Thank you for purchasing the DDB (DrumDokta breakout)

The DDB adds four raw oscillator outputs, a pseudo random noise source and the hand clap voice to the DrumDokta. The raw outs are not the individual voice outputs but the raw building blocks of the drum sounds. These raw outputs are "dirty" square waves, that's to say they aren't clean and precise musical oscillators but they are perfect as sound sources for building percussion sounds. How you use these is up to you, but check the end of the manual for some patch examples.

The DDB supersedes the originally planned DDB1 and DDB2, after taking account for the feedback given by DrumDokta users that they would prefer some rudimentary controls for the handclap instead of the originally planned OR-Combiner.

The DDB is designed to sit on the right hand side of the DrumDokta when mounted and uses flying wires to connect to the main unit. While it would have been more convenient to use a ribbon cable to connect the DDB to the DrumDokta, the real reason to use flying wires was to save space. You may notice that there simply was not enough space left on the DrumDokta circuit board to fit another multi pin header and certainly no space left to route traces to it. Installation isn't hard, just a little due care and attention is needed. This is one of those times you'll have to read the manual, but wait, you're doing that already, so keep reading...

Above all I hope you enjoy the DDB, if you have any questions or just need a little help don't hesitate to drop me a line on info@dinsync.info I'm here to help.

thanks again

Paul

INSTALLATION

IMPORTANT!

Connecting the DDB to the DrumDokta is relatively simple, the most important thing to note is that **connecting the power section wrong could potentially damage your DDB and DrumDokta!** Any damage done due to a wrongly installed DDB is not covered by warranty, so please pay attention to the install instructions and double check everything before powering on for the first time.

The DDB is designed to sit on the right hand side of the DrumDokta when installed into your modular case. To install your DDB follow these steps.

1: Ensure that you have an additional 8HP in your modular case. The DrumDokta and DDB will take a total of 24HP when installed.

2: Remove the DrumDokta from your case and lay face down on a table with the power connector at the bottom.

3: Carefully unpack the DDB from the packing card, before laying on the table please check that all resistors are still in the upright position. They should be due to the packing card but double checking never hurts.

4: Lay the DDB face down on the table on the left hand side of the DrumDokta, the flying wires should be on the right hand side of the DDB, with a group of 5 at the top and a group of 4 at the bottom.

5: Refer to **figure 1** and **figure 2** to connect the wires correctly. The top group of 5 wires are for the raw output section and the bottom group of 4 wires are the power and clap section. It doesn't matter in which order they are connected but I would recommend you connect the power section first. Please note that there is an unused pin on the rear of the DrumDokta, refer to **figure 2**.

