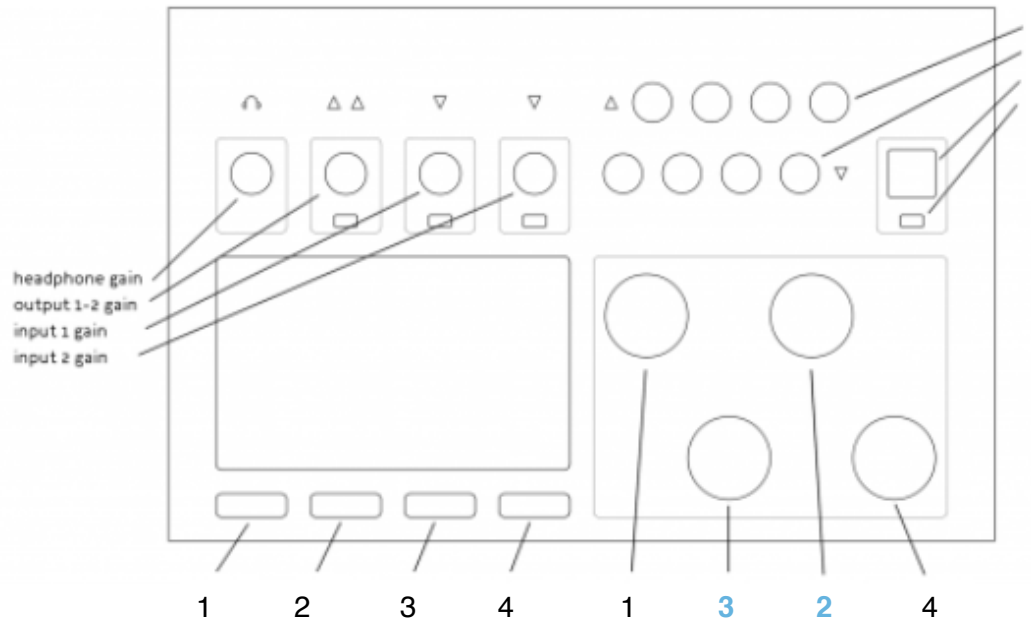
DRAFT - user manual
version: 0.1.9e

## IO




**audio**

| | |
|---|---|
| mix (mono) | output 1-2 |
| direct outputs | output 3, output 4 |
| inputs | input 1, input 2 |

**cv**

| | |
|---|---|
| external clock | cv in 1 |

**ii**

see section “deck with vestax pdx-d3s”, page 13

**dsp**

| | |
|---|---|
| channel outputs | out 1-6* |
| aux | aux bus for audio signals** |
| aux cv | aux bus for cv signals |
| deck inputs | see section “deck with vestax pdx-d3s”, page 13 |

* selectable as clean output, phase reversed, and with pad
** selectable as clean and phase reversed

**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 128 steps per pattern
- Individual track lengths
- Track shift up/down, Step clone to next measure
- Recall

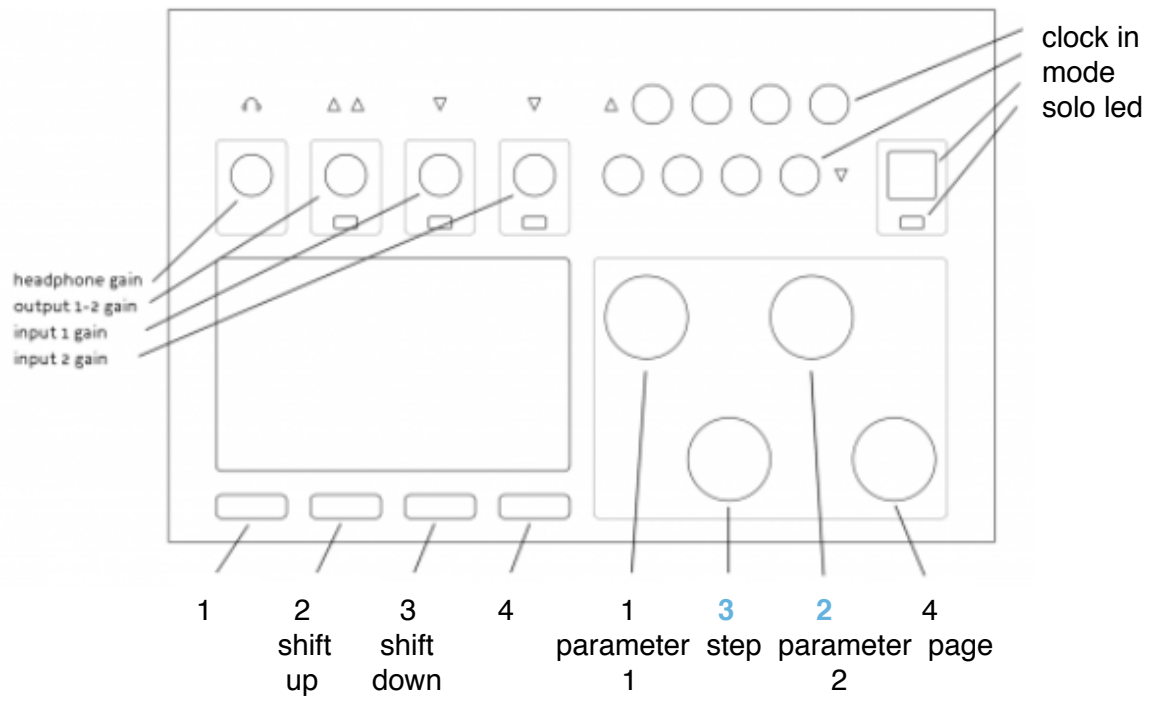
channels (x6)

