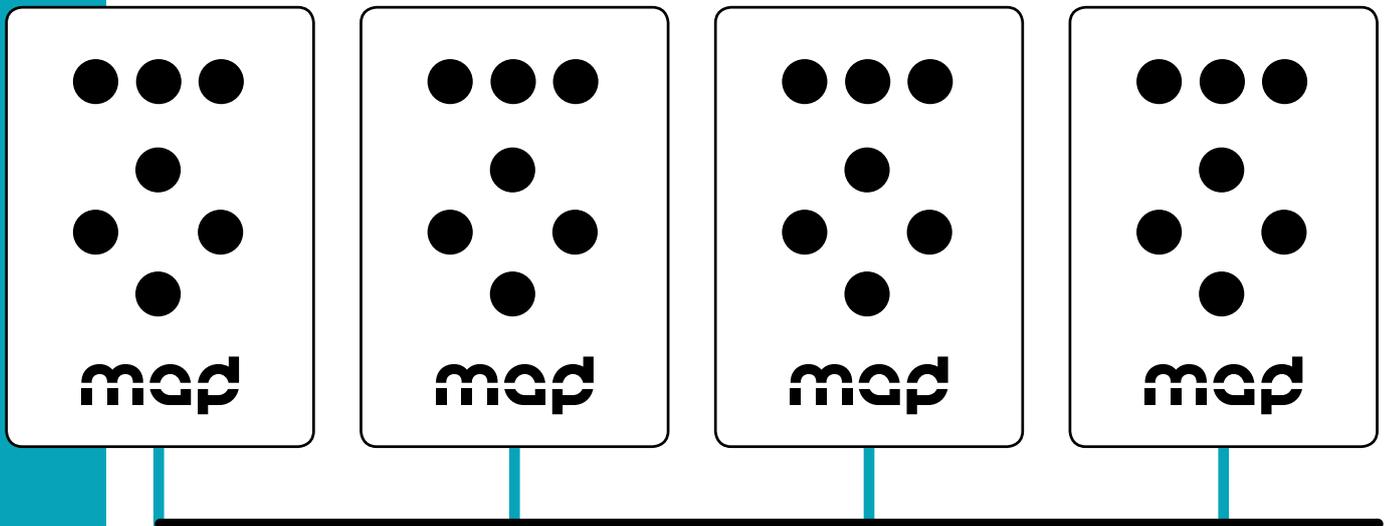


Then, select the projector you want to export to miniMAD, adjust the output resolution, the audio output, the playback options, optionally unselect and reorder your medias and highlight the default media to be played at startup.

Finally, click the “Export” button to start the export – FFmpeg Tools is required to export MadMapper project to miniMAD please download FFmpeg Tools Installer.

The process may take some time depending on the number of movie files and their duration. MadMapper will avoid transcoding movie files that are already optimized on the SD-card.

VIDEO PLAYBACK / FEATURES



network switch and ethernet cables

NETWORK SYNCHRONIZATION

Connect the miniMADs on the same ethernet network to synchronize media-playback automatically.

Movie synchronization happens on every miniMADs playing a movie with the exact same frame count and framerate, even though their file names are different.

Every media-related action made on any miniMAD happens instantly and automatically to every miniMADs:

- media change
- pause
- restart
- playback mode
- audio mode
- image display-time

Note that media change works properly if every miniMADs contain a file with the same name, even though its content is different.

Create a MadMapper project using the video-wall template, import your pictures and videos, and export the different projectors to as many synchronized miniMADs.

