USER GUIDE

DAW control & MIDI utilities

Version 1.4
Basic concepts

TouchDAW offers two layers of functionality: DAW control plus some general purpose MIDI tools. In principle these two are independent from each other and can be used completely separate, with each layer connecting to separate target applications, eventually even on separate computers. Very likely though, you will mostly use them in parallel, talking to the same program - for example to record MIDI in the controlled DAW, to interact with one of its synthesizers using MIDI generated by the phone’s accelerometer, to do some live remixing or whatever else may come to mind.

DAW control:

The first functional layer is the DAW controller, putting much of the functionality of a 5 - 1500 Euro piece of mono-functional hardware onto your phone. This is also the screen that the app will start up with. It emulates a standard hardware control surface for common digital audio workstations and gives you control over a large set of parameters in the controlled software. In particular you get full control over the DAW's mixer (track volume, panorama, automation, solo and mute settings), effects, equalizers, virtual instruments and bus assignments. Additionally you will be able to save projects, perform undo’s and redo’s etc.

What exactly is accessible depends on the controlled DAW to some degree although basic functionality should work across products. TouchDAW 1.1 has dedicated support for Steinberg Cubase & Nuendo, Ableton Live, Apple Logic, Avid Pro Tools and Cakewalk Sonar, that is: it knows how these products combine controls to achieve certain things, use the displays etc., which is of some importance given TouchDAW only can show one channel at a time and has very little screen space available for monitoring what's going on inside the DAW. More indepth support for other products may be added to future versions of the app depending on demand, but it may nevertheless be worth trying if an unsupported DAW works with one of the currently available presets. Reaper for example, far as its Mackie implementation is going, does more or less work with TouchDAW set to Logic mode.

MIDI utilities:
A second functional layer is available with the integrated general purpose MIDI controllers. TouchDAW 1.0 includes a multitouch keyboard with pitch and controller support, a MIDI mixer, multitouch launchpads and configurable xy controller pads that also can map a phone’s sensors to MIDI controllers.

Both these layers are independent from each other and use separate MIDI connections. What is particularly important to understand is that DAW control essentially uses a “closed circuit”, bidirectional MIDI connection between the phone and the DAW. No other MIDI source should interfere with the communication between the two and you will want to keep control data away from your “musical” data flow alike.

**Performance, battery use etc.:**

TouchDAW can potentially generate a lot of traffic over WIFI and as it is dealing with music you will want it to be fast and responsive. Keep in mind that on a smartphone there are a lot of other things happening next to the app currently running in front. For best performance you should consider turning off things that are not currently needed. Don’t let the phone download email or check your friends’ facebook status when you are performing on stage or recording.

MIDI communication over RTP requires a constant uninterrupted WIFI connection. A lot of phones shut down WIFI when going into energy saving mode and thus will break the connection. You may need to let TouchDAW disable sleep mode and have your charger at hand when using the app for longer periods.
1. Basic concepts
2. Getting connected
   - MIDI setup
   - Sequencer setup
   - Connecting & initializing
3. TouchDAW screens
   - Main (DAW Controller)
     - Tablet view
     - Channel strip
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup
4. TouchDAW thru
5. FAQ / Troubleshooting
TouchDAW - Quickstart

This covers setting up TouchDAW with its default settings, using RTP over a WIFI connection. Do not follow this beyond point A and ignore the available video tutorials if you want to use Bluetooth, WIFI multicast or USB! Look at the resp. pages of the MIDI setup guide in the manual instead!

A. - Become aware of the basic concepts: TouchDAW is basically two programs in one and uses separate MIDI connections for both of them. The DAW Controller connection is bi-directional:

B. - Setting up sessions and connecting:

1. Make sure your device is connected to the same wireless network that the DAW computer is connected to.

2. Windows: Download, install and open rtpMIDI.
   Mac OSX: Launch "Audio MIDI Setup" from "Applications/Utilities", open the MIDI window and doubleclick the "Network" icon.

3. Create and enable two sessions in those control panels. Name them how you like, you will later find virtual MIDI ports - both in- and outputs - being created with the names you gave to your sessions.
4. Restart the DAW if it was already running in order to make it pick up the new ports.

5. Start TouchDAW

6. See TouchDAW’s two sessions appear in the directory listing. This happens automatically. (Windows: When Bonjour is not installed, you may need to add things manually).
7. Set the sequencer preference in the app (Setup / DAW Controller / Sequencer)

8. Configure your DAW to use the MIDI ports corresponding to session 1 for remote control in- and output (Those ports will have the same name that you gave to session 1)
   Find screenshots and instructions for all supported DAWs here

9. Under "My Sessions" select the first session (1). In the "Directory" listing select "tdaw (and.XXX) RTP 1" (2) and press connect (3). The session moves to the 'Participants' listing (4).

10. As for the first connection, select the second session (1), select "tdaw (and.XXX) RTP 2" (2) and press connect (3).
11. In the DAW route session 2 to any synth, drum machine or other gadget you want to use with the MIDI controllers.

And for those who grew up with a TV in their room:

Not using Cubase? It’s basically the same with other DAWs, except that the DAW windows look different. Find screenshots here.

ULTVProductions have done a nice video tutorial for FL Studio. Thanks for that. Find it on YouTube here.

Additionally you can look at video tutorials for the various iOS control surface emulators (AC7, DAW Remote, Eyosido etc.). They use the exact same functionality where they speak of “Core MIDI” or “Network MGI”

There are other ways to connect, some of them being easier, some not requiring the app to disable the phone’s sleep mode. However they have other prerequisites and it takes some reading to understand things en detail.
This page talks about some basic concepts behind the various network MIDI systems. In case you already know what you intend to use you may want to jump directly to that page using the links above.

**Network MIDI setup and connection basics**

TouchDAW uses RTP or multicast MIDI to connect to DAWs or other MIDI software. Both approaches are directly supported by available native MIDI drivers, which means that no additional server or translation software is required to run on the controlled computer. Depending on the platform your DAW runs on, you may not need to add anything to your system (OS X) or may just need to install an additional native MIDI driver (Windows, Linux) to get started.

A lot of people have asked for alternatives to WiFi transport and so TouchDAW 1.2 adds support for MIDI over Bluetooth and can also make network connections via USB. While USB support only changes the transport lane and still uses RTP and the corresponding native drivers, Bluetooth MIDI does require additional software to run on the DAW machine. This is discussed in more details below.

When you first start TouchDAW it will default to use RTP MIDI. You can change that in the app’s preferences.

**Native drivers**

RTP MIDI is a standardized packaging protocol forming the basis for Apple’s Network MIDI driver in Mac OS X (10.4+) and iOS (4.2+). A Windows implementation that pretty much exactly reproduces the functionality in OS X is available from Tobias Erichsen. (Note: This driver works best when you also have Apple’s Bonjour running on your PC, although that is not strictly required. More on that below).

TouchDAW’s multicast implementation is directly compatible with ipMIDI from nerds.de, which is available for Windows and OS X and has a Linux equivalent in the multimidicast library. Connecting via multicast is very straight forward and brings less configuration needs than RTP MIDI. However there are phones that won’t allow you to receive multicast data and multicast may conceptually not be totally ideal for DAW control.
Besides the mentioned native drivers, Humatic offers a simple free crossplatform MIDI thru application, that can be used to relay TouchDAW's MIDI data to native ports via loopback drivers like LoopBee or the IAC bus on OS X. TouchDAW thru is required for Bluetooth and ADB communications, in all other cases it should be preferred to talk directly to native drivers.

Choosing the connection method:

All mentioned ways of creating MIDI connections have their pros and cons. To quickly summarize those before going through them in detail:

### RTP (WIFI or USB):
- pro: - direct integration with native drivers that supply MIDI ports to sequencers
  - built-in on Mac OS X (WIFI only)
  - runs over WIFI and USB
- con: - somewhat complicated to set up
  - sensitive to connection loss (energy saving mode may need to be lowered when run over WIFI)

### Multicast:
- pro: - very little configuration needed
  - not affected by network shortages during sleep mode
  - direct integration with native drivers that supply MIDI ports to sequencers
- con: - some (HTC) phones can not receive multicast
  - potentially easier to misdirect data flow
  - native driver for Windows not cheap (though worth every cent)

### Bluetooth:
- pro: - no WIFI router / network required
  - not affected by network shortages during sleep mode
- con: - requires 3rd application to run on DAW machine.
  - limited support on Mac OS X.

### TouchDAW thru application:
- pro: - crossplatform and free
  - supports Bluetooth, ADB, RTP and multicast modes
  - full 8 channel MCU display
  - supports controller merging
- con: - potentially unnecessary 3rd application to run
  - requires MIDI loopback driver and java on the DAW computer

### WIFI, IP & Bluetooth setup

Before going any further you should make sure that - depending on the connection method chosen - WIFI is enabled on your device and you are connected to the local network that the computers you want to talk to are in or Bluetooth is activated on the Android device and it is paired with the computer that you wish to talk to (how to do this is not covered in this manual).

Next it is important to understand that TouchDAW does not require that you type in IP addresses, port numbers, Bluetooth names etc. anywhere. RTP MIDI uses DNS service discovery for automatic transfer of service location info, multicast communication with ipMIDI uses preconfigured settings matching those of the native driver and Bluetooth services will be discovered during device scans. There should be no need to ever go into the lower level settings!

### Selecting MIDI ports in the app

TouchDAW 1.2 comes with a new dialog based MIDI setup for both DAW controller and MIDI toys. To start this touch the "MIDI connection" entries in the "DAW Controller" and "MIDI utilities" submenus of TouchDAW's setup. It will launch automatically when a change in connectivity is detected at startup.

<table>
<thead>
<tr>
<th>1st step - select connection</th>
<th>2nd step (WIFI only) - select transport</th>
<th>3rd step (RTP over WIFI only)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>For multicast connections TouchDAW's settings match those of the native ipMIDI driver. details</td>
</tr>
</tbody>
</table>
Connecting via USB requires that you manually add a participant in the RTP control panels on the computer. TouchDAW will tell you the IP and port numbers to use. 

To connect via Bluetooth you need to run TouchDAW thru on the computer and let it scan for Bluetooth MIDI services when the app is running.

Local session refers to a session offered by TouchDAW. This is the default setting, see details below.

Additional sessions listed here have been picked up via DNS (device needs to support receiving multicast), details below.

* only connectivity enabled on the system level will show up here.

** with the MIDI utilities you will see an additional DSMI entry here. This is not available with the DAW controller because DSMI’s authors seem to have spent more time with Super Mario than they did with the MIDI specs and their server does not work with SysEx and other non 3 byte MIDI messages. Also there seem to be phones that don’t work with DSMI’s broadcast concept (seen with some ZTE devices).
1. Basic concepts
2. Getting connected
   - Quickstart
   - MIDI setup
   - Sequencer setup
   - Connecting & initializing
3. TouchDAW screens
   - Main (DAW Controller)
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup
4. TouchDAW thru
5. FAQ / Troubleshooting

Sequencer setup

DAW configuration is basically just a question of selecting the sequencer in use in TouchDAW - done under Setup / DAW Controller / Sequencer, which will bring up a selection menu as shown above - and then assigning a remote control device and giving it the correct MIDI ports for communication in the DAW. The following shows where to do that in the sequencers that TouchDAW has dedicated support for. If you use a different program, please refer to what its manual has to say about "Mackie Control" and try what sequencer preset in TouchDAW works best with it (in most cases that will probably be "Logic", although some assignments will likely not match).

Please also see TouchDAW release notes which may have additional notes on DAWs newly supported.

Cubase / Nuendo

From the "Device" menu select "Device Setup", which will make the window shown below appear.
In the left hand column select "Remote Devices" then click the "+" button on top of that column. From the list of predefined devices select "Mackie Control". You will then see a new entry under "Remote Devices". Select it and assign MIDI in and out ports on the right side of the window. In the screenshot "rtpMidi_1_local" refers to the first RTP session created in RTP MIDI's control panel. The name of that port will be different, depending on how you named it. The important thing is that both in- and output use the same port here when running over RTP. When using multicast you would need to select "ipMIDI Port 1" for input and "ipMIDI Port 2" for output.