- Turntable controlled loop mode with DECK ii extension
- 1x AUX, 1x CV 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
- Recall

**UI**
sequencer




**switch1** / encoder combinations

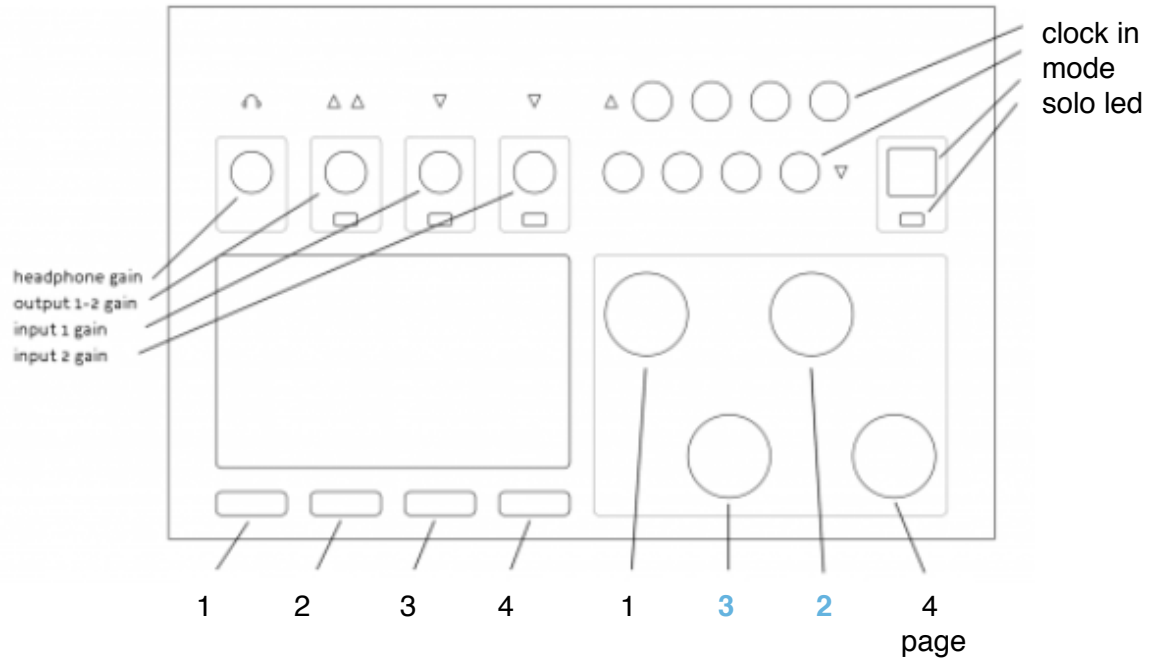
| | |
|---|---|
| measure | encoder 1 |
| track length | encoder 2 |
| clone to next measure | encoder 3 |

