

Nanoloop 2.8 Pocket Edition User Manual v1.0



Nanoloop is a synthesizer and a sequencer.
Designed for music creation and live
performance. Shape, stretch and morph sounds.
Capture music or play and sculpt live.

Nanoloop operates by looping a bar of 16 steps.
Each step can be manipulated in various ways like
pitch, lfo, envelope, wave form and more. There
are no channel or instrument settings, instead all
parameters are set step-wise.

There are four channels, playing simultaneously.
Each channel's patterns can be saved to file slots
and can be manipulated into further combinations
and arranged into compositions.

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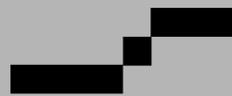
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Volume / Envelope



Pitch



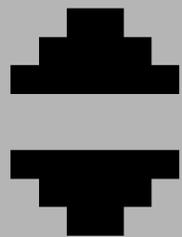
LFO



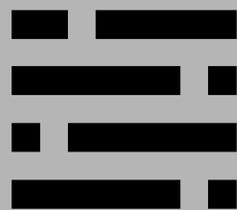
Wave Form



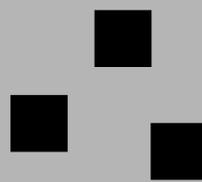
Panning / Delay



File Menu



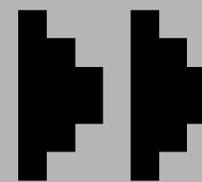
Song Editor



Ping-Pong



Pattern Length



Tempo / Sync

The Sequencer

The 16-step pattern is shown as a matrix of 4 x 4 squares with the currently playing step marked in slightly darker color.

The current channel is displayed in the upper left corner, the current edit parameter in the upper right. Within this matrix, the cursor can be moved around with the d-pad. Use the buttons to set and edit notes:

B	place note
A	cut / paste note
B + ▲ / ▼ / ◀ / ▶	edit note
A + ▲ / ▼ / ◀ / ▶	change modes
R + ▲ / ▼ / ◀ / ▶	meta step
SELECT	menu 1

Startup

On startup, the edit parameter is pitch and B + ▲ / ▼ changes pitch semitone-wise while B + ◀ / ▶ changes the octave. To select a different channel or parameter, call menu 1 with SELECT.

Meta Step

With R + ◀ / ▶ you can set the step to play only every 2nd time and every 4th time with R + ▲ / ▼. R + ▼ resets meta step.

Menu 1

In menu 1 you can select channel and edit parameter. Furthermore, all notes in the sequencer can be edited simultaneously the same way as in sequencer.



select parameter



select channel

B

return to sequencer



edit all notes at once

A + Start

mute/unmute channel

R + Start

toggle note value/bar view



randomise

(multiple presses increase range)

SELECT

call menu 2

Channels

There are three tonal channels and one for noise:

R	monophonic PWM / FM
L	monophonic PWM / FM
S	polyphonic PWM / FM
N	noise

L, R and S can play a filtered rectangular wave with variable pulse width or FM with variable modulation amount and modulation frequency.

L and R play chords as arpeggio and have a pitch envelope / LFO.

S plays chords as actual chords with a stereo phasing effect and has a filter / modulation (PWM / FM) envelope.

N is filtered noise with adjustable cutoff and playback speed. An arpeggio can be applied to the latter.

Sequence Parameter: Volume/Envelope



B + ▲ / ▼

volume

B + ◀ / ▶

length

A + ▼

decay only envelope (default)

A + ▲

attack = decay

A + ◀ / ▶

click (R) / soft attack (L,S,N)

Sequence Parameter: Pitch



B + ▲ / ▼

semitone

B + ◀ / ▶

octave

START

chord mode on / off

L

arpeggio envelope on / off

B + START

toggle relative (note+intervals) /
absolute chord mode

Arpeggio Mode

B + ▲ / ▼

semitone

B + ◀ / ▶

select note

B + R + ▲ / ▼ / ◀ / ▶

set octave

In arpeggio mode, there are 4 notes per step, played as loop. With arpeggio envelope on, notes are played only once and each note has its own envelope.

The highest note (=) is a pause.

Noise vs Pitch

The noise channel has no pitch or octave setting but is always in arpeggio mode.

Noise arpeggio is applied to the playback frequency. When in envelope mode, it plays at double speed, which allows for clap-like sounds.

Sequence Parameter: LFO



B + ▲ / ▼

amplitude

B + ◀ / ▶

frequency

A + ▲ / ▼

envelope / LFO mode

B + ◀ / ▶

LFO destination pitch / filter (S only)

Open LFO

When in the lower half, the LFO is retriggered,
in the upper half it is free-running.

Sequence Parameter: Wave Form



B + ▲ / ▼

cutoff (PWM / Noise) / modulation (FM)

B + ◀ / ▶

pulse width (PWM) / modulation frequency (FM)
/ playback freq (noise)

A + ▲ / ▼

PWM / FM (R,L,S), highpass / GB noise (N)

A + ◀ / ▶

PWM: highpass / bandpass filter

noise: toggle white / “metallic” noise

Sequence Parameter: Panning/Delay



B + ▲ / ▼

delay

B + ◀ / ▶

panning (S and N only)

A + ▲ / ▼

delay / delay + original

When changing delay for the entire pattern from within the menu (B + ▲ / ▼), only even-numbered steps are affected, so that the delays form a swing factor.