TouchDAW 1.3 has additional options related to changing channel selection in the DAW when touching faders. In order for those to take effect, the "Enable Auto Select" option in Cubase / Nuendo needs to be off!

Next, to make sure control data does not interfere with musical data, select "MIDI Port Setup" from the left hand column and uncheck the control port under "In All MIDI" as shown below.

Ableton Live

From the "Options" menu select "Preferences", and click the "MIDI Sync" tab. Then in the upper part of the MIDI preferences set the first "Control Surface" to "Mackie Control" and select RTP MIDI's first session for in- and output when running over RTP or "ipMIDI Port 1" for input and "ipMIDI Port 2" for output when using multicast.
As with Cubase it may be a good idea to disable the midi port used for remote control for normal track input:

**Apple Logic**

TouchDAW 1.3. has extended support for auto detection of control surfaces. When you set the sequencer in the app to Logic, TouchDAW will by default activate this and Logic should automatically detect and install a Logic Control given the underlying MIDI connection has previously been made. The option can be turned off in case you want to use the app as a generic controller. Alternatively you can also use Logic’s scan functions available at: “Logic Pro” menu / “Preferences / Control Surfaces / Setup” Those should equally discover the app and install it as a Logic Control.

To install things manually click the “New” dropdown in said control panel and select “Install”. From the list of defined devices select the one that says “Mackie Designs” for “Manufacturer”, “Logic Control” for “Model” and “Logic Control” for “Module”. Click “Add” and a new control surface will appear in the setup window. Now all that left to do is setting the MIDI ports under “Out Port”, resp. “Input” at the top left hand side as shown below. Settings in the “Control Surface Group” table can remain as they are, but you should make sure that the “Track Lock” option is off. See Logic documentation for details.

**Pro Tools**

Go to Setup / Peripherals, select the “MIDI controllers” tab and set “Type” to ‘HUI’ and in- and out ports to OSX’s Session 1 or rtpMIDI’s first session for in- and output when running over RTP or “ipMIDI Port 1” for input and “ipMIDI Port 2” for output when using multicast. (Pro Tools for Windows does not seem to work with ipMIDI, though)

**Sonar**
Go to Options / Controllers & Surfaces and click the yellow icon on the right hand side to add a new controller. In the upcoming dialog select “Mackie Control” and set in- and out ports to rtpMIDI’s first session for in- and output when running over RTP or “1 Ethernet MIDI” for input and “2 Ethernet MIDI” for output when using multicast / ipMIDI. The dialog should look something like this then:

Additionally you may want to tune controller settings in the “Controller / Surfaces properties” dialog available from Sonar’s upper toolbar (in version 8 at least). As TouchDAW will always send F1 and F2 keys to change windows in Sonar mode, you will probably want to assign Track and Mixer views to those keys. Also you will need to enable level metering if you want TouchDAW to show audio levels.

**FL Studio**

Go to Options / MIDI Settings. Under Outputs select rtpMIDI's first session when running over RTP or ipMIDI Port 2 (“2 Ethernet MIDI”) when using multicast. Next set the port number dial to 102 for whatever port you selected or FL Studio will not send updates to the app. Additionally you may need to enable MIDI output globally in the Options menu.

Next select rtpMIDI’s first session when running over RTP or ipMIDI Port 1 (“1 Ethernet MIDI”) when using multicast in the input devices table, select “Mackie Control Universal” from the controllers dropdown and check the “Enable” box. The dialog should look something like this in the end:

Likewise when using TouchDAW thru (connected via MIDI Yoke here)

or rtpMIDI:
ULTVProductions have done a nice video tutorial for FL Studio. Thanks for that. Find it on YouTube here

Reaper

In Reaper's preferences go to the "Control Surfaces" page, click "Add" and select "Mackie Control Universal". Windows users may want to install the MCU_Klinke extension from stash.reaper.fm which overcomes some of the severe limitations with the built-in MCU support in Reaper (also see the 1.2. release notes and the manual on TouchDAW's main screen for this).

What's left is selecting MIDI ports for the added controller. The picture on the left shows connections for multicast communication via ipMIDI, the one below shows settings for the stock MCU plugin working via RTP.

Please make sure that the ports you select here are disabled for normal track in and output in Reaper. According to user reports strange things may happen when they are not.

When using the built in MCU support you should make sure that the "Map F1-F8 to goto markers" option is selected as TouchDAW will use those for navigation. The app will automatically detect which dll it is working with.

Reason

Go to Edit / Preferences and select the "Keyboards and Control Surfaces" page from the upper dropdown. You can then let Reason / Record autodetect TouchDAW by clicking the "Auto-detect Surfaces" button (requires TouchDAW 1.2 already running and connected to the network MIDI system in use) or manually add a MCU (click "Add" then select "Mackie" from the manufacturers list and "Control" from the device list in the next window). When autodetecting, MIDI ports will be set automatically;
when manually setting up, you will need to set them yourself. The picture on the left shows setup for a multicast connection made with ipMIDI, for RTP connections select the previously set up RTP session as shown for some of the other DAWs above. Finally make sure that the "Use with Reason" checkbox is selected for the controller representing TouchDAW.

Studio One

From the "Studio One" menu select "Options", go to the "External Devices" page and click the "Add" button. In the upcoming window open the "Mackie" folder from the list on the left, select "Control" and assign the MIDI in- and outputs to use. The screenshot on the left uses an RTP session defined in rtpMIDI. When using ipMIDI / multicast set "Receive From" to "1 Ethernet MIDI" and "Send To" to "2 Ethernet MIDI" ("Port 1 & 2" on OS X).
From the "Options" menu select "Program Preferences / MIDI Options". In the upcoming window select "System Options / Hardware Controller" in the left hand column, press "Add New" and select "Logic Control" from the dropdown menu. **Important: Do not select Mackie Control but Logic Control!** We have no idea what kind of a Mackie Control Magix own, but a lot of the buttons they refer to in their manual for that controller do not exist on the Mackie units we are aware of and a great part of the implementation described in the manual does not work anyway. Everything is fine with the Logic Control entry, though, so please stick with that.

What's left is selecting the appropriate MIDI ports. The picture shows a setup for RTP, if you wish to use multicast via ipMIDI set MIDI In to "1 Ethernet MIDI" and MIDI Out to "2 Ethernet MIDI". It is not necessary to customize the controller or change any other settings here. The only thing you need to be aware of is that Samplitude allows you to limit the number of tracks shown in its mixer view and this directly reflects upon how many tracks are accessible from a hardware controller. You may want to adjust that: In the mixer window click the "Setup" button in the upper right hand corner and adjust the number of tracks to show.

SAWStudio

From the File menu, select "MIDI Control Template File / Open" and browse for "MidiCtrl_Mackie_Control.mct" (in SAWStudio/Configuration). Next select "MIDI Device Setup" from the "Options" menu and select the appropriate MIDI ports in the upcoming window: The screenshot on the left shows setup for rtpMIDI (the port name will be different according to how you named it), if you wish to use multicast via ipMIDI set MIDI Control Device In to "1 Ethernet MIDI" and MIDI Control Device Out to "2 Ethernet MIDI". Next open the "Smpte/Midi" menu and make sure that both MIDI Control in and out are marked as active as shown on the upper right hand side. Finally save all this to your template file. That's it, however it should be noted that SAWStudio sometimes seems to take a restart to activate all this.

Digital Performer (7.2 and higher)
From the “Setup” menu select “Control Surface Setup”. In the upcoming window select “Mackie Control” from both the “Driver” and “Unit” dropdowns, then select the appropriate MIDI ports. The screenshots above show setup for iPpMIDI on the left and for RTP using Apple’s Network MIDI driver on the right.

When running older versions of Digital Performer please refer to some hardware control surface’s manual for general remote control setup and be aware that it will take some creative patching to get things going with network MIDI drivers.

**Acid Pro / Vegas**

On the preferences’ MIDI tab make sure that the MIDI ports you plan to use are enabled for both in- and output. Then go to the “External Control / Automation” tab as shown in the screenshot above. From the “Available Devices” dropdown select “MackieControl” and see it appear in the listing (highlighted in red above). Double-click the entry and in the “Mackie Control Configuration” dialog that will come up set the desired MIDI ports. It should not be necessary to tune any assignments in the mapping fields of that dialog.

Two things to note with Acid / Vegas: Both programs will only be operable from control surfaces when they have focus and will pull down all faders etc. when going out of focus. This even applies when some internal dialog grabs the focus from the main window.

Acid and Vegas allow for multiple tracks to be selected at a time. TouchDAW does not attempt to change that on the tablet display, but needs to reduce the selection to one track on phones. This has a certain failure potential and you may need to manually deselect tracks at times.
Connecting TouchDAW and the DAW, initializing

When in the previous pages it was said that the connection was made this is only partly true. An important thing to understand when using network MIDI systems is that the MIDI connection always goes via some sort of proxy. There is no direct connection between two applications. Both will open a network MIDI port supplied by whatever network MIDI system is in use - RTP, multicast or whatever else - and in principle be happy with that. However, one of the two applications will connect to that system before the other and therefore will not be able to directly talk to the other in order to initialize parameters etc. A hardware analogy to this would be a control surface that is switched off or has its MIDI cables pulled out when the DAW launches.

There are different possibilities to approach this:

- TouchDAW by default automatically tries to initialize DAW control communication soon as the connection to the network proxy is made. This however requires RTP or Bluetooth as a connection method (no "connection feedback" with multicast) and the sequencer already running with the correct MIDI ports opened.

- Start TouchDAW before the sequencer (and connect it to the RTP or Bluetooth session when using any of those). Then launch the sequencer. Assuming that the sequencer has previously been configured to use the same network MIDI connection for remote control it will open these ports and initialize the already running TouchDAW instance. The same will be the case if you change the sequencer's remote control ports to use said network connection as a change in ports will usually be followed by a full parameter update.

- ProTools will refresh the control surface when receiving the first HUI handshake (same after loosing it and finding it back). Logic will do when the SysEx autodetection link is made. This may take a couple of seconds, but does not need user interaction.

- If no direct communication is possible when either of the two programs launches then some other mechanism needs to be employed to get tracknames, parameters etc. initialized:
  - You can use remote control reset functionality that some DAW's supply or change remote control ports in the DAW.
  - TouchDAW will show "NC" - for "not connected" - in the display right on top of the fader, resp. the masterfader on
tablets. Touch this display and the app will send initialization sequences to the DAW to get a parameter update. "NC" will also be shown should a connection loss be detected or the DAW shut down.

- Using the bank up / down buttons makes most DAWs send full parameter updates.
1. Basic concepts
2. Getting connected
   - Quickstart
   - MIDI setup
   - Sequencer setup
   - Connecting & initializing
3. TouchDAW screens
   - Main (DAW Controller)
     - Tablet view
     - Channel strip
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup
4. TouchDAW thru
5. FAQ / Troubleshooting

TouchDAW 1.3 finally brings a tablet layout. It will be shown as the default view for all devices with a screensize of 1024 (resp. 800 on mdpi screens) pixels or greater in any direction (also see *) On small tablets with a high resolution (hdpi) screen you can opt for the phone layout instead - the original Galaxy Tab will be the most popular device falling into this category.

The tablet view combines and replaces the phone app’s channel strip, mixer and transport views. It pretty closely emulates the original hardware controllers. In opposition to the channel strip it contains very little adaption to specific DAWs - basically only the button titles will change when you change the sequencer in the app’s setup - an analogy to placing a DAW specific lexan overlay onto a hardware controller (one exception being Pro Tools, see below).

As you will find all buttons on the app that are also found on the original MCU hardware, operation is basically identical with that of a hardware controller. Please refer to the control surface chapters in your DAW’s manual to learn about the separate buttons’ functionality. When the manual talks about pressing a v-pot you get the same functionality in TouchDAW by double-clicking an encoder.