**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 |

**UI**
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 with the scene.

**switch1** / encoder combinations

| | |
|---|---|
| set speed | encoder 1-4 |

**switch2** / encoder combinations

| | |
|---|---|
| set pitch at 33 rpm | encoder 1-4 |

**switch3** / encoder combinations

| | |
|---|---|
| add pitch at 45 rpm | encoder 1-4 |

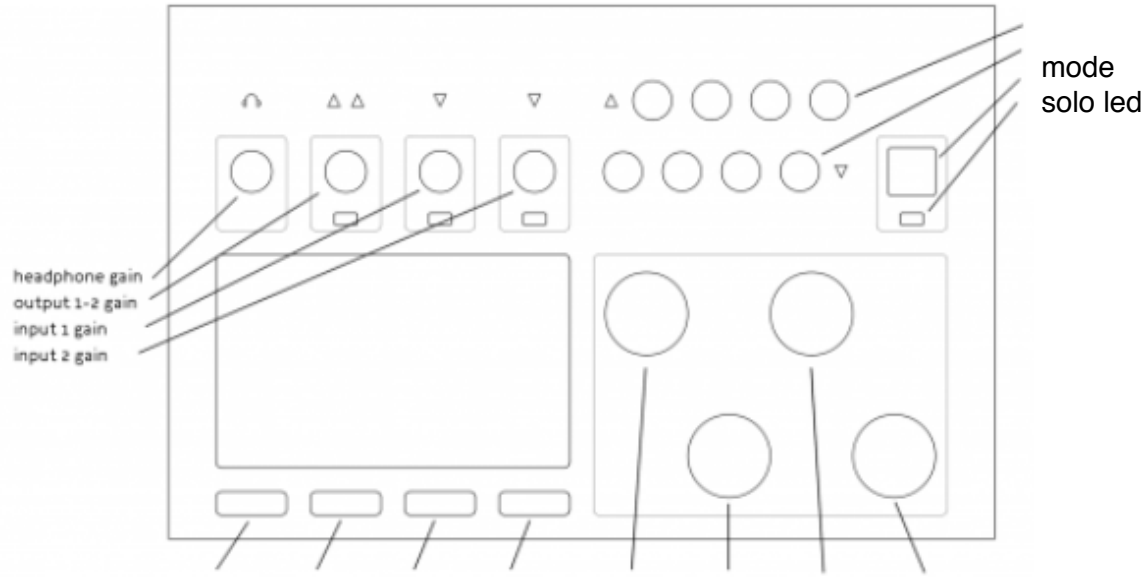
**switch4** / encoder combinations

| | |
|---|---|
| add transposition | encoder 1 |

**MODE** / encoder combinations

| | |
|---|---|
| select chord | encoder 1 |
| clone to selected chord | encoder 2 |

**UI**
channels




**mode** / switch combinations

| | |
|---|---|
| aux pre l post | switch 2 |
| channel mute | switch 3 |
| solo | switch 4 |

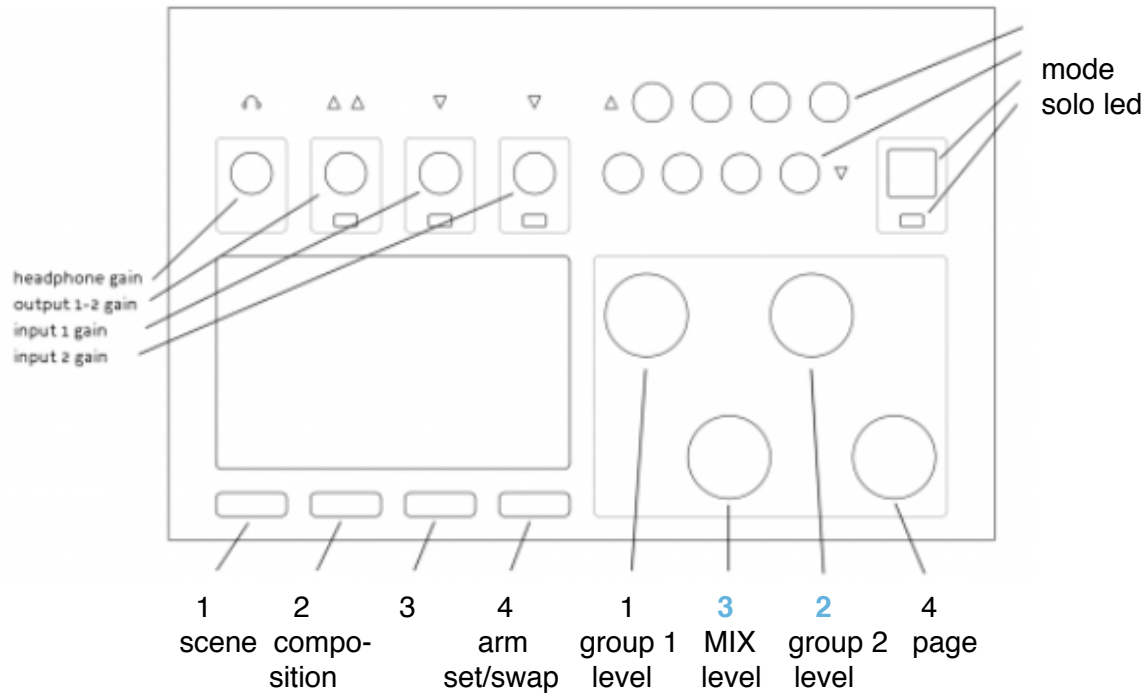
**mode doubletap** secondary view with parameter control by encoders 1-3

