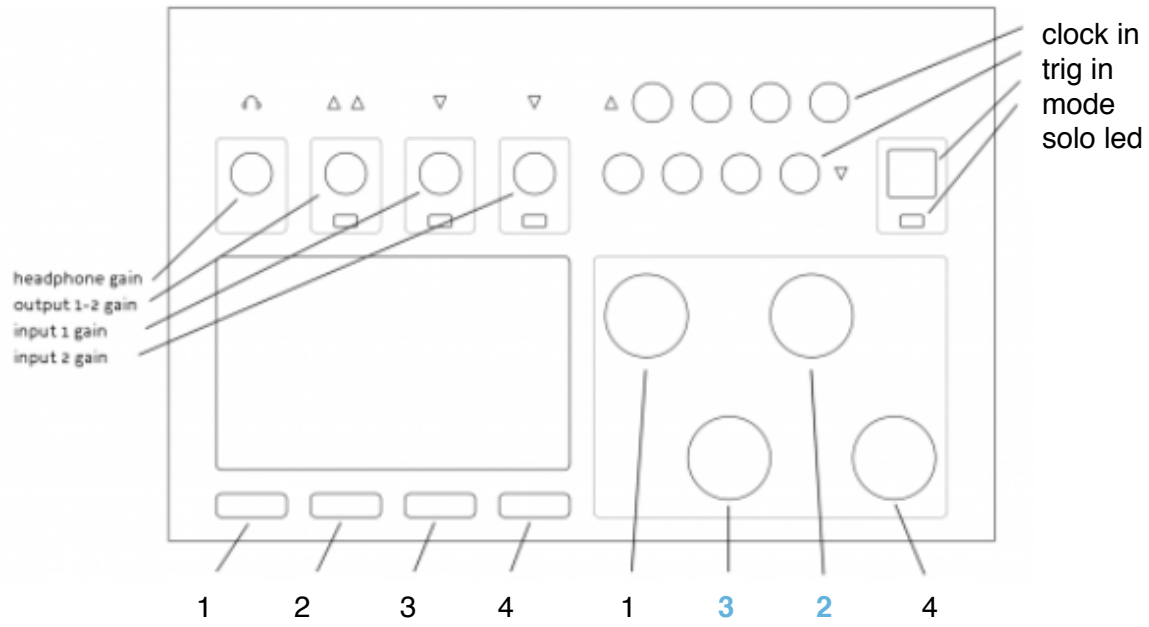
DRAFT - user manual
version: 0.1.6d

UI



building blocks

sequencer

- 6x internal sample tracks + 4 external turntable tracks
- Sample- and parameter-per-step sequencing
- Turntable sequencing with DECK ii extension
- Composition mode
- Up to 32 steps per pattern
- Individual track lengths
- Track shift up/down, Step clone to next measure
- Recall

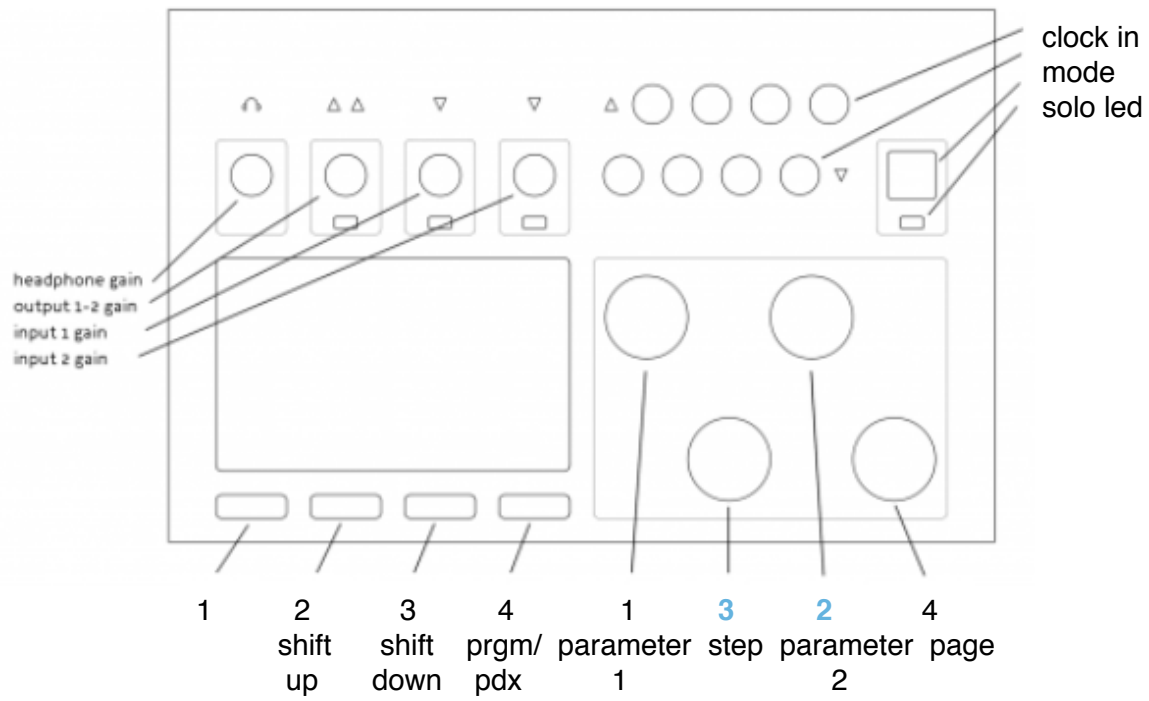
channels (x6)