Some GUI elements with additional functionality are pointed out below. There are a number of ways for navigating the accessible block of eight channels:

- the page and bank buttons in the control section (as found on a hardware controller)
- duplications of those below the fader block (may not be available depending on screen size)
- swipe gestures on the fader block when touched outside of a fader’s knob area.
  Faders must be set to not allow value jumps for this (default).
- swipe gestures on the parameter display
- the volume rocker (distinguishes between short and long clicks for page or bank change if hardware supports it)

Horizontal swipes on the timecode display let you control the refresh rate of the shown timecode (Not available in Pro Tools / HUI mode). Tegra2 based Honeycomb tablets have no problem showing timecode at the full original rate, but slower devices will struggle. As full rate is probably not really needed anyway, you may want to free some resources here.
Internal modifiers

The two untitled buttons with the alt and shift icons do not perform any MCU actions, but are internal modifiers. At the time being the alt button switches all encoders to v-select mode (alternatively encoders can be double-clicked at any time for the "press v-pot" functionality). The Shift button switches the mixer part into **MIDI mode** (see below). The functionality of these buttons is likely going to be extended / changed in future versions.

Lockable buttons

There is a number of functions in some DAW's MCU implementation that require holding down a button while pressing some other, turn the jog wheel or whatever. This is not really comfortable to do on a touchscreen and simply impossible to do on a resistive screen. TouchDAW tries to address this with buttons that can be locked in pressed state. A button that is lockable shows a little square in the upper left corner and a double-click same as a click / swipe out combination will lock it in pressed state. Once locked the next touch event on the button unlocks it and only then it can again be used as normal. Lockable buttons will execute single clicks with a little delay and you should be aware that they can cause confusion when one forgets to "unpress" them.

Pro Tools

When emulating a HUI controller (or rather a MCU unit in HUI mode) there are a lot more functions than the app has buttons for. In Pro Tools mode you will therefore occasionally see the "arm" and "edit" buttons on mixer channels change color and title to provide the extra functionality. This includes setting automation modes, accessing locators and editing plugins.

Please make sure to not only read the 'Mackie Control for Pro Tools' guide, but also the HUI part in Pro Tools' general "Midi Control Surfaces" guide. Some of the information given in the former document only makes sense with knowledge on how things work on the original HUI.

**MIDI mode**

When switched to MIDI mode the mixer part of the screen sends freely configureable MIDI to the secondary MIDI connection (as configured...
under "MIDI utilities" in the setup). As of version 1.3.5 the app also takes MIDI input to reflect external control changes and handles any number of channels, which are then stepable using the same methods described above for DAW control mode.

The control<>MIDI mapping is governed by an xml setup file located on the device’s SD-card. There can be any number of mapping files put to the SD-card, the one to be used is selectable in the setup. In order to create your own mappings you currently need to edit the default file and save it back to the SD-card under a different name. In-app editing might be added at some point in the future. A commented version of the default xml can be found here. Some additional mappings can be viewed and downloaded from here. We hope to grow this into a useful resource collection over time and appreciate your contributions.

The location for the xml files is the midi_maps subdirectory of the default - Android 2.1 compatible - file directory of the app:

mnt / sdcard / Android / data / de.humatic.tdaw / files / midi_maps / default.xml

resp. for the free version:

mnt / sdcard / Android / data / de.humatic.tdf / files / midi_maps / default.xml

Note that these directories may not be visible from Windows when the device is mounted as external storage. You might need to use some Android file manager to access the directory.

The xml mapping principle is currently only used by the tablet DAW controller. Keyboard, XYPads and the mixer view on phones remain to use the five controllers directly configurable in the setup.

MIDI mode is time limited in the free version.

**MIDI Machine Control**

When enabled in the setup jogwheel, transport and the buttons marked in the following screenshot will send MIDI machine control to the secondary output either in parallel with the DAW controller or only when the shift modifier is set:

![MIDI Machine Control Screenshot]

* Recommended device specs: a Xoom class, Tegra2 based tablet or better with a screensize of 1280 * 800.
The app will work on China tablets, but you will miss a lot due to the painfully bad, non-multitouch, resistive screens. This is not meant to be StencilDAW...
1. Basic concepts
2. Getting connected
   - Quickstart
   - MIDI setup
   - Sequencer setup
   - Connecting & initializing
3. TouchDAW screens
   - Main (DAW Controller)
     - Tablet view
     - Channel strip
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup
4. TouchDAW thru
5. FAQ / Troubleshooting

Phone app's main screen - the DAW controller

The first and main screen of the app combines the central elements of a standard control surface:

- A channelstrip representing the "selected channel" with volume fader, level meter, solo, mute and record enable controls,
- Basic transport - play / pause, record and loop controls plus a timecode display
- 4 endless encoders that can be switched to either 1-4 or 5-8 for parameter manipulation
- A navigation cross for channel selection and general navigation
- Graphical overview over the currently accessible block of 8 channels

Some of the buttons have multiple functions depending on the state of the shift and alt modifier keys underneath the navigation cross. This will be discussed in detail below.

Additionally there is a second page to the screen, providing controls to dive deeper into the interiors of the controlled workstation. This is accessible through the

button on the lower toolbar and will change the six buttons on the upper right hand side to look as shown below:

The changed buttons mainly determine the encoders' control targets and may have slightly different functionality depending on the DAW software (details in the discussion on editor pages below). Generally speaking though they represent the entry points to a number of editors dealing with

- Stereo panorama
- Equalizers
- Track insert and send effects
- Virtual instruments
- Bus assignments and routing
Common hardware control surfaces usually have eight faders with corresponding track controls plus eight endless encoders. These eight channel strips correspond to an accessible block of eight channels in the DAW software. In projects that use more than eight tracks, this block can then be moved over the mixer either in steps of one (so instead of editing channels 1-8 you would edit channels 2-9, 3-10 etc.) or in steps of eight channels (1-8, 9-16 etc.). TouchDAW only can offer one full channel strip at a time, but the concept of blocks of eight is still present:

Consider the most simple editor page: Pan control. Here you will have the encoders - usually only 4 will be visible, switchable from 1-4 to 5-8, although you can have all 8 on screen - control stereo panning for all accessible eight channels and the fader control volume for the currently selected channel. Channel selection can then again be moved through the block of eight channels.

The tools mainly used for channel navigation are the following:

The **navigation cross**:

Left and right buttons move channel selection in the respective direction. Once you would leave the current block of eight, this will shift the whole block. So if you were editing channel 8 and moved further to the right the channel block would shift to then include channels 9-16 and TouchDAW would display channel 1 as selected.

Up and down buttons may have the same functionality. This depends on the DAW and whether it displays mix or arrange view where in the latter channels appear rather stacked vertically than horizontally like on a mixer. Some DAW’s may even use controls in an alternating fashion depending on the view.

With the shift key active though up and down buttons will move the entire block of eight up or down by one. (2-9 instead of 1-8, etc.). Plus they have additional functionality with some editors in Logic. See editors

Note that the button in the center of the navigation cross sets the DAW to zoom mode (button turns orange) and changes the behavior of the arrow keys. Should at some point channel selection appear to be broken, an engaged zoom button is amongst the usual suspects.

As off version 1.3 the navigation cross is exchangeable with a Jog wheel by performing diagonal wipes across the control. Once the Jog wheel is shown it can be double-clicked to enter and exit scrub mode.

The **"fader view"**: While mainly a means to display both fader settings in the current block of eight as well as channel selection you can perform horizontal swipe gestures on this to shift the entire channel block by steps of eight.

The **Volume Rocker**: Steps through channels like the left and right arrow keys do.
The **encoders**: 

Not normally a selection tool, encoders can be switched to selection mode by using the button on the lower toolbar. Once activated touching an encoder selects the corresponding channel.

---

**App navigation**

Navigating around TouchDAW’s main screen is mainly done with the buttons on the lower toolbar:

- Switches the left (always visible) encoders to either channel 1-4 or 5-8. When all 8 encoders are shown this button steps through editor subpages.

- Switches encoders to selection mode. In turn they can be used to select channels or parameters, but can not be rotated until switched back into normal mode.

- Shows all 8 encoders by replacing the right hand side controls with encoders 5-8.

- Brings up editor selection buttons in place of playback and channel controls or encoders 5-8. Editors are discussed in detail below.

Other screens as well as preferences are accessible via the standard Android menu button. This will bring up menus similar to the one shown on the left, linking to all other screens.

The Back button will always take you back to the previous screen.

The phone’s search button is occasionally used to bring up additional floating controls. These are also accessible via the icon hidden in some corners.

---

**Encoders**

(This refers to the phone app only. On a tablet the encoders work exactly like on a hardware Mackie controller!)

The eight encoders are used to tune a changing set of parameters. What they control at a given time depends mostly on the current editor page, which are discussed in detail below. Encoders however also have multiple ways of operation and also serve as parameter and value displays. The following gives a quick overview about this. Keep in mind that things will be slightly different depending on how the controlled software makes use of displays etc.:

- When not operated encoders show the name and display the absolute value of the parameter they control. Also see touch sensitive textfields for switching between name and value display.

- Once you start to spin an encoder it switches to relative / endless mode emulating the v-pots on standard hardware control surfaces. Parameter name and value will also be shown in the central upper textfields while an encoder is operated.
Double-tapping an encoder flips the controlled parameter to the fader, which can give finer (and absolute instead of relative) control and may be easier to handle. When flipped, both the encoder and the fader change colors. The fader now controls the parameter that was associated with the encoder and the encoder controls track volume. You can double-tab another encoder and the flipped parameter will change to the one associated with that encoder. To leave flip mode double-tab the currently flipped encoder - both fader and encoder will revert to normal.

Encoders may also be used for channel selection. To switch them into selection mode, press the button on the lower toolbar. In selection mode encoders can not be twisted, so you will want to revert to normal mode after changing channels.

In selection mode the currently selected channel's encoder changes the color to indicate selection.

Finally encoders can be used for "v-selection", which is usually done by pressing a v-pot on a hardware control surface (Only the more expensive variants will offer that feature, though). To enable v-selection, switch the encoders into selection mode as described above, then press the alt button. TouchDAW will automatically enable v-selection at some points where the supported DAWs make use of it. Normally encoders will revert to normal once a v-selection has been made.

Touch sensitive text fields

Some of TouchDAW's text displays may - depending on the DAW supporting it - have additional touch functionality:
- All timecode displays can be toggled between Bars & beats resp. SMPTE timecode by touching them (not all DAWs support this and some have additional timecode formats not defined in the Mackie protocol). Horizontal wipes shorten or lengthen the displayed timecode, affecting the refresh rate. If your device struggles with display refreshes, shortening the timecode usually helps a lot.
- The value display right on top of the fader can toggle between name and value display. Swapping this will also affect what is displayed on encoders.

