dreadbox

USER'S MANUAL

limited edition

murmur

V2

limited edition

Introduction

When we develop a new product, we actually consider building a device that we will use in our home studio along with other equipment. On our recording table we had an Erebus, a Murmux Initiate and a modular system with a batch of modules. All these consumed a lot of space and not to mention the cable chaos...
At the same time, we were getting e-mails asking why we stopped the production of the Murmux semi-modular synthesizer.
I guess it's pretty clear to imagine what was the next step...

-But why only 50?

This is not some commercial mambo jumbo trick...The reason is actually the same for stopping the production of the Murmux semi-modular synthesizer. This is a high-end product, the enclosure is completely handmade, the potetiometer pcb is hand soldered, plus the trimming and testing process takes very long time... And then it's also the budget needed to stock up their parts, not to mention the time that it takes to make one (which doesn't really allow you to do other stuff at the same time- like developing, producing other products and yes, to get some rest)

-The Black Murmux is a very aggressive synthesizer

If someone takes a closer look to the panel, can quickly notice that the only available oscillator waves are the sawtooth and the pulse. Getting deeper into this, the oscillators themselves are saw core, which allows for a great hard sync function. Overdriving the mixer will get you a very angry resonance, the filter envelope is a very quick one, and also the VCA has a drive knob which is more like a distortion. Of course, soft sounds can be created and in combination with the echo it can be very dreamy.
But again, the features are the best for aggresiveness.

Thank you for aquiring the Limited Edition Murmux V2 synthesizer!

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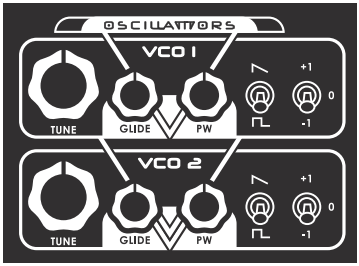
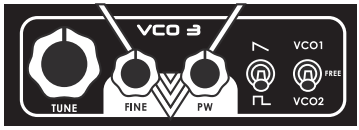
Athens -Greece
September 2016

Oscillators



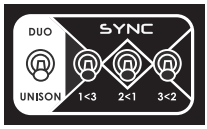
VCO1 + VCO2
Tune : fine frequency tune
Glide: pitch portamento
PW : manual pulse width from 50% up to 95%
Wave switch: change between the waves
+1/0/-1 switch: change between the octaves

VCO3
Tune: coarse frequency tune.
In free mode it varies from 50sec/circle up to 62kHz (with no cv input)
Fine : fine frequency tune
PW: manual pulse width from 50% up to 95%
Wave switch: change between the waves
VCO1/VCO2/FREE switch: In unison mode VCO1 and VCO2 just track the keyboard. In duo mode you can choose which oscillator it follows. In free position, keyboard tracking is cancelled.

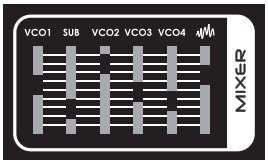


VCO4
Tune: coarse frequency tune
CO1/VCO2/FREE switch: In unison mode VCO1 and VCO2 just track the keyboard. In duo mode you can choose which oscillator it follows. In free position, keyboard tracking is cancelled.
This oscillator is consisted of 6 detuned saw waves.
Keyboard tracking might sound strange :)

SYNC
1<3 Sync oscillator 1 from oscillator 3
2<1 Sync oscillator 2 from oscillator 1
3<2 Sync oscillator 3 from oscillator 2



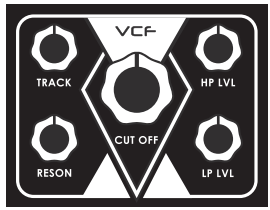
Mixer



Mix these sources through the filter. Be careful though, the more sources you mix, the more you drive the filter- in some cases this may even cause a frequency cancellation. If overdriving is not wanted, you can always manage the individual levels.

Vcf

CUT OFF
Control the frequency of the filter. Range when all modulation is off varies from 20Hz up to 13kHz, but it can go as high as 80kHz depending on the modulation amount that the filter receives. (60kHZ at 5V CV)



RESON
Control the amount of the negative feedback.
Self-oscillation starts at about 2 o'clock.

TRACK
Set the amount of keyboard tracking that the Cut Off knob receives. 1V/ocv at max

HP LVL
Set the amount of high pass filter that goes to the Amp

LP LVL
Set the amount of low pass filter that goes to the Amp

By combining HP and LP, you can create a notch filter.

Eg 1

This is a classic ADSR envelope generator with lvl "center off" position.
The EXT is the level sent to the EG1 patch.