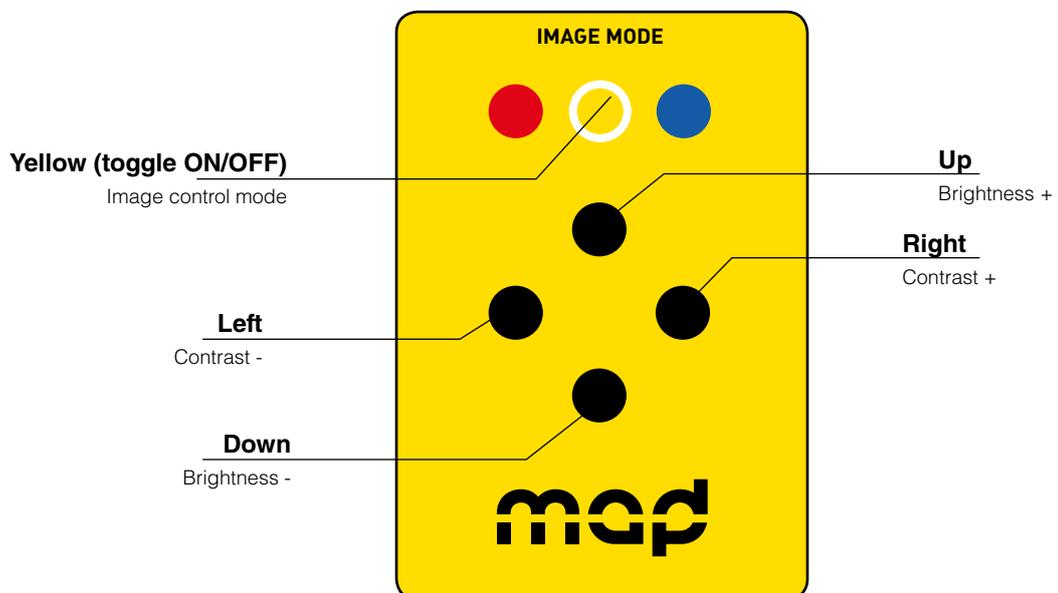
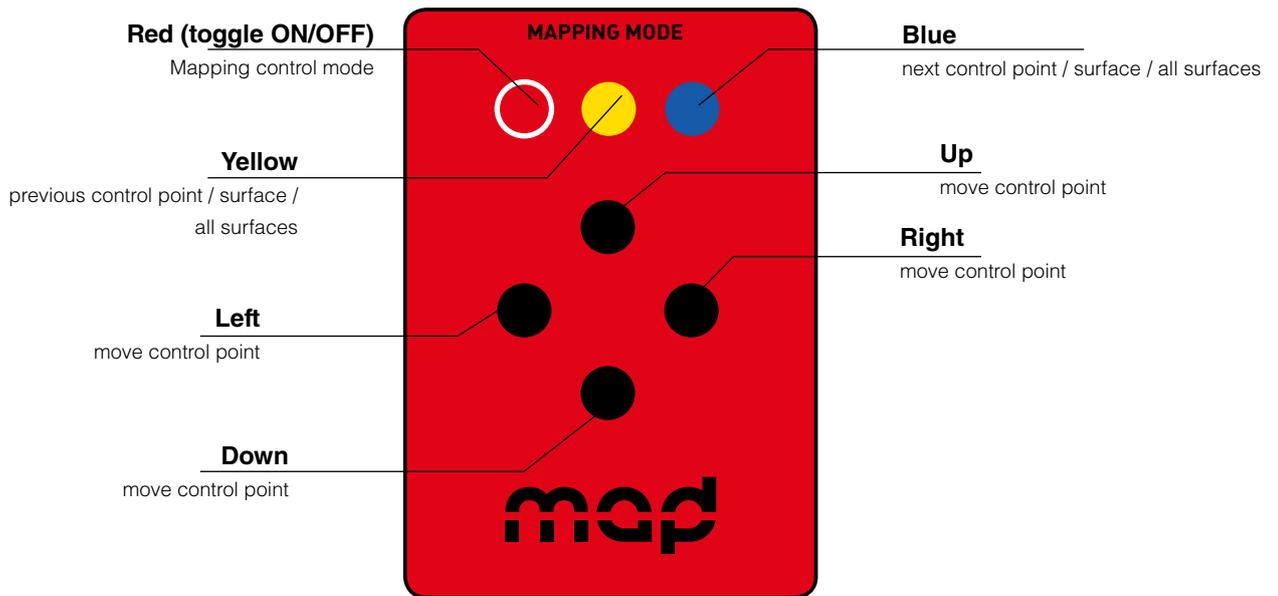
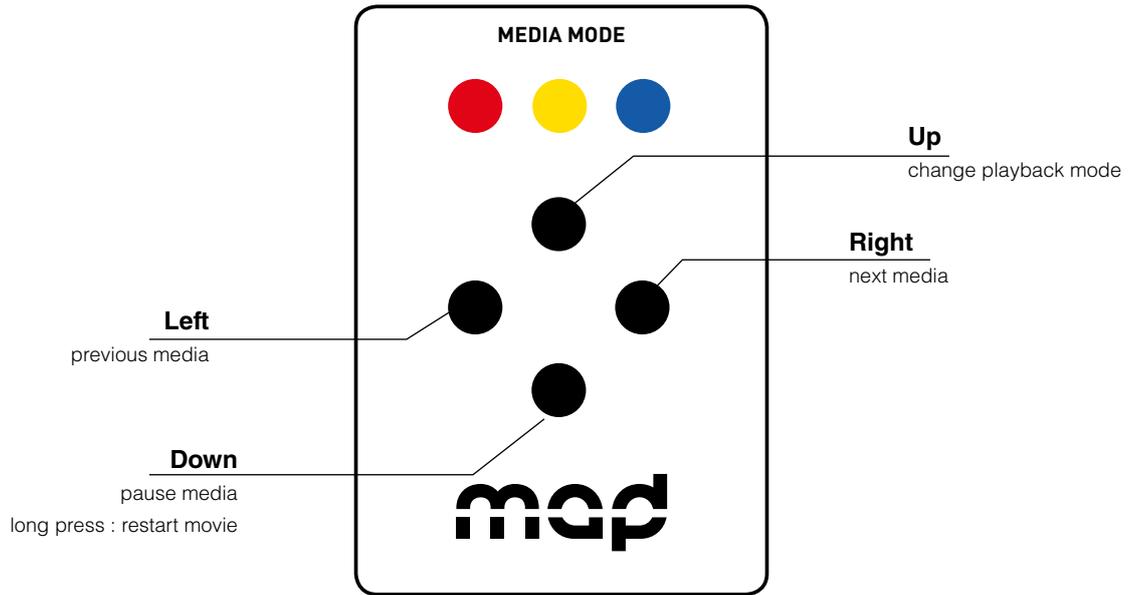
The setup couldn't be easier: Just connect all your miniMAD with an ethernet cable to a network switch, and wait until they automatically synchronize.