Main screen button reference

Control Modifier

<table>
<thead>
<tr>
<th>Control</th>
<th>Modifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOLO</td>
<td>Isolates the selected channel, i.e. mutes all but this channel</td>
</tr>
<tr>
<td></td>
<td>Cubase, Logic, Sonar: unsoloes all channels, selected or not</td>
</tr>
<tr>
<td></td>
<td>Pro Tools: soloes / unsoloes all channels</td>
</tr>
<tr>
<td>MUTE</td>
<td>Mutes selected channel</td>
</tr>
<tr>
<td></td>
<td>Cubase, Logic, Sonar: Unmutes all channels, selected or not</td>
</tr>
<tr>
<td></td>
<td>Pro Tools: mutes / unmutes all channels</td>
</tr>
<tr>
<td>ARM</td>
<td>Record enables the selected channel</td>
</tr>
<tr>
<td></td>
<td>Replaced by:</td>
</tr>
<tr>
<td></td>
<td>Samplitude: Input monitor</td>
</tr>
<tr>
<td></td>
<td>Toggles loop playback</td>
</tr>
<tr>
<td></td>
<td>FL Studio: Switches between Song and Pattern mode</td>
</tr>
<tr>
<td>EDIT</td>
<td>Replaced by:</td>
</tr>
<tr>
<td></td>
<td>Cubase: Opens / closes channel editor</td>
</tr>
<tr>
<td></td>
<td>Live: changes lower view</td>
</tr>
<tr>
<td></td>
<td>FL Studio: Opens Edison audio editor</td>
</tr>
<tr>
<td></td>
<td>Acid / Vegas: Toggles mixer view (+Shift: FX-Bypass)</td>
</tr>
<tr>
<td>LATCH</td>
<td>Switches automation to Latch mode for selected channel (Logic only)</td>
</tr>
<tr>
<td>Button</td>
<td>Function</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>MIX</strong></td>
<td>Switches between arrange and mixer views</td>
</tr>
<tr>
<td><strong>Sonar</strong>: We could not make much sense of Sonar’s “next window / hide window” concept, so this sends F1 and F2 keys alternatively. Assign views to those keys as you like in Sonar's control surface properties. FL Studio: Steps through windows.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Replaced by: <strong>OFF</strong></td>
</tr>
<tr>
<td></td>
<td>Replaced by: <strong>EDIT</strong> (Cubase only)</td>
</tr>
<tr>
<td><strong>OFF</strong></td>
<td>Disables automation for the selected channel</td>
</tr>
<tr>
<td></td>
<td>Replaced by: <strong>MIX</strong></td>
</tr>
<tr>
<td></td>
<td>Disables automation for all channels</td>
</tr>
<tr>
<td><strong>Samplitude</strong>: Current automation mode is copied to all channels</td>
<td></td>
</tr>
<tr>
<td><strong>READ</strong></td>
<td>Switches automation to read mode for the selected channel</td>
</tr>
<tr>
<td></td>
<td>Switches automation to read mode for all channels (not available for Sonar)</td>
</tr>
<tr>
<td><strong>TOUCH</strong></td>
<td>Switches automation to touch mode for the selected channel (Logic, Pro Tools only)</td>
</tr>
<tr>
<td></td>
<td>Switches automation to touch mode for all channels (Logic only)</td>
</tr>
<tr>
<td><strong>WRITE</strong></td>
<td>Switches automation to write mode for the selected channel</td>
</tr>
<tr>
<td></td>
<td>Switches automation to write mode for the all channels (Global write is skipped for Logic, not available for Sonar)</td>
</tr>
<tr>
<td><strong>II</strong></td>
<td>Pauses playback</td>
</tr>
<tr>
<td><strong>Play</strong></td>
<td>Starts playback</td>
</tr>
<tr>
<td></td>
<td>Starts recording on record enabled channels</td>
</tr>
<tr>
<td></td>
<td>Pro Tools: Shows automation target selection.</td>
</tr>
<tr>
<td></td>
<td>Sonar: Automation snapshot</td>
</tr>
<tr>
<td></td>
<td>Up navigation, target may change depending on sequencer state</td>
</tr>
<tr>
<td></td>
<td>Reason: switch devices</td>
</tr>
<tr>
<td></td>
<td>Reason: Next patch (for devices with patches)</td>
</tr>
<tr>
<td></td>
<td>Replaced by:</td>
</tr>
<tr>
<td></td>
<td>Moves accessible channel block to the right</td>
</tr>
<tr>
<td><strong>Select</strong></td>
<td>Selects previous channel</td>
</tr>
<tr>
<td></td>
<td>Enables zoom mode. Navigation keys will zoom in / out of sequencer views.</td>
</tr>
<tr>
<td></td>
<td>Live: Fires the currently selected clip</td>
</tr>
<tr>
<td></td>
<td>Sonar: Enters Edit mode (the assignment display will change color as an indicator). In Edit mode up and down arrows step though editor parameters.</td>
</tr>
<tr>
<td></td>
<td>Disables zoom mode.</td>
</tr>
<tr>
<td></td>
<td>Live: Stops the currently selected clip</td>
</tr>
<tr>
<td><strong>Select</strong></td>
<td>Selects the next channel</td>
</tr>
<tr>
<td></td>
<td>Down navigation. Target will change depending on zoom mode and sequencer state</td>
</tr>
<tr>
<td></td>
<td>Reason: switch devices</td>
</tr>
<tr>
<td></td>
<td>Reason: Previous patch (for devices with patches)</td>
</tr>
<tr>
<td></td>
<td>Replaced by:</td>
</tr>
<tr>
<td></td>
<td>Moves the accessible channel block to the left</td>
</tr>
</tbody>
</table>
Editors

(This refers to the phone app only. On a tablet things work exactly like on a hardware Mackie controller! Please refer to your DAW's Mackie reference.)

The various editor pages are where you get into the details of a DAW project. Brought up by the second set of buttons on the main screen, they mainly change the control targets of the endless encoders. What exactly is available for editing widely depends on the DAW software. Live for example has a relatively small set of accessible parameters while Logic is incredibly complex - sometimes to the degree of making things unhandleable. In general it will help a lot if you know your DAW down to the bits and pieces, as TouchDAW won't be able to always present all necessary information in a quickly overlookable way (if at all).

Most editors will have multiple subpages. If possible this will be indicated in the upper displays. Ways of navigating through subpages may be different depending on the DAW, please see the reference below for details.

If you want to use TouchDAW with a DAW that's not directly supported it is very likely that you will hit the wall at some point when trying to use editors, because there is absolutely no common standard on what command calls which functionality.

Keep in mind that there are 4 encoders that are not immediately visible (unless you show them all, which of course removes other controls that you will need). The leftmost button in the lower toolbar changes the four visible encoders between 1-4 and 5-8.

Only Pan and EQ editors (resp. Send for DP, Live and sends A & B for Pro Tools) are available in the free version.

Studio One: The DAW's MCU implementation is very incomplete. No other editor than Pan is functional.

### PAN

Encoders control the stereo position of the accessible block of channels.

- **Cubase:**
  
  Pressing Pan button again switches between Left/Right or Front/Rear (surround) panning.

- **Logic:**
  
  Pressing Pan button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter. In track mode encoder 1 will control the selected track’s pan position, all other encoders are inactive.

- **Pro Tools:**
  
  Pressing Pan button again switches to right channel panning for stereo tracks. The button will blink.

- **Sonar:**
  
  Pressing Pan button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter. In track mode encoder 1 will control the selected channel’s pan position, further encoders may control Aux busses’ send pan.

- **Reason:**
  
  14:2 and 6:2 Mixer - Encoders control panning for the the currently accessible block of channels. For most other devices the editor has no or varying functionality. Please refer to Reason’s documentation.

### EQ

Encoders control
- center-frequency
- gain
- quality
- bypass state
of the four-band channel equalizers.

Press EQ button again to switch between bands 1/2 and 3/4

- **Live:**


This button is not available for Live

**Logic:**

Pressing EQ button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter.

In channelstrip mode encoders control a single eq parameter on their corresponding channel.

Use up and down navigation to step through eq bands. The central upper display will indicate the current band.

Use up and down navigation with alt active to change the parameter between frequency, gain, quality and bypass state.

In track mode you have direct access to frequency, gain, quality and bypass state of two equalizer bands of the current channel. Trackmode will open the channel’s eq window in Logic.

Use up and down navigation to go through equalizer bands.

**Pro Tools:**

This button is not available with Pro Tools, instead it is replaced by a parameter stepping control for Pro Tools’ plugin edit mode. See Plugin.

**Sonar:**

Pressing EQ button repeatedly changes between track, channelstrip and a special fader mode. Track mode is indicated right above the level meter, the fader mode is indicated by the assignment display showing "F1"

In channelstrip mode encoders control a single eq parameter on their corresponding channel.

To change this parameter, Sonar’s Edit mode needs to be activated through the "alt" and "zoom" (center of navigation cross) buttons. The assignment display will change color as an indicator (and can also be clicked to enter and exit edit mode). You can then use up and down navigation to step through eq parameters. Unfortunately Sonar does not give much feedback on what parameter is currently edited.

With the alt key down encoders switch the band they are working on to bypass and back.

In track mode you have direct access to the center frequency and gain of four equalizer bands of the current channel. Edit mode / up, down navigation accesses quality and bypass state of those four eq bands. With the alt key down encoders switch the band they are working on to bypass and back.

The fadermode puts eq center frequencies to the first four encoders and eq gain to the fader(s).

**FL Studio:**

Encoders 1 - 6 control center frequency and bandwidth of the three-band channel eq. Faders 1 to 3 control gain for the EQ bands (Faders are not available for Channel volume control in this mode).

**Reason:**

14:2 Mixer - Encoders control Treble for the the currently accessible 8 channels.

For most other devices the editor has no functionality. Please refer to Reason’s documentation.

**Reaper (MCU_Klinke only):**

Switches to action mode. Please refer to the readme files that come with the MCU_Klinke extension.

**Samplitude:**

Repeatedly pressing EQ button switches between two different assignments for EQ access. In the first mode encoders control gain, frequency and quality for two eq bands, the fourth / eighth encoders have no function and up and down navigation lets you switch to the other two bands. In the second mode either gain and frequency or quality for all four EQ bands are accessible. There no indicator for what mode you are in other than parameter names and that there will be no text on the fourth and eighth encoder in mode A and no text on encoders 5 - 8 in mode B.

**SAWStudio:**

Encoders 1-5 control gain, frequency, bandwidth for 5 EQ bands as well as high and lowpass for the currently selected channel. Repeatedly pressing EQ button switches between the control targets.

**Digital Performer:**
This button is not directly available with DP, instead it replaces the initially shown (blank) V-Selection shortcut button when the alt key is pressed. Once present, pressing it will switch encoders to V-Selection mode and touching an encoder will then insert a parametric EQ into the first insert slot of the respective channel.

**Vegas:**

Toggles between Audio and Video mode.

**SEND**

**Cubase:**

This button has two functions for Cubase:

Without modifier key, the send button edits the current channel’s fx sends:

There are four pages to the editor, accessible by repeatedly pressing the send button (alt active: step one page down):

- **Page 1:** Encoders control send levels for aux sends 1-8
- **Page 2:** Encoders turn aux-sends 1-8 on or off
- **Page 3:** Encoders set aux sends to pre- or post fader
- **Page 4:** Encoders select the bus the aux send is routed to.

With the shift key down encoders set and edit send effects. There will be one global page plus plug-in dependent subpages:

- **On the global page:**
  - Encoder 1 selects the effect slot to edit.
  - Encoder 2 turns the effect in that slot on or off.
  - Encoder 3 selects the plug-in to load into the selected slot.

Further pages are specific to the effect in the selected slot. Pressing the send button steps up one page, pressing it with alt active steps one page down.

**Live:**

Encoders control channel send levels for the selected channel.

**Logic:**

Pressing Send button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter.

In channelstrip mode encoders control a single send parameter on their corresponding channel.

Use up and down navigation to step through sends. The central upper display will indicate the currently selected send.

Use up and down navigation with alt active to change the parameter between:

- on / off
- position (pre / post fader)
- level &
- destination

Some parameters may require confirmation. The encoder will start to blink in v-selection mode. Touch it to confirm the change, touch any other encoder to revert.

In track mode you have direct access to on/off state, position, level and destination of two sends on the selected channel.

Use up and down navigation to go through available sends.

**Pro Tools:**

Encoders control send levels for sends A - E (A & B in the free version). Repeatedly pressing the Send button switches the edited send.

**Sonar:**

Pressing Send button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter.

In channelstrip mode encoders control a single send parameter on their corresponding channel.

Use Edit mode & up, down navigation to step through sends. As with eq parameters there is no feedback from Sonar on what send you are currently working.

In trackmode encoders control:

- Send bypass
- Send level
- Send pan
- Send pre/post fader
FL Studio:

Encoders control channel sends. As a channel can not send to itself the encoder related to the current channel does nothing. To enable / disable a send set encoders to v-selection mode and touch the encoder corresponding to the wanted send.

Reason:

14:2 Mixer - Encoders control Aux Send 2 for the the currently accessible 8 channels. For other devices the control target varies. Please refer to Reason’s documentation.