6: Once you have connected all the flying wires, please double check them one last time. If everything looks good, install the DrumDokta and DDB into your modular case.
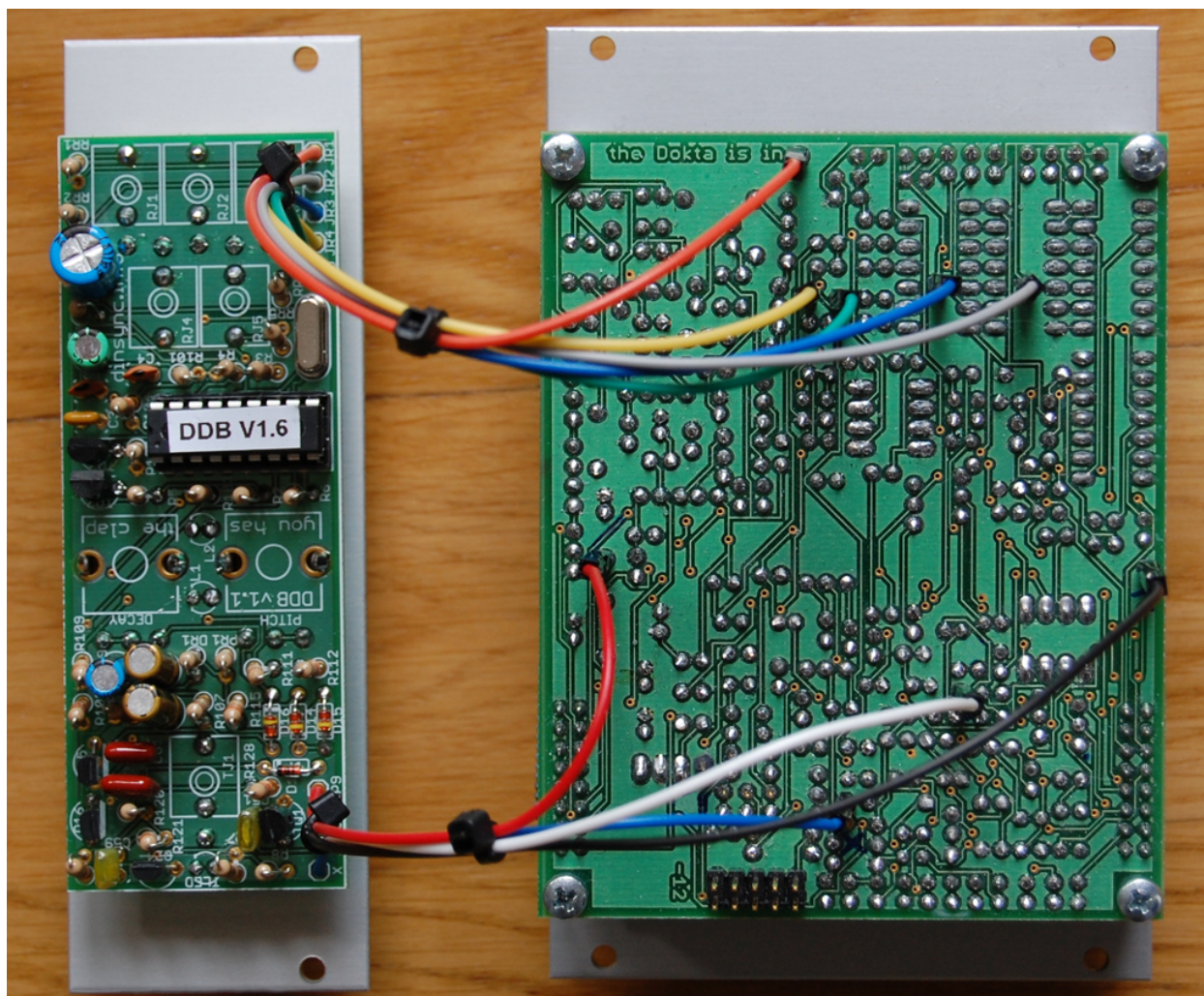
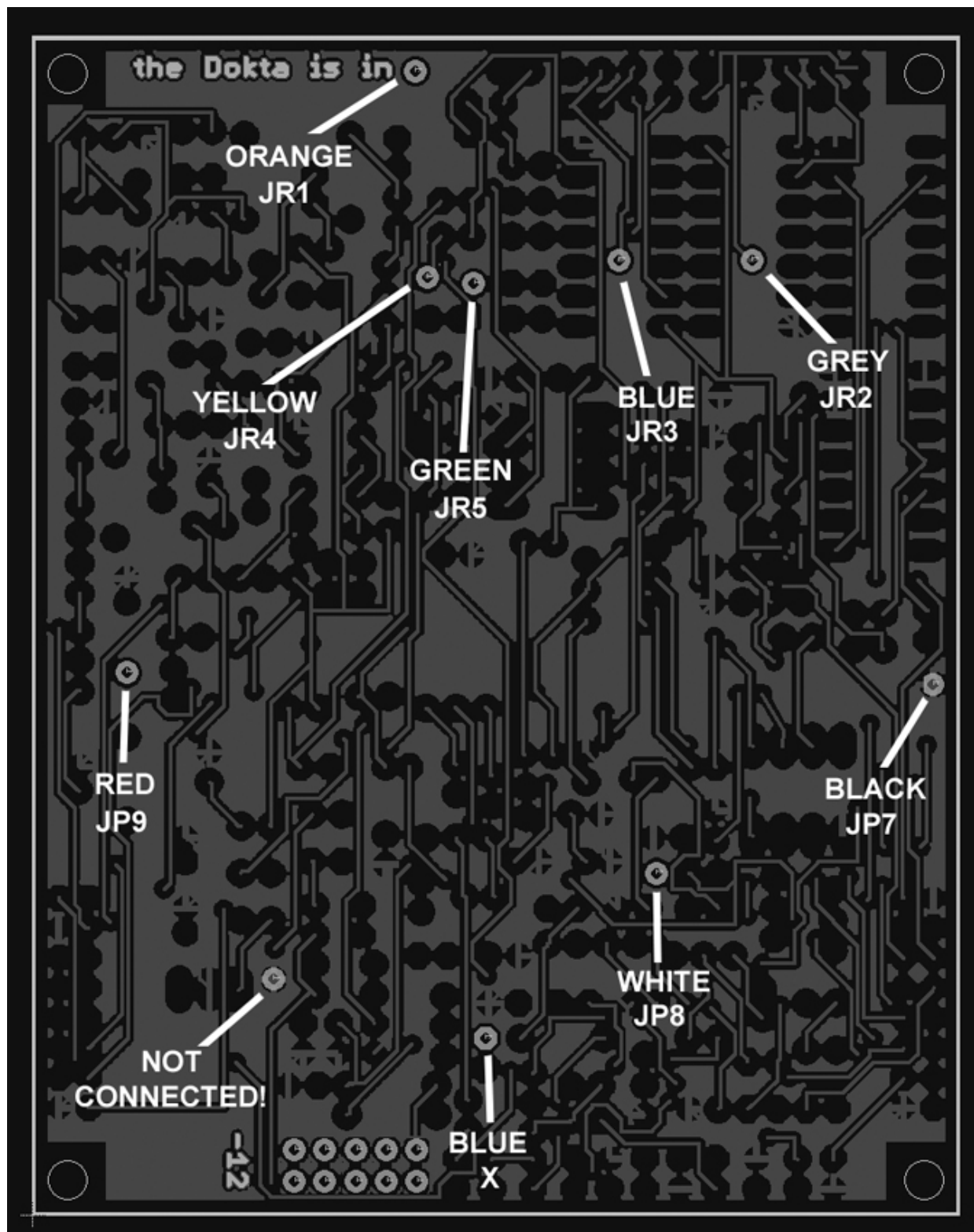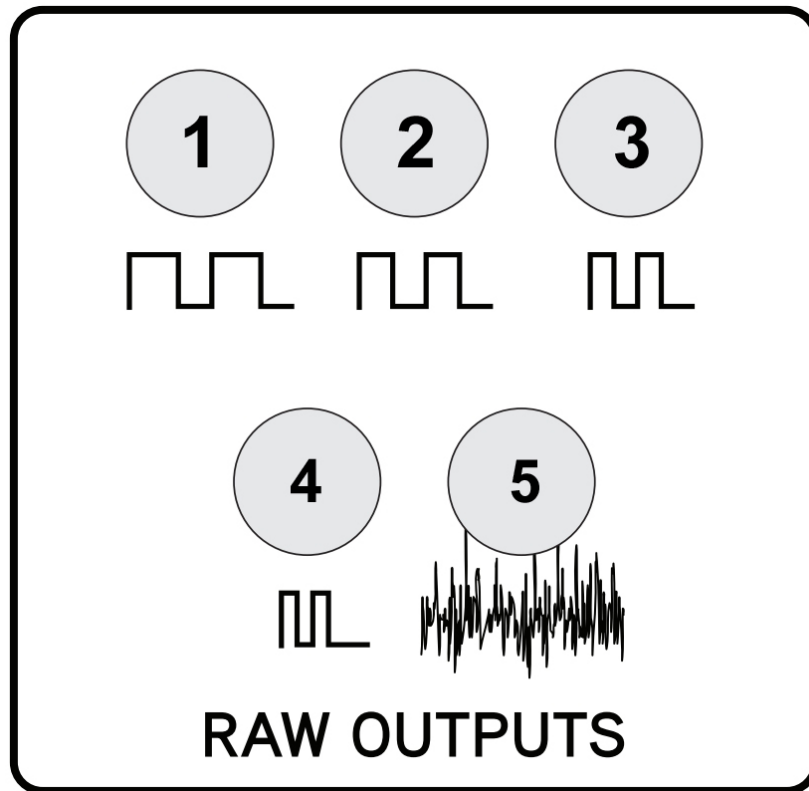**FIGURE 1: Installing the DDB flying wires.**