**mode** / encoder combinations

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

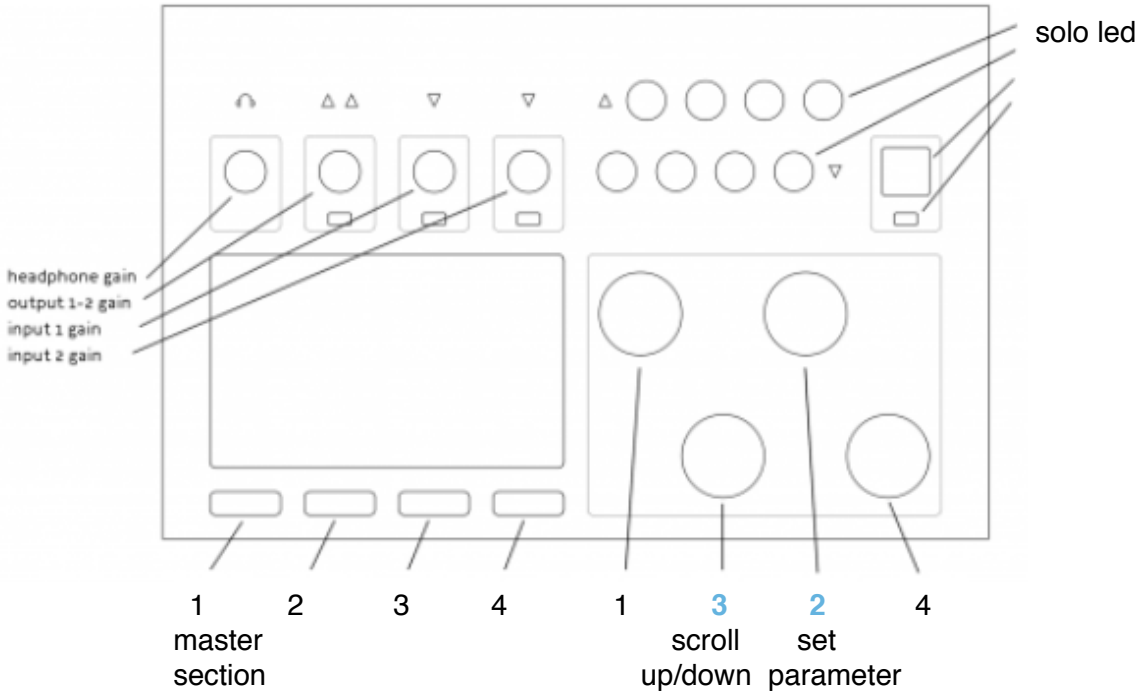
| mode | parameters | audio | cv |
|---|---|---|---|
| imp | length | impulse | gate |
| lin | level | sample | sample |
| tape | speed, start/stop | sample | - |
| deck | arm/play/record | loop | - |
| [pre] | - | audio input | - |
| [bpf] | cutoff | feedback | - |
| [dly] | feedback/time/repeat | delay | lfo |
| LFO | rate | - | lfo |