Reaper (MCU_Klinke only):

Repeatedly pressing Send button switches between the current track's Sends and Receives if the track has IO routings set up. The fader then controls send or receive levels and the encoders the panning. TouchDAW will be in custom fader mode, so faders are not available for channel volume control and navigation switches between Sends / Receives rather than between channels.

Samplitude:

Repeatedly pressing Send button switches between normal and “Phat Channel” aux mode. In normal mode (central upper display shows "AU") encoders control the current send for 8 channels. Use up and down navigation to switch between sends. In phat mode (display shows "AP") all 8 aux sends for the current channel are controlable.

SAWStudio:

Encoders 1 and 2 control level and pan for 6 Aux sends on the currently selected channel. Repeatedly pressing Send button switches steps through the 6 sends. Additionally encoders 3 - 5 toggle send bypass, pre/post fader and fx assignment when set to V-Selection mode (selection mode + alt).

Digital Performer:

Controls channel send levels for sends 1 & 2. Use up and down navigation to switch between sends.

Acid / Vegas:

Encoders control bus and track sends. Press button repeatedly to step through available sends.

Cubase:

Track insert editor.
Encoder 1 selects the insert slot to edit.
Encoder 2 controls bypass for the selected slot
Encoder 3 controls the plug-in loaded into the selected slot.
Further pages are specific to the insert-effect in the selected slot. Pressing the Plugin button steps up one page, pressing it with alt active steps one page down.

Live:

Encoders edit the selected channel's device plugins.
After pressing the button, encoders will show the names of plugins currently chained in the track and be in v-selection mode. Select the plugin to edit by touching the corresponding encoder. After this the encoders will display and edit the selected plugins parameters and the two arrow buttons will let you access additional editor pages. (A white arrow indicates availability of further pages in the respective direction).
Pressing the plugin button again, goes back to plugin selection mode.

Logic:

Pressing Plugin button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter.

In channelstrip mode the encoders let you select what plugin is loaded into the current slot on their respective channels. The current slot will be displayed in the central upper display and the plugin window of the selected channel will open in Logic.
Changing a plugin requires confirmation. The encoder will start to blink in v-selection mode. Touch it to confirm the change, touch any other encoder to revert.
After a plugin has been selected, the encoders will change to plugin edit mode for that plugin.

In track mode you can directly access plugins in the selected channel:
Spinning the encoder changes the plugin. This again requires confirmation. Touch the blinking encoder to confirm, any other to revert. To edit a plugin without changing it first, put the encoders into v-selection mode and select the plugin to edit. Encoders will switch to plugin edit mode.

Once in plugin edit mode pressing the Plugin button reverts to track or channel strip mode.

**Pro Tools:**

Switches to plug-in edit mode. Encoders will be set to v-selection mode. Upon touching the encoder corresponding to the plugin you want to edit, the encoders will switch to show and edit parameters of that plugin. If more than one page is available the arrow button will let you step through these pages (alt & arrow button step downwards). To return to plugin selection press the plugin button again. To change or set a plugin touch the plugin button with alt down. Plugin names will then be prefixed with "->" and turning the encoder will select effects. After a selection is made touch the plugin button again and disable alt.

**Sonar:**

Pressing Plugin button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter.

In track mode encoders control parameters of the first selected plug-in in the fx-stack (Normally the Prochannel) Edit mode and up / down navigation step through parameters.
In channelstrip mode multiple parameters of one plugin are accessible via the encoders. Edit mode and up / down navigation access additional parameters if available.
In both modes edit mode and up / down navigation with both shift and alt keys down, changes the edited plugin (central upper display shows P1, P2 etc.).

**FL Studio:**

Encoders control send levels for the mixer’s 8 insert effect slots.

**Reason:**

14:2 Mixer - Encoders 1-4 control Aux Returns.
For most other devices this editor has no function. Please refer to Reason's documentation.

**Reaper (MCU_Klinke only):**

Faders control various parameters in a channel’s assigned plugins. If there are more than one plugin or more banks and pages available for a plugin those are accessible via the arrow buttons that replace "Instr" and "Track" for Reaper. Use those without modifier to switch pages for the current plugin, with "shift" down to switch between banks in the current plugin (rarely available) or with "alt" down to switch between plugins. When in plugin editor, pressing the "Plugin" button again switches the bypass state of the edited plugin.

**Samplitude:**

When first pressed encoders will switch to plugin selection mode, encoders corresponding to slots that have a plugin inserted will be set to v-selection mode and touching them switches the encoders to edit parameters of that plugin. Use up and down navigation to access additional pages if available.
Not all plugins seem to be editable and there does not seem to a way to set a plugin from the controller.

**SAWStudio:**

*Activates and opens (if needed) the FX Pre and FX Pst views* (taken from the SAWStudio help file, don't ask us what that means).

**Digital Performer:**

Enters a number of plug-in specific submodes. When first pressed, encoders assign plugins to insert slots 1 - 5 (up and down navigation selects the current slot). Additionally the arrow button underneath the plugin button will be activated and can then be used to switch between plugin assignment and preset selection for the plugins.
Plugin mode also enables two further options:
Pressing the shift key replaces the blank V-Selection shortcut with a button named Edit. Pressing that sets encoders to V-Selection mode and pressing an encoder then enters parameter editing for that plugin. The Edit button will light up. To exit plugin parameter editing mode press the Edit button again.
Pressing the alt key enables direct insertion of a parametric EQ plugin, see EQ above.

**Acid / Vegas:**
Encoders give access to and control bus and track effects. Pressing the Plugin button repeatedly switches between track (Assignment display shows "PL") and channelstrip ("PS") mode or directly enters edit mode for a single insert FX ("PE"). In track mode you have access to inserts on multiple tracks while in channelstrip mode multiple inserts in the currently selected channel are accessible. Double clicking an encoder enters edit mode for the corresponding insert effect. Once in edit mode encoders 1 - 4 control FX parameters, up and down buttons on the navigation cross step through pages and another click on the Plugin button takes you out of FX edit mode again.

**Cubase:**

Cubase: VST Instrument selection and editing.

Encoder 1 selects the instrument slot to edit.
Encoder 2 switches the selected slot on or off
Encoder 3 selects the instrument to load into the selected slot.

Further pages are specific to the selected instrument. Pressing the Instr button again steps up one page, pressing it with alt active steps one page down.

**Live:**

This button is not available for Live.

**Logic:**

Pressing the Instr button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter.

In channelstrip mode the encoders let you select what instrument is loaded into the respective channel. Changing an instrument requires confirmation, touch the blinking encoder to confirm, touch any other to revert the change.

In track mode - or rather instrument edit mode - you edit the selected channel’s instrument. Its window will open in Logic.

**Pro Tools:**

Encoders control channel inputs for the currently accessible block of eight channels.

**Sonar:**

This switches the fader or "channel selection" rather than the encoders: When not highlighted the fader operates on single tracks. Pressing the Instr button it is switched to either busses or (when pressed again) to masters. Some of the other editors are also functional when in bus or master mode. Note that nothing may happen when you press this button while on a track with an ID higher than the number of aux or master busses.

**FL Studio:**

Free controls. All 8 encoders and 8 faders can be freely mapped to controls in the DAW. The fader is not available for channel volume control in this mode.

**Reason:**

14:2 Mixer - Encoders control Bass for the the currently accessible 8 channels.
For most other devices the editor has no functionality. Please refer to Reason’s documentation.

**Reaper:**

This button is replaced by a plugin (when "alt" is down), bank (when "shift" is down) resp. page stepping control for the plugin editor. Functional with the MCU_Klink extension only.

**Samplitude**

No function

**SAWStudio:**

Encoders 1 - 4, resp. 5 and 6 control parameters on SAWStudio's Compressor, Gate and Key EQ. Repeatedly pressing Instr button steps
through the dynamics processors.

**Digital Performer:**

This button is not available with DP.

**Acid / Vegas:**

Encoders control track outputs.

**Cubase:**

Master effects selection and editing.

Encoder 1 selects the master fx slot to edit.
Encoder 2 switches the selected slot on or off
Encoder 3 selects the plugin to load into the selected slot.

Further pages are specific to the selected effect. Pressing the Track button again steps up one page, pressing it with alt active steps one page down.

**Live:**

Encoders control channel routing. There are four pages, accessible by repeatedly pressing the Track button:

Page 1 controls a track's input types.
Page 2 controls a track's input channel.
Page 3 controls output types.
Page 4 controls a track's output channel.

**Logic:**

Pressing the Track button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter.

In channelstrip mode encoders edit a single track parameter on the respective channel. Available parameters are:
- Volume
- Pan
- Track mode
- Input
- Output
- Automation
Use up and down navigation to step through parameters.

In track mode eight track parameters are directly accessible for the selected channel:
- Volume
- Pan
- Instrument
- Plugin in slot 1
- Plugin in slot 2
- Send levels for sends 1-3

Instrument and plugin selection will again require confirmation.

**Pro Tools:**

Encoders control channel outputs for the currently accessible block of eight channels.

**Sonar:**

Pressing Track button repeatedly changes between track and channelstrip mode. Track mode is indicated right above the level meter.

In trackmode encoders control:
- Volume
- Pan
- Output bus
- Input
- Phase inversion
- Stereo / Mono
- FX on / of and
- FX send level
for the current channel.

In channelstrip mode one of these parameters will be accessible for eight channels. Edit mode / up and down navigation let you change the parameter.

**FL Studio:**

Encoders control stereo separation for the currently accessible block of 8 channels.

**Reason:**

14:2 Mixer - Encoders control Aux Send 1 for the currently accessible 8 channels.

For other devices the control target varies. Please refer to Reason’s documentation.

**Reaper:**

This button is replaced by a plugin (when "alt" is down), bank (when "shift" is down) resp. page stepping control for the plugin editor.

Functional with the MCU_Klinke extension only.

**Samplitude:**

When first pressed encoders control channel panning of the currently accessible 8 channels (exactly like in Pan editor, central upper display shows "TR"). Pressing Track button a second time switches Samplitude into "Active Control" mode (display shows "AC"). The fader then controls any parameter selected in Samplitude by mouse (and showing that little red triangle next to it). Encoders still control panning.

**SAWStudio:**

Turning encoder 1 controls mixer attenuation level, pressing it in V-Selection mode sets attenuation to defaults. Pressing encoder 2 controls a channel’s phase switch, pressing encoder 3 swaps left and right channels and turning encoder 4 controls a channel’s mono mode.

**Digital Performer:**

Sets the encoders - which will switch to V-Selection mode - up as shortcuts to various subeditors:

- Pan - encoders control Pan (this is identical to what you get when pressing TouchDAW’s Pan button).
- SndVal encoders control Send Levels and Send Mute (this is identical to what you get when pressing TouchDAW’s Send button).
- SndOut encoders select the output to which the sends are assigned.
- Input encoders control track input.
- Output encoders control track output.
- Effect encoders select effects for slots in the mixing board, and choose presets (this is identical to what you get when pressing TouchDAW’s Plugin button).
- Prefs Accesses control surface preferences.

**Acid / Vegas:**

Encoders control track inputs.
1. Basic concepts
2. Getting connected
   - Quickstart
   - MIDI setup
   - Sequencer setup
   - Connecting & initializing
3. TouchDAW screens
   - Main (DAW Controller)
     - Tablet view
     - Channel strip
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup
4. TouchDAW thru
5. FAQ / Troubleshooting

This view is only available on phones!

The transport screen is primarily about navigating through a DAW project timewise. It provides a full set of transport controls including jog wheel and allows for marker navigation and placement. Also included on this screen is access to save and undo / redo functionality far as those are exposed by the DAW.

With Ableton Live this screen may also be convenient for launching clips and scenes in clip view: The jogwheel will scroll through scenes, the scrub button triggers the currently selected one and advances to the next. The navigation cross can be used for clip selection, with the zoom button in its center launching selected individual clips. You will also find an equivalent to Live’s “Back to arrangement” button when the app’s sequencer preference is set to Live.