Note that you can also connect two miniMADs directly using an ethernet cable.



VIDEO PLAYBACK / CONTROLS

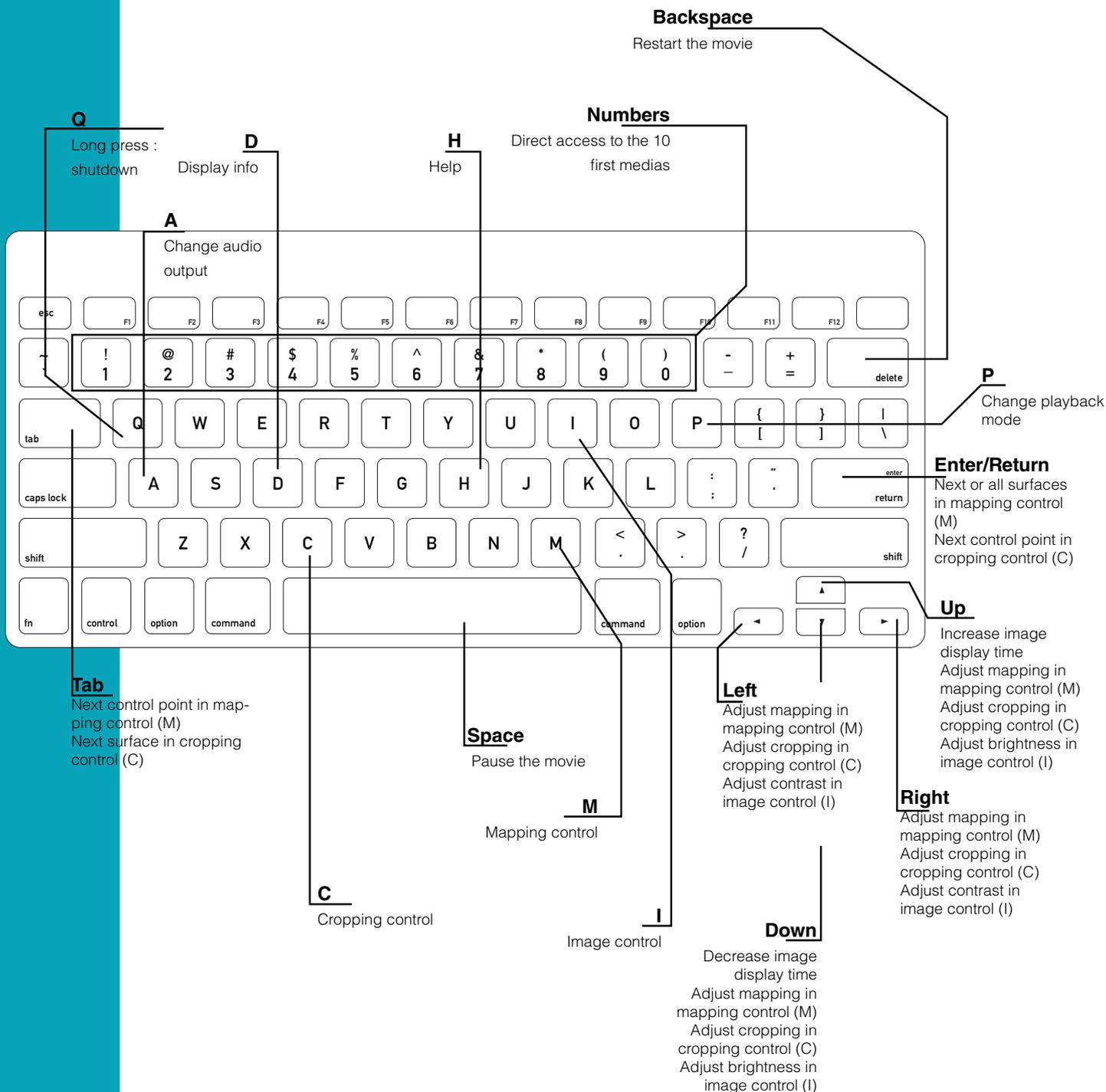
BUTTONS



VIDEO PLAYBACK / CONTROLS

KEYBOARD

As an alternative to the miniMAD's buttons, you can use any USB keyboard as a remote. Using a wireless USB keyboard may be particularly interesting when the device is not easily accessible. Attach the keyboard to one of the four USB ports prior to powering it on and follow the following keyboard map to control all functions:



NETWORK SYNCHRONIZATION

When connected to a network, all the miniMADs share the same media controls (media change, pause, restart, playback mode, audio mode, image display time) which means that every change that's made on any miniMAD is instantly reflected on all of them.

VIDEO PLAYBACK / CONTROLS