- Turntable controlled loop mode with DECK ii extension
- 1x AUX
- AUX pre faderlpost fader toggle switch
- SEND assign for MIX and GROUP 1-2
- Prepare state change of SEND onloff, execute SET, SWAP and CLEAR on MASTER section
- Click-free audio switching on SEND and SOLO toggle switches
- SOLO AFL or PFL by global setting
- Recall

master section

- GROUP 1-2 fader
- MIX fader
- MASTER out (MIX)
- 2x DIRECT outputs
- SET, SWAP and CLEAR toggle switch

CTRL mapping
sequencer



switch1 / encoder combinations

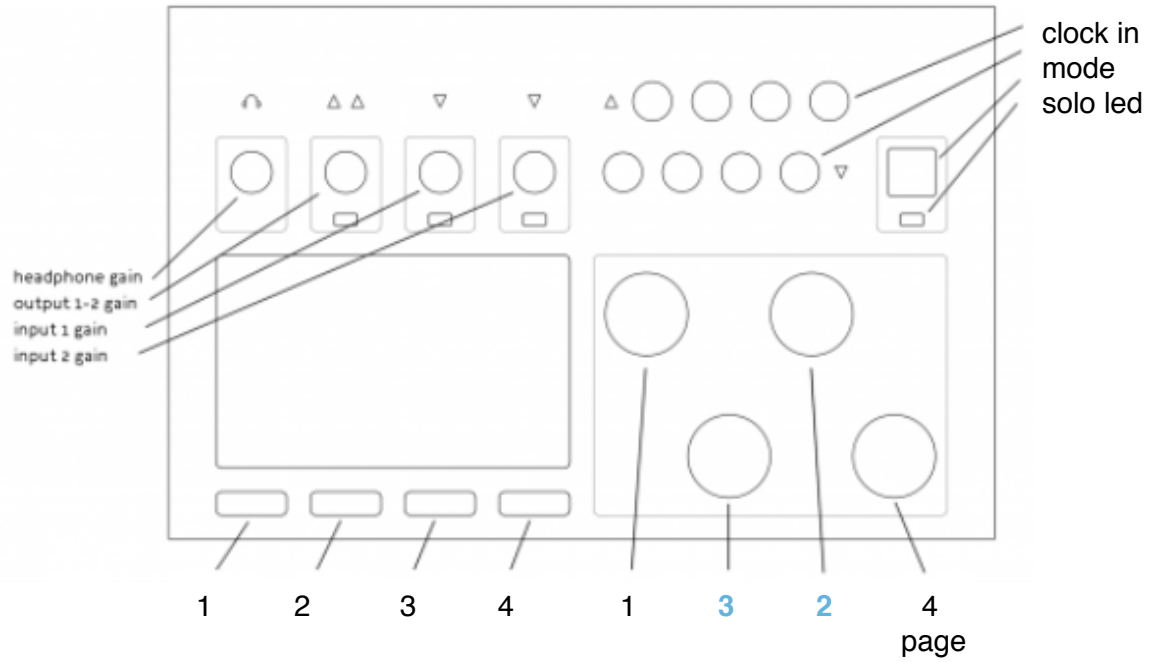
measure	encoder 1
track length	encoder 2
clone to next measure	encoder 3