**UI**
master section



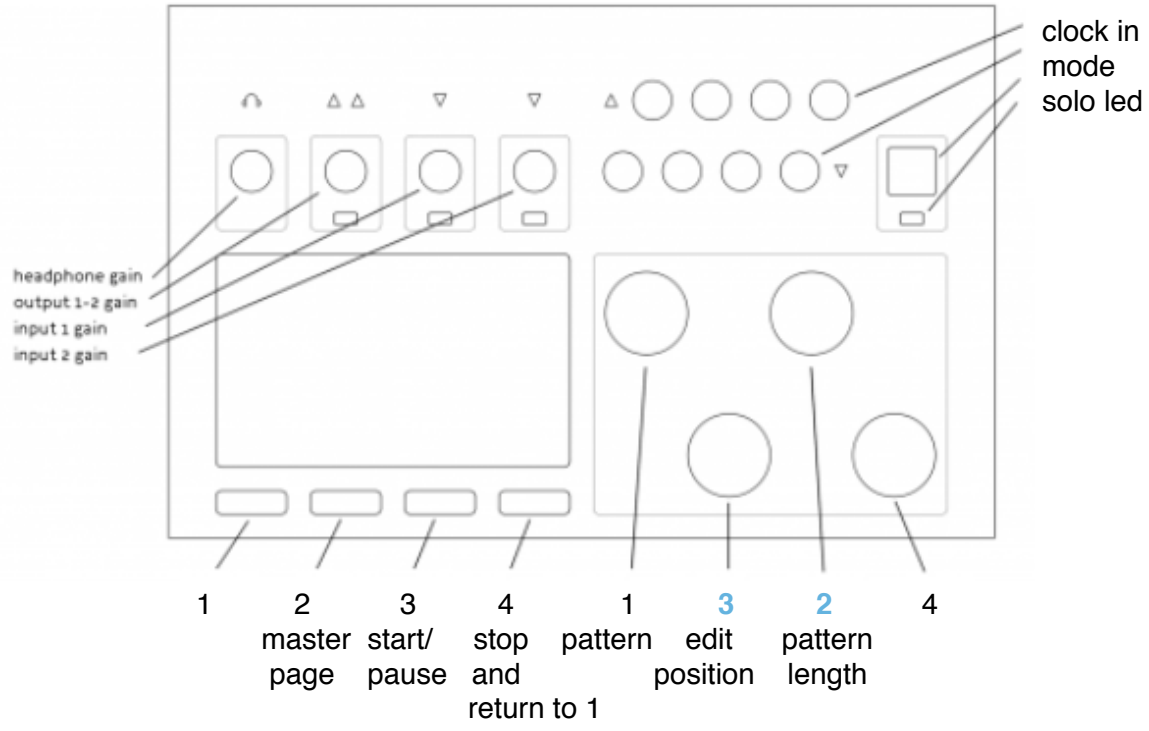

**mode** / switch combinations
arm clear switch 4

**UI**
scene




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

**UI**
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

**channel modes**

imp
impulse/gate generator with per-step sequencing. gate length can be modulated. can send to TRIG bus on gate end. outputs gate as audio and cv.

lin
linear sample playback with per-step sequencing. sample level can be set modulated. can send to TRIG bus on sample start. outputs sample as audio and cv.

tape
interpolated sample playback. speed can be modulated. the UI also provides manual control of start/stop and forward/reverse playback. can send to the TRIG bus on loop restart. outputs loop as audio, no cv output.

deck
loop recording and playback with turntable integration, see section ‘deck with vestax pdx-d3s’. outputs loop as audio, no cv output.

[pre]
input channel. outputs audio input.

[bpf]
2-pole bandpass filter with cutoff and feedback control. cutoff can be modulated. additional feedback can be achieved by routing its own input to aux and engaging its own aux send.

[dly]
delay with time and feedback control and an internal lfo, plus a repeat mode that is activated with switch 1. feedback can be modulated. input is freely selectable. outputs delay as audio and its internal lfo as cv.

LFO
lfo with rate control and modulation. outputs lfo as cv, no audio output.

**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.

**cv routing**
cv routing is performed on the scene page. parameter modulation is engaged by selecting a source and setting a modulation amount, with offset. cv sources can be mixed by sending to the cv aux channel.

possible modulation destinations are:
- mix send
- aux send
- mode parameters

**clock and trig routing**
an external clock is necessary to drive the sequencer. insert a cable to the CV 1 input with a trig, pulse or a sharp saw+ wave.

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

**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 mix 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

**patterns**
patterns are stored on the card:
/data/prgm/patterns/

**compostions**
compositions are stored on the card:
/data/prgm/compositions/

**scenes**
scenes are stored on the card:
/data/prgm/scenes/

no scene is loaded on startup, instead the app starts with a set of initialised values, scene s00.scn is meant to be used as an empty scene template. scene s01.scn contain a sound example for audio output tests.

**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**

- channel solo settings are force saved to OFF
- solo/mute/arm logic have loop-holes