MICROMODUL8

- Blue buttons: direct access to the 16 first medias
- Left master knob: master luminance

OSC

/pause: pauses the playback

/play: starts the playback after a pause

/replay: restarts the current media

/previous_media: previous media

/next_media: next media

/set_media_by_name/{media name}: set the current media by name

/set_media_by_index/{media index}: set the current media by index

/set_playback_mode/{playback mode index}: set the playback mode
(cf media playback mode list in MadMapper's export window)

/set_image_time + (float parameter): change the image display time in seconds

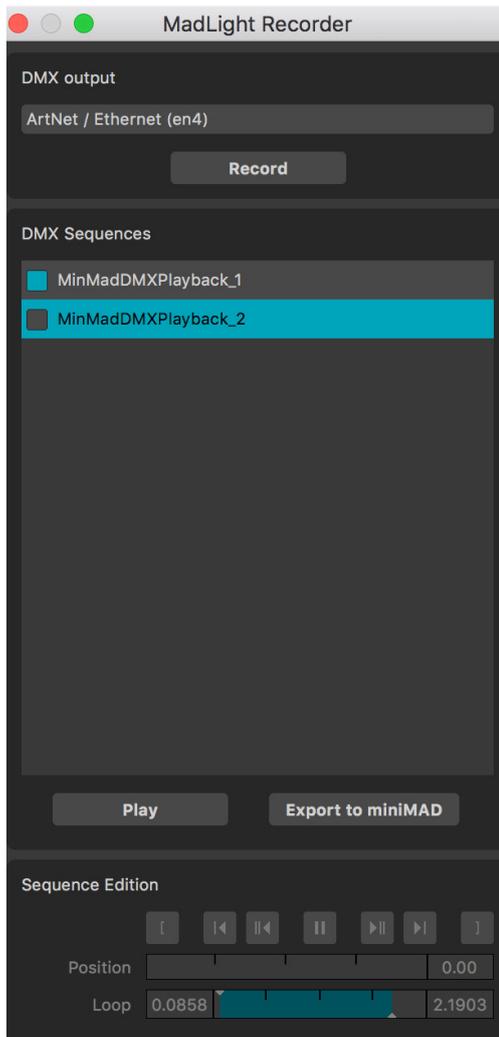
/set_master_luminosity + (float parameter): master luminosity

/set_master_luminosity/all + (float parameter): master luminosity for all connected

Note that all indices start at 0.