MODE / encoder combinations

save current pattern	
select and load pattern	encoder 1
save to selected pattern	encoder 2

	parameter 1	parameter 2
PRGM	parameter	parameter value per step
PDX	command	speed per step

CTRL mapping
chord helper



CHORD INSERT PAGE

insert chord on track 1-4	encoder 1
add transposition on track 1-4	encoder 2
clear insert track	mode switch

switch1 / encoder combinations

set length for all tracks	encoder 2

CHORD PROGRAMMING PAGE
activates a direct control mode of the turntables by encoder 1-4, sequencing is bypassed
chords are part of, and recalled by the scene

switch1 / encoder combinations

set speed	encoder 1-4

switch2 / encoder combinations

set pitch	encoder 1-4

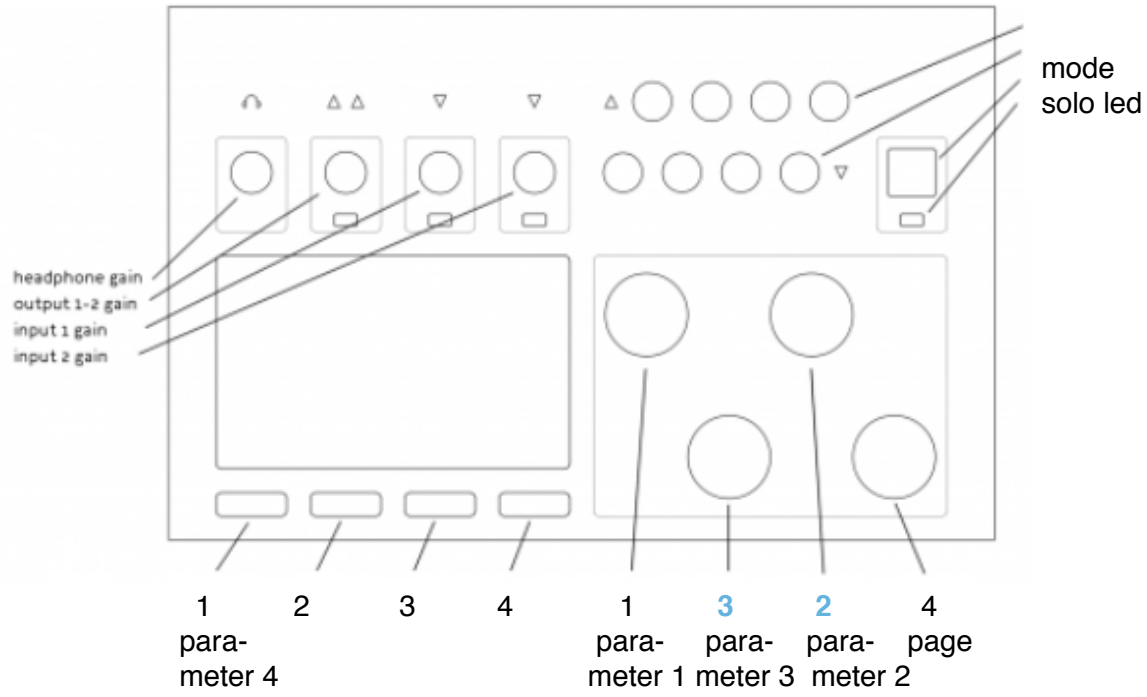
switch3 / encoder combinations

add transposition	encoder 1