Touching the extras icon in the top right corner brings up a floating control with eight function keys that can be freely mapped to functions of your choice in some DAWs, but have fixed assignments in others. These are effectively the F keys in the topmost row of an MCU unit’s master section.

With both alt and shift keys down these buttons send commands equivalent to the second master section row. In most DAWs these are used to navigate window or channel sets.

Known fixed mappings for function block buttons are given in more detail in the button reference below.

As of version 1.1 the transport screen can also send MIDI Machine Control (MMC) to the secondary MIDI output. This needs to be enabled in the app’s setup and is disabled by default. MMC will optionally be sent in parallel with DAW control transport commands or alternatively (when the shift button is pressed). See the button reference below for what MMC command is sent from which button (not specifically mentioned where obvious, like for play, stop etc.).
Button reference:

<table>
<thead>
<tr>
<th>Control</th>
<th>Modifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cubase, Reason</td>
<td>Go to left locator.</td>
</tr>
<tr>
<td>Live</td>
<td>Home</td>
</tr>
<tr>
<td>Logic</td>
<td>Nudge backward</td>
</tr>
<tr>
<td>Pro Tools</td>
<td>Home</td>
</tr>
<tr>
<td>Sonar</td>
<td>Go to loop start</td>
</tr>
<tr>
<td>FL Studio</td>
<td>Move left (With button held down, the jog wheel can be used for moving multiple steps. Target depends on active window)</td>
</tr>
<tr>
<td>Reaper</td>
<td>Standard - go to Marker 1. Klinke: Go to loop start</td>
</tr>
<tr>
<td>Studio One</td>
<td>previous marker</td>
</tr>
<tr>
<td>Samplitude</td>
<td>Home</td>
</tr>
<tr>
<td>SAWStudio</td>
<td>Home</td>
</tr>
<tr>
<td>Digital Performer</td>
<td>RTZ</td>
</tr>
<tr>
<td>Acid, Vegas</td>
<td>RTZ</td>
</tr>
<tr>
<td>MMC</td>
<td>Go to 00:00:00:00</td>
</tr>
<tr>
<td>Cubase</td>
<td>Set left locator</td>
</tr>
<tr>
<td>Logic</td>
<td>Set Drop region in</td>
</tr>
<tr>
<td>Pro Tools</td>
<td>Nudge left</td>
</tr>
<tr>
<td>FL Studio</td>
<td>Snap</td>
</tr>
<tr>
<td>Reaper</td>
<td>Standard - go to Marker 5. Klinke: Go to 0.0.0.0</td>
</tr>
<tr>
<td>Samplitude</td>
<td>Previous object</td>
</tr>
<tr>
<td>Acid, Vegas</td>
<td>Go to region start</td>
</tr>
<tr>
<td>Cubase, Reason</td>
<td>Go to right locator.</td>
</tr>
<tr>
<td>Live</td>
<td>End</td>
</tr>
<tr>
<td>Logic</td>
<td>Nudge forward</td>
</tr>
<tr>
<td>Pro Tools</td>
<td>End</td>
</tr>
<tr>
<td>Sonar</td>
<td>Go to loop end</td>
</tr>
<tr>
<td>FL Studio</td>
<td>Move right (With button held down, the jog wheel can be used for moving multiple steps).</td>
</tr>
<tr>
<td>Reaper</td>
<td>Standard - go to Marker 2. Klinke: Go to loop end</td>
</tr>
<tr>
<td>Studio One</td>
<td>next marker</td>
</tr>
<tr>
<td>Samplitude</td>
<td>End</td>
</tr>
<tr>
<td>SAWStudio</td>
<td>Go to session end</td>
</tr>
<tr>
<td>Acid, Vegas</td>
<td>Go to session end</td>
</tr>
</tbody>
</table>
Cubase: Set right locator
Logic: Set Drop region out
Pro Tools: Nudge right
FL Studio: Link channels
Reaper: Standard - go to Marker 6. Klinke: Go to project end
Samplitude: Next object
Acid, Vegas: Go to region end

Cubase, Live: Punch in
Logic: Replace
Pro Tools: Region capture in
Sonar: Go to punch in point
FL Studio: Select in
Reason: Hold down and turn jog wheel to set left locator
Reaper: Standard - go to Marker 3. Klinke: Set loop to previous region
Studio One: Punch mode
Samplitude: Punch mode
SAWStudio: Mark region in
Digital Performer: Set Punch in
Acid, Vegas: Mark In

Live: Punch out
Logic: Drop
Pro Tools: Region capture out
Sonar: Go to punch out point
FL Studio: Select out
Reason: Hold down and turn jog wheel to set right locator
Reaper: Standard - go to Marker 3. Klinke: Set loop to previous region
Studio One: Metronome
Samplitude: Sync on/off
SAWStudio: Mark region out
Digital Performer: Set Punch out
Acid, Vegas: Mark Out

Toggles arrange and mixer views
Sonar: Sends F1 & F2 keys alternatively. Assign views to those keys in Sonar
FL Studio: Steps through windows (Browser, Step Sequencer, Mixer, etc.)
Reaper: Klinke: change record mode.
Reason: Reset automation overwrite
MMC: Sends MMC eject

Cubase, Studio One: Opens and closes channel Editor
Logic: Click
Live: Back to arrangement
Pro Tools: Sets edit mode
Sonar: Fit project to window
FL Studio: Select
Reason: Click
Reaper: Click
Samplitude: Metronome
SAWStudio: Clear marked region
Digital Performer: Punch mode
Acid, Vegas: Create region
MMC: Send MMC reset command

Brings up a dialog with sequencer dependent save, undo and redo
**options**

**Pro Tools:** Saving needs to be confirmed. The button will start to blink after save command is issued. Repeat save operation to confirm.

Sets a marker at the current playback position

**Samplitude:** Brings up F1 to F8 keys which create new markers (or jump to an already existing one, shift to erase)

**Go to previous marker**

**Pro Tools, Acid, Vegas:** Steps through eight accessible memory locations. The DAWs use a fix assignment from command to marker ID, but do not report the active marker, so it may take a few presses until command and current marker ID match.

**FL Studio:** With button held down, the jog wheel can be used to go through markers.

**SAWStudio:** Opens locator window (use jog wheel to go to locators)

**MMC:** Go to general purpose locator 1 (external device needs to support pre-stored locators)

**Go to next marker**

**Pro Tools, Acid, Vegas:** Steps through eight accessible memory locations. The DAWs use a fix assignment from command to marker ID, but do not report the active marker, so it may take a few presses until command and current marker ID match.

**FL Studio:** With button held down, the jog wheel can be used to go through markers.

**SAWStudio:** Deletes selected locator

**MMC:** Go to general purpose locator 2 (external device needs to support pre-stored locators)

**Pauses playback**

**Starts playback**

Starts recording on record enabled channels. Live will also record automation data

**MMC:** Sends MMC record strobe in and out alternating

**Toggles loop playback**

**FL Studio:** switches between Song and Pattern mode

**SAWStudio:** Play/Rewind mode

**MMC:** Sends Play resume

**Rewind**

**Fast forward**

Changes Jogwheel to (audible) scrub mode.

**Pro Tools:** Press repeatedly to change between scrub and shuttle mode, resp. off.

**Live, clip view:** triggers next scene.

**MMC:** Sends MMC shuttle commands with speed according to amount of wheel rotation

Function block key assignments for **Pro Tools**:

F1 - Transport window
F2 - Memory locations
F3 - Session setup
F4 - Big time display
F5 - Automation window
F6 - Video window
F7 - MIDI event list
F8 - Beat detective
Shift / F1 - Steps through edit modes
Shift / F2 - Steps through edit tools
Shift / F3 - Online switch
Shift / F4 - Record preroll
Shift / F5 - Metronome
Shift / F6 - Count off
Shift / F7 - MIDI merge
Shift / F8 - Input monitor enable

Function block key assignments for FL Studio:

F1 - Cut
F2 - Copy
F3 - Paste
F4 - Insert
F5 - Delete
F6 - Item menu
F7 - undo
F8 - redo
Shift / Alt / F1 - Pattern up
Shift / Alt / F2 - Mixer up
Shift / Alt / F3 - Channel up
Shift / Alt / F4 - Tempo up
Shift / Alt / F5 - Pattern down
Shift / Alt / F6 - Mixer down
Shift / Alt / F7 - Channel down
Shift / Alt / F8 - Tempo down

Function block key assignments for Samplitude:

F1 to F8 - go to or create marker
Shift / F1 to F8 - delete marker

Function block key assignments for MMC:

F1 - F8 - Record enable / disable Tracks 1 - 8
Shift / F1 - F8 - Go to general purpose locators 1 - 8. External device needs to support pre stored locators.

Function block key assignments for Acid & Vegas:

F1-F8 - Go to markers 1 - 8
Shift /F1-F8 - Go to markers 9 - 16
Shift / Alt / F1 - Add track
Shift / Alt / F2 - Add bus
Shift / Alt / F3 - Mixer
Shift / Alt / F4 - Video Preview
Shift / Alt / F5 - PlugIns
Shift / Alt / F6 - Bus track
Shift / Alt / F7 - Dock area
Shift / Alt / F8 - Track list
1. Basic concepts
2. Getting connected
   - Quickstart
   - MIDI setup
   - Sequencer setup
   - Connecting & initializing
3. TouchDAW screens
   - Main (DAW Controller)
     - Tablet view
     - Channel strip
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup
4. TouchDAW thru
5. FAQ /Troubleshooting

This view is only available on phones!

The mixer screen can act as both a DAW mixer as well as a MIDI mixer. By default it presents a windowed view of the DAW’s mixer with four channels including solo and mute controls accessible at a time. This window can be moved across the mixer with the arrow buttons on the right hand side.

On high resolution phones (and devices with a "long" - like: 240*400 pixel - screen) there will additionally be a master fader. This can be used for overall volume setting, but may not be under control of the DAW.

All four channels can be flipped at a time using the bicolored arrow button. Faders will then change color and control stereo position.

The button with the MIDI or waveform icon toggles all faders between MIDI and DAW control mode, making them eventually send the controllers assigned in the app’s setup to the secondary MIDI output (payed version only).

In MIDI mode mute and solo buttons send notes based on the basenote 1 settings in the XY-Pad setup, faders may send stationary notes based on the basenote 2 setting following the “Touch Selects” setting in the DAW Controllers “Fader Options”. (The assignment method will change to be xml defined in future versions).

Touching the extras icon in the top right corner will bring up a floating control window with positioning, window selection and automation controls (payed version only).

TouchDAW 1.3 only changes channel selection in the DAW on fader touch when set up to do so (by default it does when double-clicking a fader).

In the payed version the mixer is multitouch to the degree that the hardware allows (do not expect too much on cheap devices).
1. Basic concepts
2. Getting connected
   - Quickstart
   - MIDI setup
   - Sequencer setup
   - Connecting & initializing
3. TouchDAW screens
   - Main (DAW Controller)
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup
4. TouchDAW thru
5. FAQ / Troubleshooting

This is a simple one or two octave MIDI keyboard that can be shifted through the entire MIDI note range (or C0 to C4 in the free version). On Honeycomb tablets it is capabale of 10 finger multitouch operation, but your multitouch mileage will vary a lot with older Android versions and / or cheaper devices.

The way the keyboard generates velocity and aftertouch values can be set in the preferences. See the documentation for the resp. setup page for details.

On top of the keyboard you will find an octave selector that can be used to freely shift the keyboard around. Touching it outside of the current key range window makes the keyboard jump to octave boundaries. At the top of the screen there are standard masterkeyboard pitch and modulation controllers plus two assignable controllers that can be changed to any of the controllers set in the app’s preferences. To do so touch the name of the currently assigned controller and select what you want to use from the upcoming dialog.

Finally the keyboard brings a simple floating transport control as shown below, that is accessible via the extras icon in the top right corner (paid version only). Using this you can reposition the sequencer as well as start recording and playback.
The gadget corner or basic controllerism playground for those who picked up TouchDAW without primarily thinking of remote controlling a DAW... (see *)

Also potentially the screen best suited to mobile phones.