The miniMAD declares itself as "miniMAD OSC" using Bonjour discovery protocol.

DMX/ARTNET PLAYBACK / FEATURES



RECORD DMX SEQUENCES using MadLight Recorder in MadMapper 3

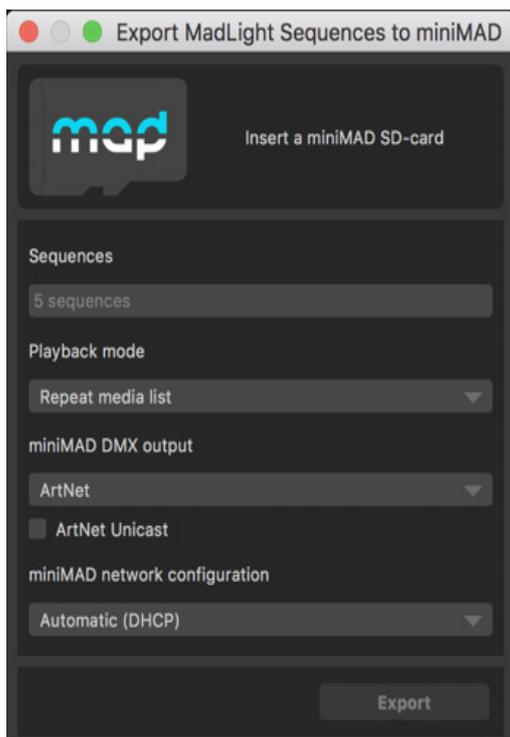
Once your fixtures are setup, open Tools --> DMX Recorder.

Click “Record” (or press Return) to start recording the DMX output. Click “Record” again to stop the recording.

The newly recorded DMX sequence will be added in the sequences list.

Start playing back your sequence by clicking “Play” (or press Space).

Adjust the in & out frames by using the dedicated Sequence Edition controls (keyboard shortcuts are available for quicker operations) - Adjustments are automatically saved.



EXPORT DMX SEQUENCES

In the MadLight Recorder dialog, check the sequences you want to export then click “export to miniMAD” to open the export dialog.

By default, miniMAD will use the same DMX interface as MadMapper, but you can select a different one using “miniMAD DMX Output”.

In the case you’re using ArtNet or SACN you can either select automatic network configuration (using DHCP) or manual network configuration and input the IP-address and mask the miniMAD will use on the network.

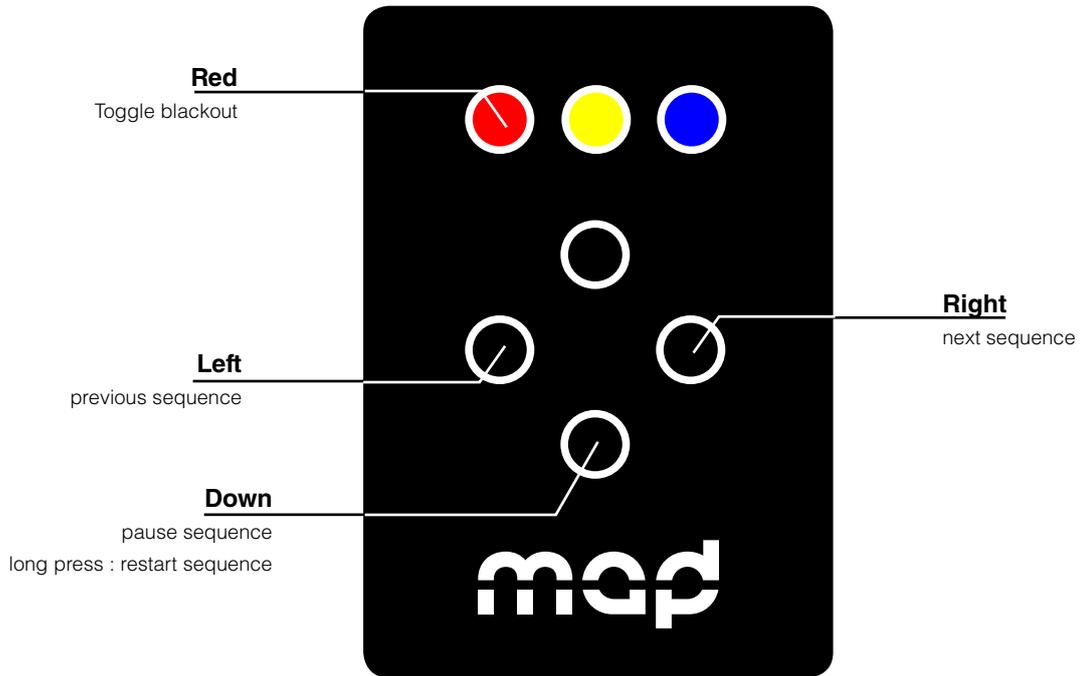
Insert the miniMAD SD-card in the SD-card reader.