the Dokta is in

ORANGE
JR1

YELLOW
JR4

GREEN
JR5

BLUE
JR3

GREY
JR2

RED
JP9

BLACK
JP7

WHITE
JP8

NOT
CONNECTED!

BLUE
X

Figure 2 : Reference

USAGE

RAW OSCILLATOR OUTPUTS

Outputs numbered 1 through 4 are the square wave oscillators. Output 5 is the pseudo random noise source.

Patch these to mixers, filters etc to create percussion sounds or drones, while they are not very musical they can be a good source for all sorts of sounds.

Check the patch examples towards the end of this manual for some ideas on how to use them.
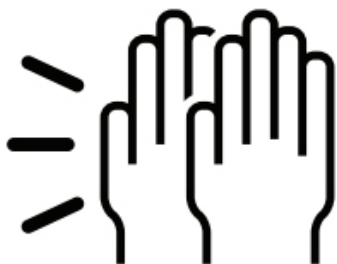
TRIGGER SECTION

Just like the clap section on the original DR-110, the hand clap requires a complex trigger in order to sound the voice correctly.

In the DDB this complex trigger is "computer controlled" (you don't know how long I've waited to use that phrase hehe). So because of this unlike the DrumDokta the hand clap section does not require any special triggering.

Patch in any 1-12v gate/trigger signal into the jack **(1)**. Once the jack goes high the led **(2)** is lit and the complex trigger event is started. The internal cpu then waits until the jack **(1)** signal goes low again before listening for another trigger event.

What this means is that if you used a gate to trigger the clap, it will only sound once while the gate is held and will only trigger again once a new gate has been sent to the trigger jack.

The complex trigger event takes around 15-20ms to complete so it's safe to say you won't be able to retrigger the hand clap faster than this period. But don't worry that's incredibly fast anyway.

1

CLAP

2

HAND CLAP CONTROLS
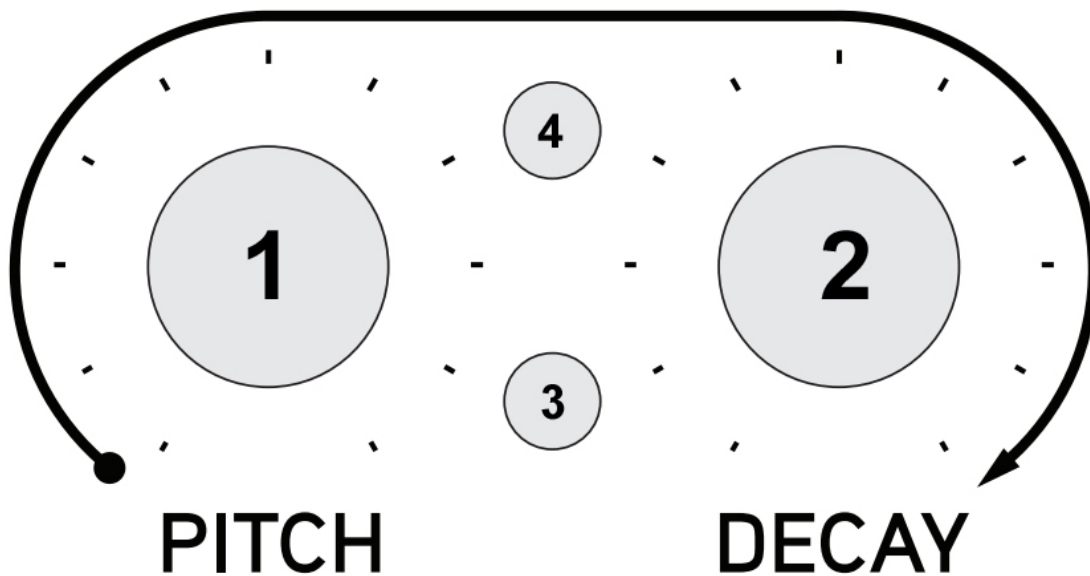
The pitch knob **(1)** controls the amount of high frequency content of the pseudorandom noise source present in the clap voice. Just like any low pass filter, turning the knob clockwise will allow more high frequency content to pass and the resulting sound appears to be more high pitched and brighter.