MODE / encoder combinations

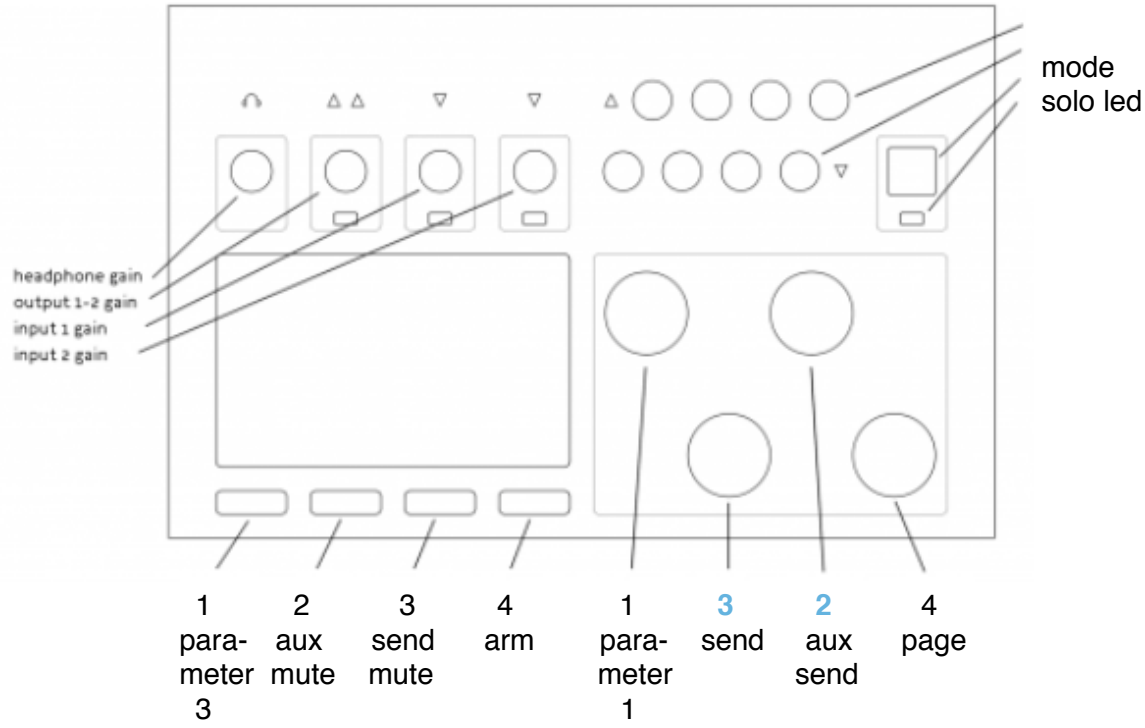
select chord	encoder 1
clone to selected chord	encoder 2

cv channels



CV mode	parameter 1	parameter 2	parameter 3	parameter 4
CLK				tempo
GT	rate	pulse width		momentary hold
TG	rate	feedback	phase	shape
ENC	level			lin/semi-log response

audio channels



mode / switch combinations

aux pre I post	switch 2
channel mute	switch 3
solo	switch 4

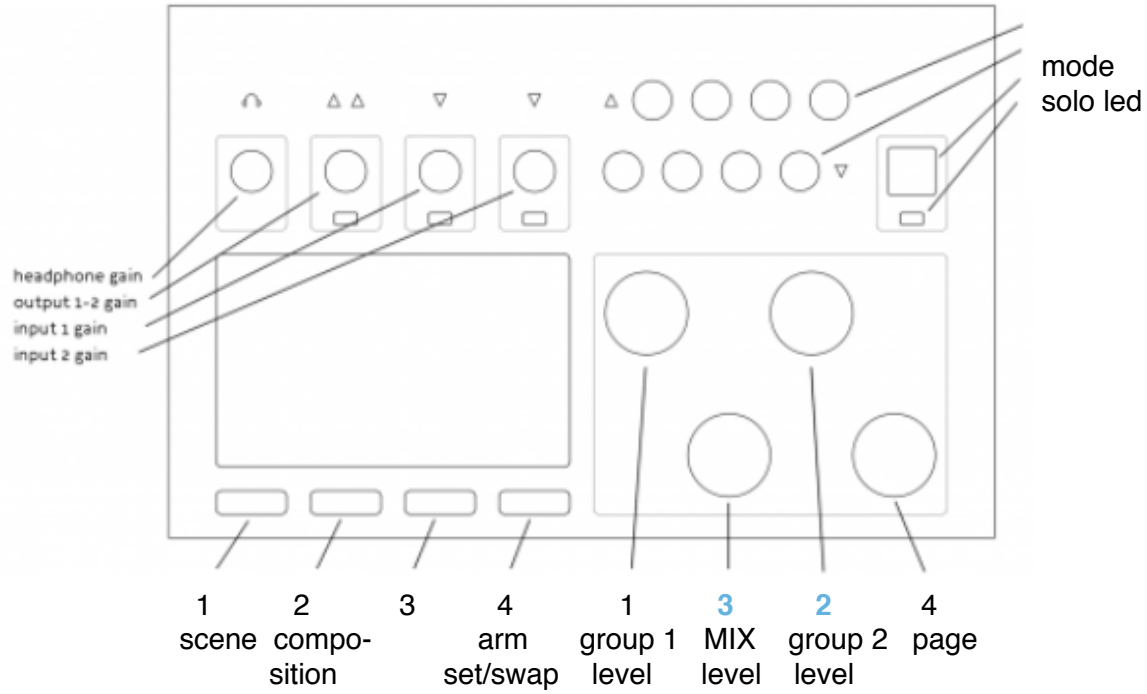
mode / encoder combinations

parameter 1 modulation	encoder 1
aux send modulation	encoder 2
send modulation	encoder 3

audio mode	parameter 1	parameter 2*	parameter 3
lin	level**	pre-delay**	trig sample
tape	speed**		start/stop
deck	speed**	delay compensation	master/slave
[pre]	gate threshold**	gate length	
[dly]	feedback**	delay time**	delay/repeat