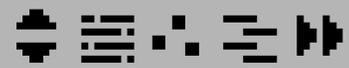
Menu 2

Menu 2 provides links to sub-menus and some functions that affect the whole channel. SELECT returns to Menu 1.

Sync Modes

S8 1/8 = click on every second step, for PO, Volca and others (default)
S16 1/16 = 1 click per step
S24 1/24 = 3 clicks per step, for MIDI
SY1 1/8 clicks on left audio channel, for PO as slave via audio cable

START switches to master mode.



	B	file menu
	B or A (see below)	song editor
	B + ◀	ping-pong
	START	random
	B + ▶	normal
	B + ▲ / ▼	pattern length
	B + ◀ / ▶	shift pattern
	A + ◀ / ▶	shift pattern, preserving delay
	START	copy pattern
	A + B	paste pattern
	B + ◀ / ▶	tempo / sync
	B + ▲ / ▼	1/x tempo for channel
	A + B	prepare slave
	B + L	prepare master
	A	pause
	A	(when paused) play step manually
	B	resume
	A + ▲ / ▼ (while stopped)	select sync mode (see below)
	A + ◀ / ▶	adjust delay to compensate slave delay

File Menu



In the file menu, patterns can be saved to file slots in flash memory for persistent storage in 120 banks. In each bank there is a row of 15 slots for each channel.

Slot 0 is not writeable but can be used to load an empty pattern. SELECT returns to menu 1.

START	switch between file slots and back menu
SELECT	return to menu 1
File Mode	
▲ / ▼	select channel
◀ / ▶	select file slot
B + ▼	save current channel's pattern to file slot
B + ▲	load pattern from file slot for current channel
A + ▼	save current patterns to this column
A + ▲	load all patterns from column
B + ◀ / ▶	move to the next slot and load it
A + ◀ / ▶	move to the next column and load all 4 slots
B + R + ▲	load pattern with tempo
A + B + ▼	delete pattern in file slot
A + B + ▲	load pattern on 1st step
A + B + ◀ / ▶	mute/unmute/solo channel
START	bank menu

File Menu



File transfer procedure

- Connect both units with a link cable that is not a GBA-multiplayer cable (GB pocket / GB color compatible).
- Press A + B + ▼ on receiving unit.
- Press A + B + ▲ on sending unit.
- When the transfer is successful, the current bank is overwritten with the received bank. If there was an error, the different checksums are shown. You can then cancel the operation with SELECT or confirm to save the received data with A+B.

Bank Menu

◀ / ▶

move cursor

leftmost

bank selection

center

bank name

rightmost

data transfer

Bank Selection

B + ▲ / ▼ / ◀ / ▶

select bank

A + B + ▲

copy bank

A + B + ▼

paste bank

Bank Name

B + ▲ / ▼

edit letter

Data Transfer

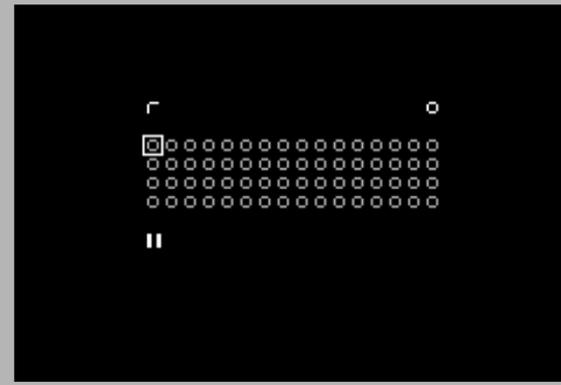
B + A + ▲

send bank

B + A + ▼

receive bank

Song Editor



The current bank's saved patterns can be arranged to a song. The song structure is organized in 15 pages, if you move the cursor to the far right or left, the next / last page is displayed.

B + ▲ / ▼

select pattern

B + ◀ / ▶

copy current value to next step

A + ▲

load patterns at cursor position

A + ◀ / ▶

turn page

R

select / deselect current channel for tempo

L

select / deselect current channel for pattern length

START

start song from cursor position

SELECT

return to menu 2

When leaving the song editor, song playback is stopped and the song is saved. (the song is not saved when the device is turned off without leaving the song editor)

Each time a pattern is saved to a file slot, the current tempo is saved, too. When a channel is set for tempo, the saved tempo values are applied during song playback.

The 1/x tempo sequencer starts at the beginning of the song. Patterns with 1/x tempo are in sync with this global sequencer and do not re-start when they are loaded. Therefore, patterns with 1/2 tempo start at even positions in the

song only. If such a pattern is placed at an odd position, it will start in the middle.

Sync Modes

From the menu, the song editor can be started via B or A. B starts it in pattern sync mode. This mode does not stop the current loop and the song plays in sync with the current pattern. When the song is stopped or the song editor is leaved, the current patterns continue to play. A starts the song editor in manual / external sync mode. Pressing START starts playback immediately and sends a sync signal, B+A sets it to slave mode.