Vca - Eg 2

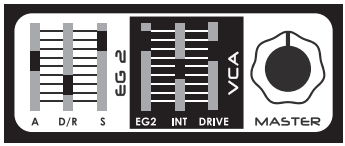
VCA

EG2: Control the amount of envelope that is sent into the Amp. Set at max for a classic use.

INT: Control the basic VCA level. Set at 0 for a classic use and at max for drone use. The values in between are very useful so as to manage other modulations , like lfos etc.

Drive: Set the amount of distortion

Master: Set the master level



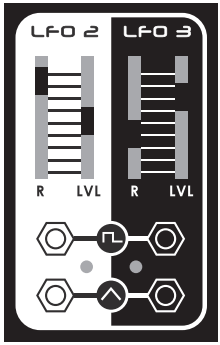
EG2
This is a classic ADSR envelope genarator, where the D/R slider controls both the decay and the release time.

Echo

FEED: Repeat amount
TIME: Set the delay time from 20ms up to 300ms for clean, and up to 800ms for lo-fi
MIX: Blend the dry and the wet signal

lfo

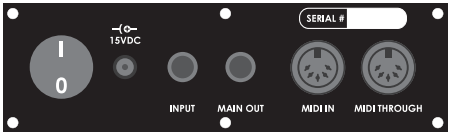
LFO1
This is a classic voltage controlled LFO with 2 waveforms.
For more info check the patching section
R: Control the lfo rate. It goes from 100sec/circle, up to 20Hz with no CV. With a 5V CV the maximum time that it can reach is up to 680Hz
L: Control the lfo level that goes to the triangle wave.
The square wave is not affected by this slider.



LFO2 + 3
These are simple but effective lfos, with no cv input, available in 2 waves.
R: Control the lfo rate. It goes from 25sec/circle, up to 51Hz
L: Control the lfo level that goes to the triangle wave. The square wave is not affected by this slider.

Back panel

Murmux's Back panel is very simple:



15VDC + ON/OFF switch
Please use only the original power supply provided

Midi in and Midi through

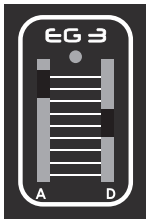
Input: Send an audio signal
Be careful with the level of the signal, as this is designed to accept guitar signal level.

Output: Connect the murmux to a monitor or an amp

Patching the Murmux

S&H
In: Send the voltage for sampling
Clock: Send a clock to control the rate of the sample
(for example an lfo square wave)
Out: Output of the sampled voltage

EG3
This is associated with the EG3 area.

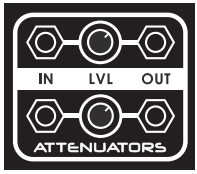


Eg3 slide area:
A: attack time (from 3ms to 500ms)
D: decay time (from 2ms to 5 sec)

Eg3 patch area:
TRIG: Send a triggering source (for example a square wave lfo)
By default this is connected to the midi to gate convertor
LVL: The total EG level. Maximum voltage is 6.5V
OUT: Output of the envelope

VCA2
This is an extra free vca, for use with cv's or audio (although its cv focused)
IN: Input of the vca
Knob: Intial lvl of the vca
CV: cv input
OUT: Output of the vca

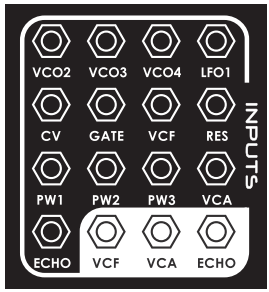
ATTENUATORS
Simple but effective passive attenuators.
IN: Signal input
LVL: Attenuation lvl
OUT: Signal or CV Out



MIXER
This is a (4 in 1) or dual (2 in 1) mixer.
The top row is the first 2 in 1, while the bottom row is the second.
As long as you don't insert a jack into the top row output, the sum of all 4 inputs goes to the bottom output.
Otherwise you split the mixers.

Inputs

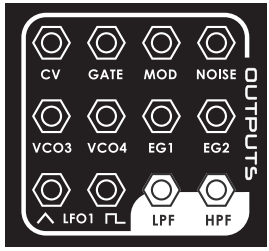
VCO2: cv control for oscillator 2
VCO3: cv control for oscillator 3
VCO4: cv control for oscillator 4
LFO1: cv control for lfo1 rate
CV: cv control for all oscillators
GATE: gate input (for all the envelopes' activation)
VCF: cv control for the cut off
RES: cv control for the reson (suggested voltage -5V up to 5V)
PW1: cv control for the pw of the 1st oscillator
PW2: cv control for the pw of the 2nd oscillator
PW3: cv control for the pw of the 3rd oscillator
VCA: cv control for the main vca
ECHO: cv contol for the echo time



In the white box there are signal input points:
VCF: send a signal to the vcf input
VCA: send a signal to the vca input
ECHO: send a signal to the echo input