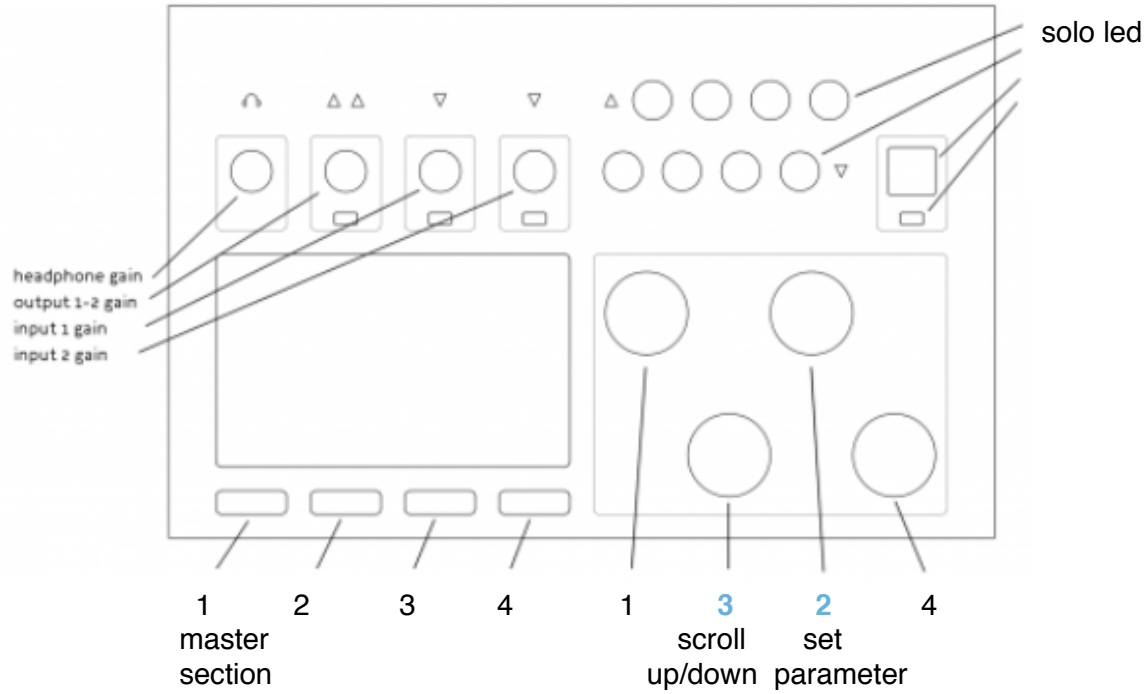
* this parameter is accessed thru the scene page
** these parameters can be modulated