The decay knob **(2)** controls the length of the decay of the envelope used to shape the end portion of the clap sound.

The two leds will light up when the complex trigger event runs, the bottom LED **(3)** lights 3 times followed by the top LED **(4)** lighting once. Due to the speed of the trigger event and persistence of vision it will seem that they both light at the same time, but this is not the case. The LEDs were originally used in development of the firmware as a visual indicator of what was going on. At this stage they serve no real purpose, but I did like the fancy light show so they made it into the final design.

The hand clap voice is mixed with the other DrumDokta sounds and output via the DrumDokta main out. Just as on the DR-110 the output is on the hihats/cymbals side of the balance control. You can use the DrumDokta balance knob to control the amount of hand clap sound in the mix.

PATCH EXAMPLES

Here are some patch examples to give you some ideas of what you can do with the raw oscillator section of the DDB.

There is a video showing these patches in use here

http://www.dinsync.info/2012/04/ddb-drumdokta-breakout-patch-examples.html

Rotating Bongos

Additional modules needed for this patch.
sequential switch
an oscillator
low pass gate such as qmmg, optomix etc
clock source such as RCD
multiple or stack cable

patch raw outs 1-4 to the sequential switch
patch the sequential switch output to oscillator cv/fm in
patch clock source to multiple
patch multiple to sequential switch and low pass gate trigger ins
patch oscillator output to low pass gate

as the clock source pings both the sequential switch and lowpass gate a different bongo is heard.

Hi-Hats/Cymbals

Additional modules needed for this patch.
mixer
two bandpass filters
adsr
clock/gate source
vca

patch raw outs 2-4 to the mixer
patch mixer to first bandpass filter
patch first bandpass filter to second bandpass filter
patch second bandpass filter to vca
patch clock/gate source to adsr
patch adsr to vca
adjust filters to taste

A variation on the Hi-hats/Cymbals patch

this is the same as the hi-hats/cymbals patch but with the addition of a pingable envelope
multi the adsr output to the envelope
patch the envelope to the second bandpass filter cv in
try different filter types instead of the first bandpass filter

Synth Snare Drum

Additional modules needed for this patch.
two adsr
two vca
mixer
clock/gate source
multiple or stack cable
filter

patch raw out 1 to the first vca
patch the first adsr to the first vca
set the first adsr to a very fast speed with minimal decay/sustain
patch raw out 5 to the filter
patch the filter to the second vca
patch the second adsr to the second vca
set the second adsr to a longer decay/sustain than the first one
patch clock/gate source to multiple
patch multiple to both vca

patch both vca outputs to mixer

adjust the levels on the mixer to taste, the noise portion should be prominent while the oscillator portion should be barely heard.

Acknowledgements

many thanks go out to

Stephen Kwartler from http://www.pro-modular.com for the panel design.

Erwin Van Looveren for providing the DR-110 used in the research and development of this project.

Chris "Infradead" Lehfeldt for beta testing.

Specifications

Size: 8 HP
Depth: 25 mm

Power consumption: tba