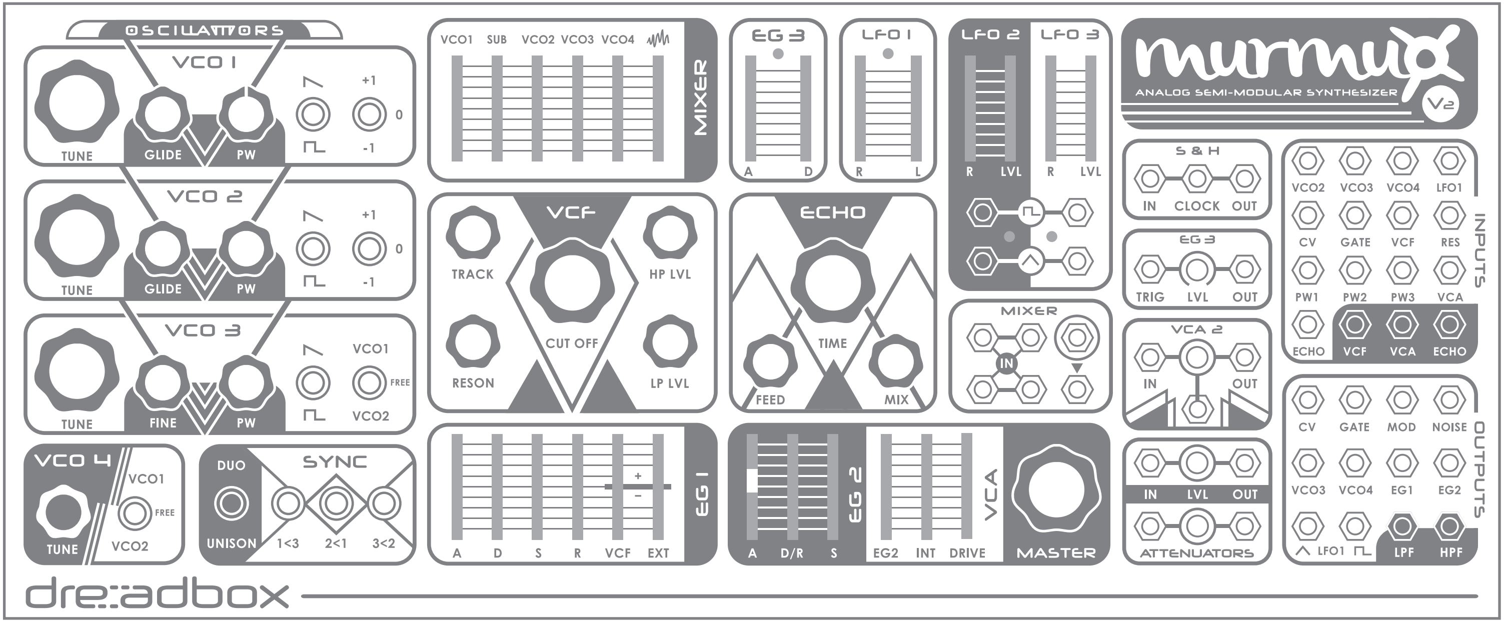
Outputs

CV: midi to cv output (in duo mode sends the second cv)
GATE: midi to gate output
MOD: modulation wheel to cv output (0-5V range)
NOISE: white noise output
VCO3: oscillator 3 pure waves output
VCO4: oscillator 4 pure output
EG1: envelope generator 1 output (EXT slide control its LVL)
EG2: envelope generator 2 output
LFO1 triangle: output for the triangle wave of lfo1
LFO1 square: output for the square wave of lfo1



In the white box are signal output points:
LPF: send the low pass filter
HPF: send the high pass filter

Preset: ______________________



Notes: ______________________

Specifications

•15VDC POWER INLET: Accepts +15VDC, 1A, 2.5mm center pin positive

•MIDI interface: Midi in DIN socket, Pitch note/gate on-off, retrigger function, Mod Wheel , Pitch Wheel, MIDI Channel select 1-7 or Omni (via DIP switch)

•MONO AUDIO OUT (6,3mm TS-UNBALANCED): 15Vpp output max

•PATCHES (3,5mm mono)
- Gate In: activation at 0,9v in a low gain up to 5v for max gain
- CVs In: works at 1v/oct, can accept from +/-12v
- EG1 lvl: +/- 8,5V
- EG2 lvl: 0 - 8V
- EG3 lvl: 0 - 6.5V
- LFO's and VCO's lvl: +/-5V

Suggested room temperature for optimal oscillator stability: 15°-35° Celsius
It needs 5-15 min warm up

Weight: 2.57 kgr
Size: 426mm X 205mm X 125mm

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