master section



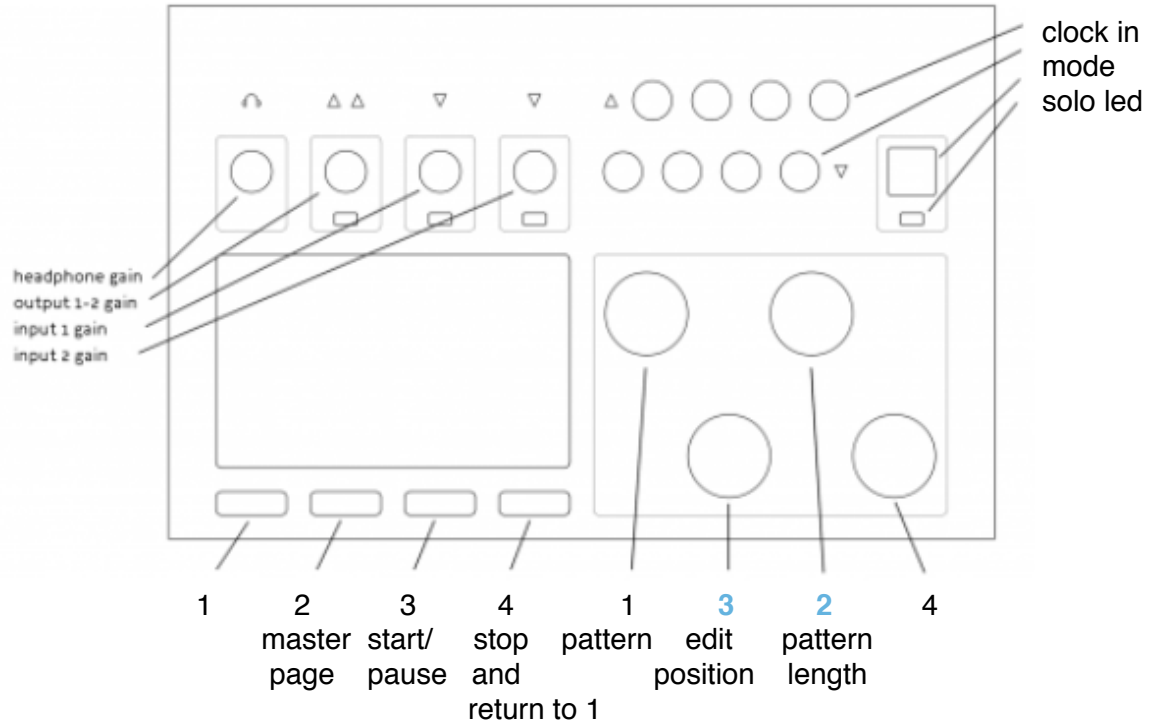
mode / switch combinations
arm clear switch 4

scene



MODE / encoder combinations
save current scene
select and load scene encoder 1
save to selected scene encoder 2

composition



switch1 / encoder combinations
add/remove position encoder 2

MODE / encoder combinations
save current composition
select and load composition encoder 1
save to selected composition encoder 2

CV modes

CLK

provides an internal clock to drive the sequencer.

GT

pulse shaped lfo's that can send to the GATE bus, gate length corresponds to pulse width.

TG

standard shaped lfo's that can send to the TRIG bus on every cycle (trig out), or sync to another channel by receiving from the TRIG bus (trig in).

ENC

makes it possible to assign (combine) the control of several parameters to one encoder.

audio modes

lin

provides linear sample-per-step sequencing. sample level can be set modulated. can send to TRIG bus on sample start.

tape

provides interpolated sample loop playback. speed can be set and modulated. the UI also provides manual control of start/stop, forward/reverse playback and scrub. can send to the TRIG bus on loop restart.

deck

loop recording and playback with turntable integration, see section ‘deck with vestax pdx-d3s’.

[pre]

the mode is an input channel with a built in gate. threshold level can be set and modulated, threshold gate time can be set. can send to both TRIG and GATE bus. input is freely selectable.

[dly]

a delay with time and feedback control, both parameters can be modulated. the UI provides a switch between delay and repeat mode. input is freely selectable. maximum delay time is about 5 seconds.

cv routing

>clock

a clock is necessary to drive the sequencer.

internal clock can be generated by the CV CLK mode. the clock out parameter on the scene page must be set to ON for this CV channel.

external clock is activated by inserting a cable to the CV 1 input, trig, pulse or saw+ waves are recommended but any signal will a detectable rising edge will provide.

>trig

the trig bus works as a patch cable or multiple, to send a trig from one source and have it trig others.

trigs can be generated in different ways

- patterns of trigs from tracks
- periodic trigs from TG and TAPE modes
- external trigs from a source connected to the CV 2 input

>modulation

cv routing is performed on the scene page.

there are 9 modulations sources

- TRACK 1-4 (level-per-step)
- CV mode 1-4
- GATE bus

there are 5x4 modulation destinations as each audio channel have 4 parameters that can be modulated

- mode parameter 1
- mode parameter 2
- aux send
- send

parameter modulation is engaged by selecting a source and setting a modulation amount, with offset.

relevant parameters for CV routing and which modes they apply to:

parameter	mode
CV clock out	CLK
CV trig in	TG, GT
CV trig out	TG
CV gate out	GT
CHN track	LIN, TAPE
CHN trig in	LIN, TAPE, DECK
CHN trig out	LIN, TAPE, DECK, [pre]
CHN gate out	[pre]

cv mixing
pending.