The XY Pads screen shows either two xy-controller pads, 16 (resp. 9) trigger pads plus one xy-controller pad or 32 (resp. 18) trigger pads sending MIDI notes, depending on preferences set in the app’s setup.

XY-pads are primarily for touchscreen operation but the lower (or right hand side) one can be assigned to one of the phones available sensors in the app’s setup. (Sensor control is not available in the free version.)

Other than the left hand one it will not only send x and y position, but also an additional third controller mapped to a sensor’s z-axis or representing the “sum of x & y” in touchscreen mode (see sketch below).

Trigger puds are multitouch in the payed version. Moving a finger out of a touched pad will enforce triggered notes to stay active - i.e. rejects the sending of MIDI note-off commands which may be useful when you want to manipulate playing samples with the controllers (only one pad will offer that functionality at any given time in the free version).

Base notes for each block of launchpads are editable in the app’s setup. Starting from that base note each block will trigger the following 16 (resp. 9) half tones. By default the left block uses MIDI notes 36-51/44 (C1 to E2/G#1) and the second block if shown uses notes 52/45-67/53 (F2/A1 to G#/3/F#2). Lowest note is always in the bottom left corner. The screen is orientation aware, so when it switches from landscape to portrait mode or back the location of the base notes will change.

The phone’s search button (if available), the volume rocker’s up button or wiping into the screen from the bottom or right will bring up some floating transport and recording controls that will also let you mute individual controllers for easy assignment with other software (full version only).
TouchDAW 1.2 adds another toy to this screen with a Kaosspad like controller. This is a combination of the XY and launchpads in that it triggers both notes as well as controllers. It has a number of individual settings that can be made directly on the screen without going back into the menu. However the setup half can be switched to a normal 3*3 launchpad using the triangle in its upper right hand corner.

The controller is named "Turmoil" in the app’s setup. Its horizontal axis triggers notes following a scale that you can set using the "Edit", "+" and "-" buttons. Both horizontal and vertical axis also send controllers (using those CC numbers configured in the global setup) and a third controller is sent, representing the sum of \( x \) and \( y \). Unlike the original hardware, the controller does not bring a loop recorder or any sounds of its own. Instead the idea is having it control softsynths in the DAW. The four triangle buttons in the control half are configured to switch channels in the DAW so that the controller’s MIDI data can be directed to various instruments. Record and loop controls are available via floating transport.

* Please keep in mind that DAW control / control surface emulation IS the primary purpose of this app. MIDI controllers may leave a lot to wish for, but this is TouchDAW, not TouchMIDI. TouchMIDI might follow someday.
1. Basic concepts

2. Getting connected
   - Quickstart
   - MIDI setup
   - Sequencer setup
   - Connecting & initializing

3. TouchDAW screens
   - Main (DAW Controller)
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup

4. TouchDAW thru

5. FAQ / Troubleshooting

A large SMPTE timecode or bars’n’beats display along with some 8 channel recording options. This basically mimicks the big time windows available in most DAWs and the simple purpose behind them: keeping an overview on where on the timeline you are. Besides that there are some further controls available when touching the screen over, on and underneath the timecode.

Touch events on top of the timecode bring up controls for quick multitrack recording situations. You get record enable switches for the current block of eight channel (plus solo and mute controls when repeatedly pressing the shift button) and some transport / record controls. The locator functions will change with the shift button from locator to marker and finally to channel block shifting mode.

Touching the timecode display will switch between SMPTE and bars’n’beats display (not available in all DAWs) and you can do horizontal wipes over the timecode to alter its refresh rate. The area underneath the timecode acts as a jogwheel and can be switched to scrub mode by double-clicking. The timecode will change color when the DAW enters scrub mode. What exactly jog and scrub functions do depends on the DAW to some extend.
<table>
<thead>
<tr>
<th>1. Basic concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Getting connected</td>
</tr>
<tr>
<td>- Quickstart</td>
</tr>
<tr>
<td>- MIDI setup</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>- Overview</td>
</tr>
<tr>
<td>- RTP, OS X Network MIDI</td>
</tr>
<tr>
<td>- Multicast, ipMIDI</td>
</tr>
<tr>
<td>- USB</td>
</tr>
<tr>
<td>- Bluetooth</td>
</tr>
<tr>
<td>- Sequencer setup</td>
</tr>
<tr>
<td>- Connecting &amp; initializing</td>
</tr>
<tr>
<td>3. TouchDAW screens</td>
</tr>
<tr>
<td>- Main (DAW Controller)</td>
</tr>
<tr>
<td>- Transport controls</td>
</tr>
<tr>
<td>- Mixer</td>
</tr>
<tr>
<td>- Keyboard</td>
</tr>
<tr>
<td>- Big time</td>
</tr>
<tr>
<td>- XY pads</td>
</tr>
<tr>
<td>- Setup</td>
</tr>
<tr>
<td>4. TouchDAW thru</td>
</tr>
<tr>
<td>5. FAQ / Troubleshooting</td>
</tr>
</tbody>
</table>

The initial setup screen links to separate preferences for DAW controller, MIDI utilities and global settings.

Additionally it lets you shut down the app, making it close all MIDI ports and free all network resources acquired. Note that Android apps never really exit unless the system kills them to free resources for newly started ones, so TouchDAW will remain in recent activities lists etc. even after using the shutdown command.

**DAW Controller setup**

**Sequencer**
Selects the DAW to work with. Important to get right as equal commands do entirely different things at parts.

**MIDI Connection**
Launches a series of configuration dialogs as described on the MIDI setup page. When widget based configuration is turned off you will find separate controls for in- and output here.

**Auto-Detection**
Make TouchDAW announce itself as a Logic Control via SysEx. This is only relevant with Logic, which will autodetect and configure a control surface when receiving the announcement.

**Encoder Options** Opens endless encoder specific submenu.

**Fader Options** Opens fader specific submenu.

**Trackball / D-pad mode**
Sets if an eventual trackball or D-pad mimicks navigation cross functionality, jog wheel or encoders. Trackball is not available in the free version. (This option will only show up on devices with trackball or D-pad).

**Auto Initialize** Lets the app attempt to get a parameter update from the DAW when network connections have been made.

**MIDI panic reset**
Sends "all notes off" to the DAW's controller input to clear eventually stuck modifiers etc. Handle with care.

**Encoder Options**

**Display Mode**
Sets whether the encoders display incoming values like the LED rings on the original hardware. There are four different LED ring modes, like single dot, sweep etc., controlled by the DAW. However, these may be a bit confusing so you can force the app to always use the continuous arc it showed in previous versions.

**Click Actions**
Determines what happens when encoders are long or double clicked. By default a double-click flips fader and encoder assignments and a long-click mimicks pressing a V-Pot. You can reverse that here. Only available on phones.

**Dynamic Encoder Resolution**
Lowers encoder resolution depending on how far from the control the touch event takes place. Useful when going through long list of plug-ins or presets. Enabled by default.

**Fader Options**
Fader Jumps
Sets whether the faders react to touch events outside of the knob area. Disabled by default to avoid sudden jumps in volume etc.. May however be useful as a semi-mute control in live performances or the like.

Touch Selects (Mixer)
Determines whether touching a fader selects the corresponding channel in the DAW. By default this only happens when double-clicking the fader in TouchDAW 1.3. Note that some DAW's (Cubase, Nuendo, Samplitude) have an auto-select function of their own which needs to be turned off for this to make a difference.

MIDI Utilites

MIDI Connection
Launches configuration dialogs to set up the MIDI port used for all non-DAW control data as generated by keyboard, launchpads etc..

Mixer Mapping
Selects the xml mapping file to use with the tablet view’s MIDI mode. See the tablet page for details (This option is not available in the free version).

Controller 1-5
Sets the MIDI control change numbers used throughout the MIDI tools.
Keyboard
Opens submenu for the Piano screen

XY Controller / Launchpads
Opens submenu for the XY Controller screen

Mixer MIDI Channel
Sets the MIDI channel for the mixer screen’s MIDI mode (phones only)

MIDI Machine Control
Opens submenu for MIDI Machine Control (MMC) configuration.

Keyboard

MIDI channel
Sets the MIDI channel for the keyboard screen.

Velocity mode
Determines how note on velocity is set. Default is position, that is: the further down a key is touched the higher the velocity. Pressure, which would be closest to a real keyboard, will only be supported by very few devices.

Aftertouch
Selects the way Aftertouch is generated on the Piano. This can either be off, resp. polyphonic or channelwide. For both Aftertouch modes you can select whether moving the finger up or down increases the sent value.

Two Octaves
Optionally show two keyboard octaves on phones with non-xhdpi screens

Standing Notes
Triggered notes can be kept on by wiping out of the keyboard to either both bottom and top or top only. Standing notes are indicated in the octave selector over the keyboard. The next touch event on a standing note turns the note off.

XY Controllers / Launchpads

XYPad shows
Layout options for the XY controller screen. You can have either 2 xy pads, 9 launchpads and 1 xy pad, launchpads only or a Kaosspad-like controller named "Turmoil" in the dropdown menu.
XYPad 2 sensor
Links one of the phone’s sensors to the second xy controller. Sensors are not available in the free version.

Swap Sensor Axes
Exchanges the readout of x and y sensor axes, which may by default be rather counterintuitive on tablets in landscape mode.

Show note names
Display note names and numbers on launchpads.

Pad 1 & 2 basenotes
Set the base notes for the two available blocks of launchpads. See XY pads

MIDI channel
Sets the MIDI channel for the XY controller screen. Note that the Turmoil controller has a MIDI channel option of its own in the onscreen settings.

Standing Notes
Disables rejection of Note-Offs when releasing a touched pad outside of itself, i.e.: disables ‘sticky’ notes.

XY Pad 1 & 2 Inversion
Allows to invert the MIDI output generated by XY Pads. X and Y axes can be inverted seperately or both at a time. The third controller (Z) on XY Pad 2 is not affected by this!

Velocity mode
Determines how note on velocity is set. Default is position, that is: the further down a key is touched the higher the velocity. Pressure and Size will only be supported by very few devices.

Aftertouch
Selects the way Aftertouch is generated on Launchpads. This can either be off, resp. polyphonic or channelwide. For both Aftertouch modes you can select whether moving the finger up or down increases the sent value.

MIDI Machine Control
Both the tablet view as well as the phones transport screen can be set to send MIDI Machine Control either in parallel with standard DAW control comands or alternatively (when the shift keys are down).
MMC target
Sets the target address of MMC commands. Defaults to broadcast.

Global setup

Power Management
Sets energy saving mode. This may need to be lowered when using RTP connections in order to avoid connection loss.

Appearance
In case you are amongst those, who show allergic reactions to orange, you can change the color scheme of the app to whatever you like here. The flip color is only used on phones.

Traditional Mixer Colors (Tablet only)
Optionally use standard colors on Arm, Solo and Mute buttons.

 Prefer Phone / Tablet layout (small tablets and xhdpi phones only)
Selects which interface to run. Requires restarting the app to take effect.

System info
Some general information on the runtime environment, including the IP and Bluetooth addresses of the device.

MIDI system setup
Lower level setup options for the network MIDI system. Only mess with this if you know what you are doing. Theoretically there is no need for users to ever change anything in this (and we do not document it any further here).
1. Basic concepts
2. Getting connected
   - Quickstart
   - MIDI setup
   - Sequencer setup
   - Connecting & initializing
3. TouchDAW screens
   - Main (DAW Controller)
     - Tablet view
     - Channel strip
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup
4. TouchDAW thru
5. FAQ / Troubleshooting

TouchDAW thru concepts

TouchDAW thru is a simple MIDI through routing application that will relay TouchDAW's MIDI data - received via RTP, multicast or Bluetooth - to native MIDI ports. It is in first hand a means to overcome eventual trouble with native MIDI drivers - which should be preferred if possible - all though it might be both easier to use and offer more flexibility in the end.