Once the SD-card is ready, click “Export” to export selected sequences to the SD-card. Once exported, the SD-card should be automatically ejected so you can directly stick it in your miniMAD.

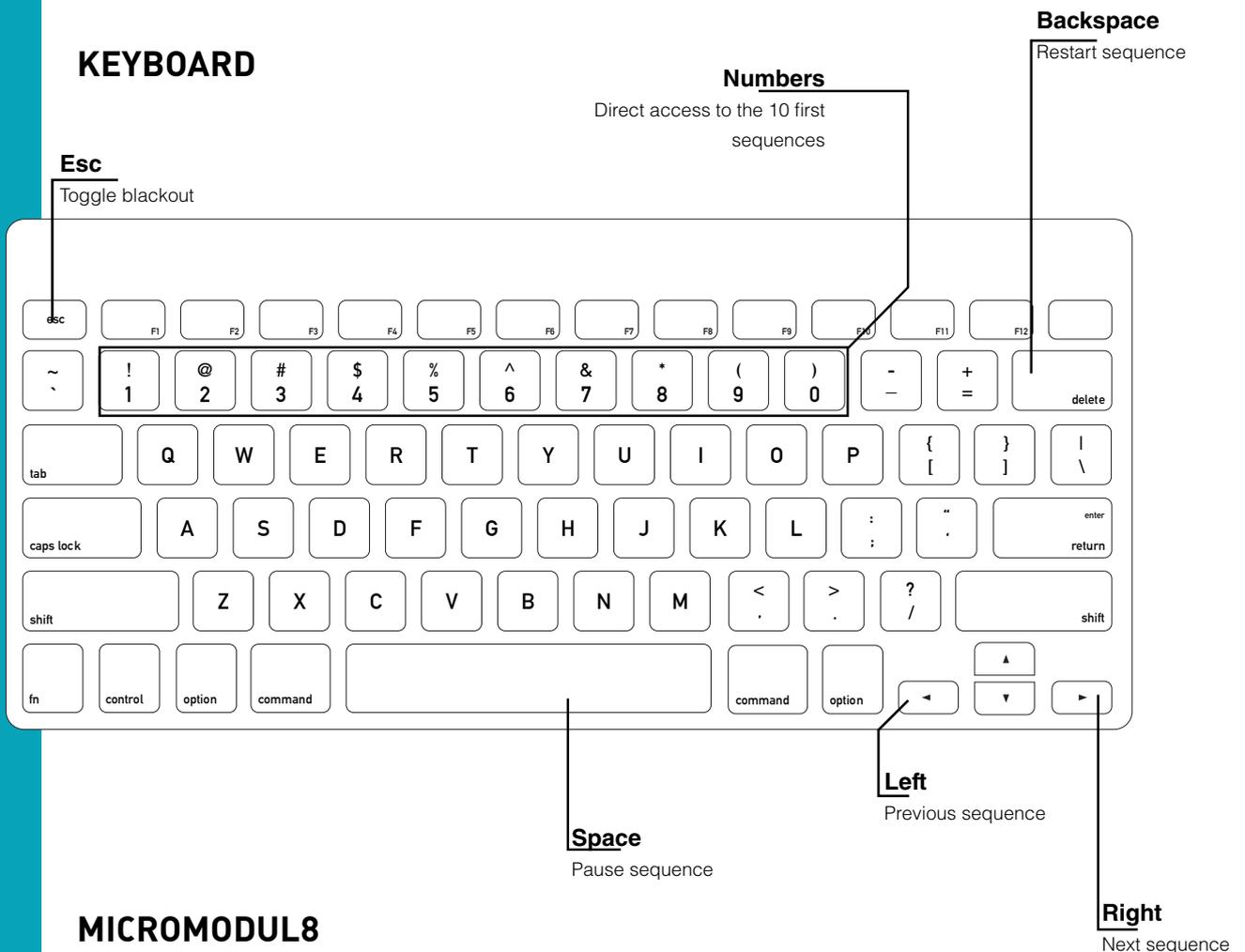
Note that depending on the miniMAD system version that’s installed on your SD-card, you may need to flash it with the latest image in order to export DMX sequences. Please refer to “Update your miniMAD SD-card” section for more details.