audio routing
audio input 1 and 2 are patchable to any audio channel that accepts an audio input. it's also possible to route channel outputs to channel inputs to create an audio chain. additional each channel have an AUX send the can be routed to any audio channel, providing means to achieve internal feedback. inputs can be selected with normal or reversed phase.

channel sends can be routed to MIX, group 1, group 2 or a combination. the master section provides faders for the groups and a master fader for the MIX output. MIX is patched to audio output 1 and 2. channel outputs and AUX can also be routed to the DIRECT outputs, which are patched to audio output 3 and 4.

audio mixing
this application is designed for hands-on audio mixing, this is an overview of the mixing options, per feature, see page 5 and 6 for how they are mapped

AUX
- send
- modulation amount
- mute
- PRE or POST fader

CHANNEL
- send
- modulation amount
- mute send
- mute channel
- solo
- arm/prepare to create mute groups

MASTER SECTION
- group 1 level
- group 2 level
- master fader
- set/swap and clear to manage mute groups

global settings
solo mode can be set to AFL (after fader listening) or PFL (pre fader listening) on the scene page. PFL mode turns off this channel's send modulation when solo is activated.

samples
samples are loaded on startup from this folder on the card:
/data/prgm/samples

supported formats:
- 48k 32bit raw PCM
- 96k 16bit raw PCM

>setup sample-per-step playback with an internal clock:
scene page:
- set a cv channel to CLK mode
- set it's clock out parameter to ON

cv channel page
- set tempo with switch 1, 11 for a normal tempo

scene page:
- set an audio channel to LIN mode
- set it's track parameter to track X

track X page:
- program a sample sequence with encoder 1

>add level-per-step control:
scene page:
- set chn p1 modsrc to track X

audio channel page:
- turn down sample level with encoder 1
- apply modulation to sample level with mode + encoder 1

track X page:
- program level-per-step with encoder 2

patterns
patterns are stored in these folders on the card:
/data/prgm/patterns/prgm
/data/prgm/patterns/pdxd3s

deck with vestax pdx-d3s
DECK is an optional hardware for connecting up to 6 PDX-d3S turntables*.

* a single turntable can only use 1 (one) remote connection at once, thus six (6) turntables are required to simultaneously perform dual loop recording and quad turntable sequencing.

setup
>power
DECK usb DEVICE port connects to Aleph usb HOST port

>communication and audio
DECK ii port connects to the Aleph ii port (with a stereo phone connector)
- loop recording:
    - connect PDX-d3S remote outputs to DECK inputs 1 or 2 with mono phono 1/8” cables
    - connect mono audio outputs (from mixer or phono preamp) to ALEPH audio inputs 1 or 2
    - set PDX sync on/off switches to ON to start sending control data

- turntable sequencing:
    - connect DECK outputs 1,2,3 or 4 to PDX remote inputs with mono phono 1/8” cables
    - set PDX sync on/off switches to ON to start receiving control data

loop recording
adjust ALEPH input gain knob(s)
(optional) adjust startup-time compensation, the default startup time is 500 ms.

open the SCENE page by pressing switch 1 on the MASTER page

set channel mode to “deck”
set channel input to “IN1” (audio input 1) or “IN2” (audio input 2)
set channel DECK input to “input 1” or “input 2”

return to the MASTER page by pressing switch 1

scroll to a CHANNEL page with encoder 4

- recording with startup-time compensation
    - (Aleph) press switch 4 to arm channel for recording
    - (PDX) press start/stop button to start recording, and again to stop recording

- record direct with spinning platters
    - start the turntable
    - (Aleph) arm channel(s) for recording
    - (PDX) press the active rpm button to start recording, and again stop recording (changing rpm does not affect recording start/stop)

- record a turntable stop/slowdown
    - start the turntable
    - (Aleph) arm channel(s) for recording
    - (PDX) press turntable start/stop to start recording, and again to stop recording

- record with motor off (for scratching etc.)
    - (PDX) activate motor off, led above “MOTOR OFF” should light up
    - (Aleph) arm channel(s) for recording
    - (PDX) press start/stop button to start recording, and again to stop recording

turntable sequencing
see setup above and page 3,4 and 9 on how to program patterns and compositions.

known bugs/limitations

- first sample does not play when sequenced
- scene recall logic not fully implemented
- no recall on master and cv channels
- all channel solo settings are force saved to OFF
- solo/mute/arm logic have loop-holes