TouchDAW thru is a java program, so java needs to be installed on the computer you want to run it on. (You may think this sucks, but please bear with us. In the moment this is the only economically manageable way to make things work across platforms and we do not want to enforce any OS preferences on you here).

(Security recommendation: After installation disable the java plugin in your browser)

TouchDAW thru supports both RTP and multicast MIDI with its own implementation - you do not need to install the native drivers to use it.

Besides routing functionality, the program provides the computer side implementation of TouchDAW's Bluetooth MIDI support, enables use of TouchDAW and hardware control surfaces in parallel and contains a full 8 channel MCU display to help overcome the display space limitations that TouchDAW faces on mobiles. The latter can be used both in parallel with native drivers as well as with the program actually making the connection between DAW and phone.

Operation

The program's operation principle is simple: You will let the DAW send MIDI to TouchDAW thru via Loopback MIDI drivers - IAC Bus on OS X, LoopBee30 (recommended, but turn off feedback detection!), MIDIYoke or whatever you prefer on Windows - or even cross-wired hardware interfaces (sounds and looks stupid, but actually makes for rock solid connections as commercial interfaces' drivers often prove to be more stable than most virtual MIDI cables). TouchDAW thru then sends the data to TouchDAW on the Android device over WIFI and the whole thing goes in the
reverse direction alike. This is organized in input / output pairs, where the upper (”From network”) row will contain only network MIDI ports in its input dropdown and only native hard- or software MIDI ports in its output dropdown. The lower (”To network”) row has those reversed (native ports as inputs, network ports as outputs).

Routing pairs can be created and deleted via the + / - buttons in the upper toolbar. To set up communication for both the DAW controller and the MIDI tools in TouchDAW you will need two routing pairs and the second one will only use the “From network” row.

The image on the left shows a typical setup using RTP, the screenshot at the top of the page shows a functionally identical one using multicast.

RTP channels from active TouchDAW instances will be automatically added to the dropdowns when discovered via DNS (may take a short moment). Multicast channels are preconfigured to match the settings in TouchDAW. There is no need to edit settings.

TouchDAW thru will initialize connection processes for techniques that use them (RTP and Bluetooth) when opening ports - on startup as well as when you change a network port. TouchDAW on the Android device should therefore be up and running at that point. However, when the phone or TouchDAW shuts down, goes out of network reach or whatever during operation, you can initialize a reconnection using a right-click context menu on the network icon on the left hand side of the input dropdown.

The active configuration is stored internally and will be recalled when the program starts.

MIDI over Bluetooth

TouchDAW thru is required if you want to use TouchDAW via Bluetooth - there do not seem to be any native Bluetooth MIDI drivers around, left alone any kind of standard defined. How to use it for that purpose is described on the Network MIDI setup page.

Controller merging

A nice feature of most DAW’s Mackie control implementation is that the mixer is spread across multiple control surfaces when more than one is connected. If you happen to use both TouchDAW and a hardware control surface you will probably rather want them to work in parallel though and be able to access a channel in the DAW from both controllers. While workarounds like using one of the two controllers in HUI and one in MCU mode do work with some DAWs, they are likely to limit one device’s functionality at some point. This is where another new feature in TouchDAW thru 1.2 comes into play: The program now supports controller merging to enable use of both a hardware control surface and TouchDAW on the same MIDI connection and have them both control the same block of eight channels. Here is an illustration showing the principle and the setup:

To add or remove a merged controller right-click the network or bluetooth icon on the left hand side of the “From network” row.

MCU Display

This emulates the 2*56 digit display on common hardware control surfaces and will show track and parameter names as well as changing values for all currently accessible 8 channels. TouchDAW itself can not display all of that information due to space limitations and it will also not always be able to pick the relevant information from the stream of data that the DAW sends (both because of implementation incompleteness in TouchDAW as well as enigmatic behavior of some DAWs in that matter, that clearly are not made for somebody trying to fish separate values on specific actions out of the stream).

Having all that info in sight can help a lot when navigating through a mix though, so we decided to offer this as an add-on to the app. The window can be placed wherever you like it best (though it currently only offers horizontal orientation) and will optionally remain on top of all other windows.

The display can be attached to any of the routing channels in TouchDAW thru using the pop-up menu that appears when you click the “️” icon in the toolbar. When using TouchDAW thru for making the DAW to Android connection you will want to connect it to “Out 1”, that is: the output stream
The display can however also be used when native MIDI drivers are used for the MIDI connection between sequencer and phone. In that case you would only need one routing pair and basically only need to open one input in that to attach the display to. This input can both be a network input - TouchDAW thru for example creates an RTP session for itself that can be connected to native RTP drivers - or a native hardware or ethernet input. The picture below for instance shows TouchDAW thru receiving MIDI data from Cubase Windows through ipMIDI. TouchDAW and Cubase are in this case communicating directly via multicast and not through the routing app, so the display just hooks into the same multicast group. This requires ipMIDI to be set to allow loopback operation, but could equally be done with the MCU display running on another computer. If you play around with this a bit you will probably find a way that suits your needs best, things should be reasonably flexible.
1. Basic concepts
2. Getting connected
   - Quickstart
   - MIDI setup
   - Sequencer setup
   - Connecting
3. TouchDAW screens
   - Main (DAW Controller)
   - Transport controls
   - Mixer
   - Keyboard
   - XY pads
   - Big time
   - Setup
4. TouchDAW thru
5. FAQ / Troubleshooting

FAQ

Q: Do I need a WIFI router for this?
A: To run RTP or multicast over WIFI in principle yes, although there are ways around that need: On Windows 7 a program like Connectify can make the router obsolete and it is also possible to use the app with ad hoc networks. This however requires a rooted phone. Please search the web for instructions on how to create an ad hoc network with an Android device and the desktop OS you are running. There's plenty of information available.

Q: Why is it not possible to use an Android device like any other USB connected MIDI controller and will that change at some point?
A: Android does not offer ways to make a device act as an application defineable USB client. Honeycomb 3.1 brought support for Usb host mode and you can now use class-compliant MIDI interfaces with TouchDAW, but Usb client mode is still not fully available systemwise.

Q: I got the DAWController working, but don't seem to receive any data from Keyboard and XY-controllers.?
A: The MIDI controllers use a separate connection that needs to be separately set up and routed in the DAW (The DAW controller is a remote control device to the DAW and communicates bidirectionally on a MIDI port exclusively used for that. Controllers on the other hand should feed MIDI to the DAW via regular track inputs)

Q: Will you support sequencer X, Y and Z?
A: Yes, probably. However this will go step by step and if X will be supported before or after Y and Z will not only depend on the number of requests, but also on the state of MCU implementation in it, the availability of trial versions and documentation. Do not hesitate to post your request on the comments page.

Q: Is there a way to run TouchDAW in parallel with hardware MCU units without the mixer being spread across the phone and the control surface?
A: That depends on the DAW's controller support. If it can work with HUI and MCU units in parallel you can either use the hardware controller in HUI mode or set TouchDAW to Pro Tools (HUI) mode. See this discussion for more details. Also TouchDAW thru now supports controller merging, but that requires use of MIDI loopback drivers. See the TouchDAW thru manual page..

Q: I hear a piano playing when I touch buttons or faders in TouchDAW. Thought this was a controller...?
A: You have a computer-side routing problem. Most likely the system's GM synth (or some VSTi or external soundmodule) receives MIDI on the port that TouchDAW sends to. The remote control protocols make use of all kinds of MIDI, not just control changes. Make sure that the selected MIDI ports are exclusively used by the app and the DAW.
Q: I can't get any sound out of this, also can't find anything like an import option...?
A: TouchDAW does not play sound. It's a remote control app for common sequencer software. Don't forget to leave a 1 star "No sound" comment in the market before uninstalling.

Troubleshooting

Some possible trouble sources and ways to address them.

Network connection problems

Should you have problems to get a MIDI connection going because the Android device and the computer running the DAW don't seem to see each other on the network, you may need to tune your PC firewall a bit. Temporarily switch the firewall off. If that cures the problem, reactivate it and open the following ports for local area UDP traffic: 5004-5007, 5353 and 21928 - 21930. (Of course you should also reactivate the firewall if the problem remains)

Frequent packet loss. Connections only working one way

Soft reset or power cycle the WIFI router.
If you run rtpMIDI on Windows try restarting the rtpMIDI service from the services control panel or reboot the PC.

Some controls seemingly not functional

Make sure that the controlled DAW is in the foreground and has keyboard focus. This is the kind of booby trap that one falls into pretty easily and has cost us a significant amount of nerves during development to date. Especially the DAWs from the most advanced of worlds will not react upon numerous MIDI commands when not in focus.

Sync loss between TouchDAW and the DAW

If you at some point are under the impression that you are not getting the correct names displayed for selected channels or editor parameters, it may be that a parameter update or a specific command that TouchDAW uses to initialize copying of names or values got lost on the air or through heavy unforeseeable parallel activity on the phone (an incoming call for example). This can and sooner or later will happen. Operations that should trigger a retransmission of tracknames and parameters include:

- moving the currently accessible block of eight channels. Wipe over the fader view above the navigation cross to switch to the next eight channels, then wipe back to recall the block you were working on.
- changing editor pages. Especially switching to and from the Pan page usually makes DAWs refresh track parameters.
- flipping a channel, preferably in pan editing mode, does the same.

MIDI panic

Some DAWs may react sensitive to commands not being terminated or closed by a corresponding note off. If such a terminating off gets lost you may see channel selection fail and the DAW jumping back to one channel, refusing to change selection. The DAW controller setup page has a MIDI reset entry that sends an "All Notes Off" panic reset and reinitializes the connection.

Bluetooth voodoo

If you start to receive errors like this:
javax.bluetooth.BluetoothConnectionException: Failed to connect;
[10064] A socket operation failed because the destination host was down.

when trying to open Bluetooth connections that previously worked fine, it usually is not the destination host (i.e. TouchDAW) that’s down, but a PC side Bluetooth stack problem, that makes the Bluecove library fail, emitting this error notice. Break the pairing between the Android device and the computer and re-pair them, then try again.
One thing that can cause this situation is when a Bluetooth dongle is swapped around and used with multiple computers.

Temporarily lagging or overall sluggish Bluetooth performance:
On some Android devices Bluetooth performance may improve significantly when you turn off WIFI. This is not limited to low end phones!

Performance problems

In situations where TouchDAW needs to do very frequent refreshes of lots of parts of the screen, like when the phone follows sequences with heavy automation use, the selected channel is very dynamic in level, timecode is running etc. you may see performance degrate and experience things from values only changing slowly when spinning endless encoders to data being lost on the wire. While this is primarily an issue on devices with low processing power, there is a general relation between what happens on the main GUI thread and lower level things.
Here’s some things you can do to reduce drawing needs:
Lower the timecode display rate, using horizontal wipes on timecode displays to shorten it.
Toggle name / value display to name (instead of constantly changing values) by touching the textfield right on top of the fader.
Make use of eventual options in your DAW to reject sending of audio levels etc.

Error notifications

Some notifications you may get confronted with and their meaning:

"No response from DAW!" - In order to get a parameter update TouchDAW will start sending MIDI to the DAW once it gets informed that a connection with a network system has been made (RTP and Bluetooth only). Should the DAW not respond within a given time, a dialog with this message will be shown. It basically means that the communication loop between the app and the DAW is broken at some point. Possible reasons include:
- the DAW has not been started or not been set to use the ports TouchDAW is using for remote control.
- Some other routing error may prevent the app from receiving the DAW’s responses or the DAW from receiving the MIDI TouchDAW sends.

"Unhandled Invitation from XYZ" - A second RTP peer tries to connect to TouchDAW while the app is already connected elsewhere. TouchDAW’s local sessions only accept a single connection, the second connection attempt can not be handled. Apple’s session establishment protocol does not allow for transmission of error codes, so the peer trying to connect will just time out after a while and receive a "...did not answer to the invitation" notice.

"RTP / Bluetooth connection closed by server" - The remote side of an established connection shut down or closed the particular session.

"DNS Socket Error..." - Network problems on the Android device, probably the WIFI connection got lost.