DMX/ARTNET PLAYBACK / CONTROLS

BUTTONS



KEYBOARD



MICROMODUL8

Blue buttons : direct access to the 16 first sequences
Left master knob : master luminance

DMX/ARTNET PLAYBACK / CONTROLS

KEYBOARD

- **1, 2, 3, 4, 5, 6, 7, 8, 9, 0: direct access to the 10 first sequences**
- **Left: previous sequence**
- **Right: next sequence**
- **Space: pause sequence**
- **Backspace: restart sequence**
- **Esc: toggle blackout**

MICROMODUL8

- **Blue buttons: direct access to the 16 first sequences**
- **Left master knob: master luminosity**

OSC

/pause: pauses the playback

/play: starts the playback after a pause

/replay: restarts the current sequence

/previous_sequence: previous sequence

/next_sequence: next sequence

/set_sequence_by_name/{sequence name}: set the current sequence by name

/set_sequence_by_index/{sequence index}: set the current sequence by index

/set_playback_mode/{playback mode index}: set the playback mode
(cf media playback mode list in MadMapper's export window)

/set_master_luminosity + (float parameter): master luminosity

Note that all indices start at 0.

The miniMAD declares itself as "miniMAD OSC" using the Bonjour discovery protocol.

INFORMATION



TECHNICAL SPECIFICATIONS

- Raspberry Pi 2 Model B
- 7 buttons control panel
- HDMI output up to 1080p60 (1920×1080 at 60Hz)
- 16 GB MicroSD-card + adapter
- 2 Amps power supply
- Size 9x10x3 cm

IN THE BOX

- 1 x 16 GB microSD-card class 10 installed with miniMAD software and an SD-card adapter
- 1 x power supply 100-240V including EU, AUS, UK and US plug
- 1 x printed user-manual

DISCLAIMER

miniMAD network synchronization can induce a one-frame delay between the different miniMADs.

Therefore miniMAD is not the best solution for setups using edge-to-edge screens, side-by-side or soft-edge projections, using content that would highlight this delay.

For such a setup, we advise you to use MadMapper software on a computer with several video-outputs.

For better synchronization, we also advise you prefer 720p over 1080p projector resolution

UPDATE YOUR miniMAD SD-CARD

First, you need to download the latest image of the miniMAD system (8 and 16GB versions are available) and the Etcher flashing tool. All those files are available to download on MadMapper Yourspace page.

On both platforms:

1. Insert your miniMAD SD-card in your computer's card-reader.
2. Launch Etcher application.
3. Select the downloaded .zip disk-image file as source.
4. Select the SD-card drive as target.
5. Click "Flash!" to start the operation.

The flashing operation can take up to 20-30 minutes.

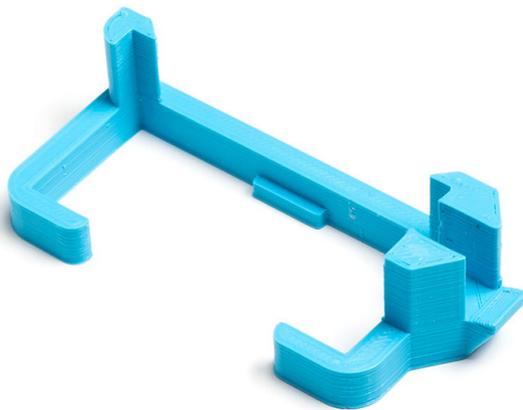
ACTIVATE YOUR miniMAD

After you flashed your miniMAD SD-card with the latest system image, you will need to activate it. The procedure only takes a few seconds:

1. insert the SD-card in the miniMAD
2. connect the miniMAD to any HDMI display
3. plug the power cord to turn the miniMAD on
4. follow the procedure displayed on the screen.

Note that the miniMAD red light is blinking when the activation process is required

INFORMATION



ACCESSORIES

Secure your miniMAD power-plug from being disconnected or damaged with the PLOCK – Power Supply Lock. You can download the 3D file to print it yourself (Creative Commons Attribution Noncommercial Share Alike).