Pocket to Analog Sync Cable

“Sync” means that two or more devices run at the same tempo. Typically one device acts as “master”, sending clock signals while the receiving units are “slaves”.

“Analog” sync is a simple on/off scheme where short clicks are sent through an audio cable. Nanoloop can send and receive such clicks via the analog sync cable and also play them on the left channel of the headphone output.

Hardware

Besides the analog sync cable, one or more small jack stereo audio cables are required:



General setup

To configure sync in nanoloop, go to menu 2 and move the cursor to the rightmost icon:

The basic procedure is fairly simple:

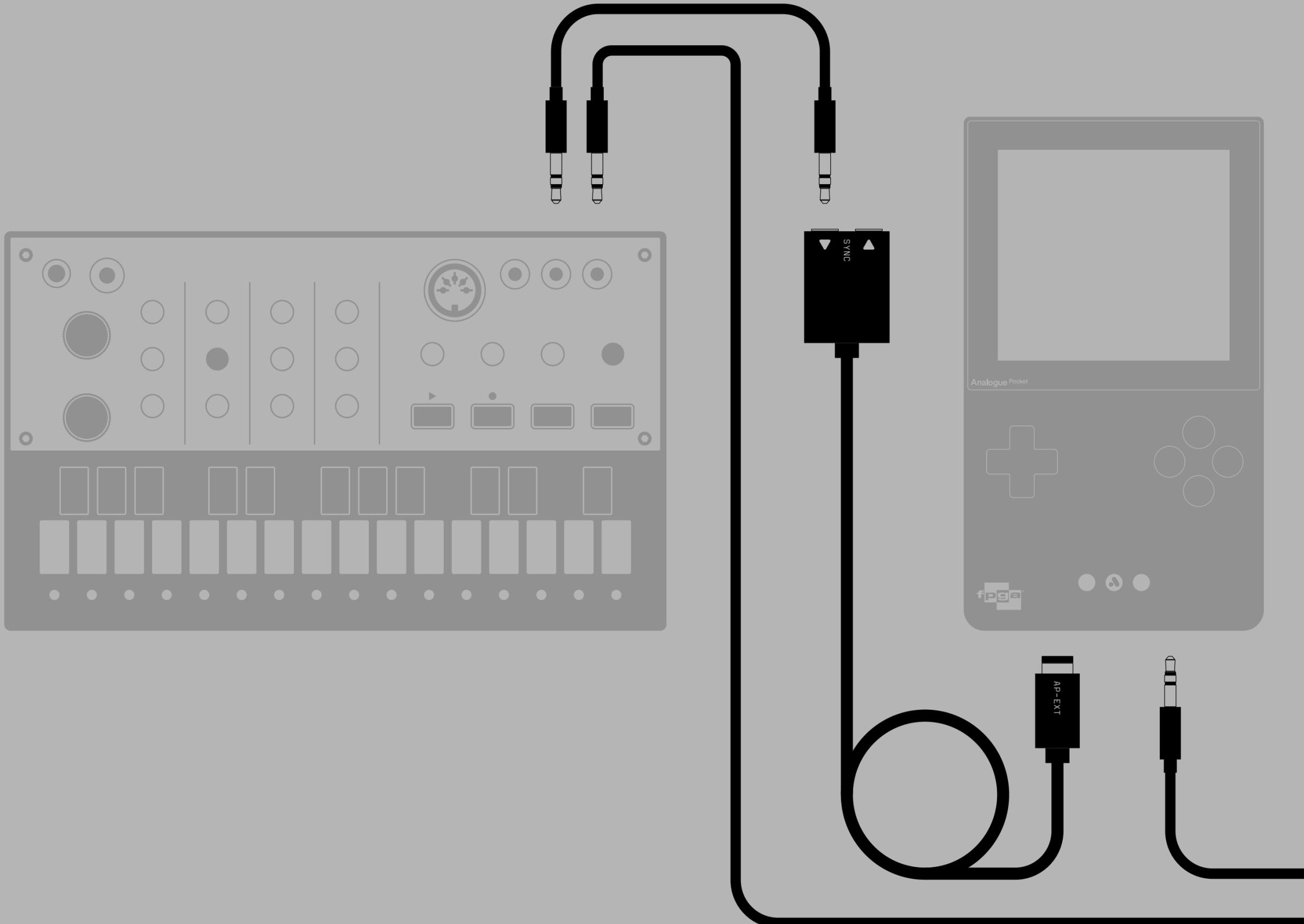
- Stop both devices
- Connect the analog sync cable to Pocket's link port
- Connect other device's sync in/out to cable's out/in
- Set sync modes
- Start slave
- Start Master

Pocket to Analog Sync Cable Use Cases

Korg Volca as MASTER with analog sync cable

- ① On Volca
 - Stop playback
- ② In nanoloop
 - Stop nanoloop playback with B + A
 - If not set to "S8", select "S8" mode with B + ▲
- ③ On Volca
 - Start playback

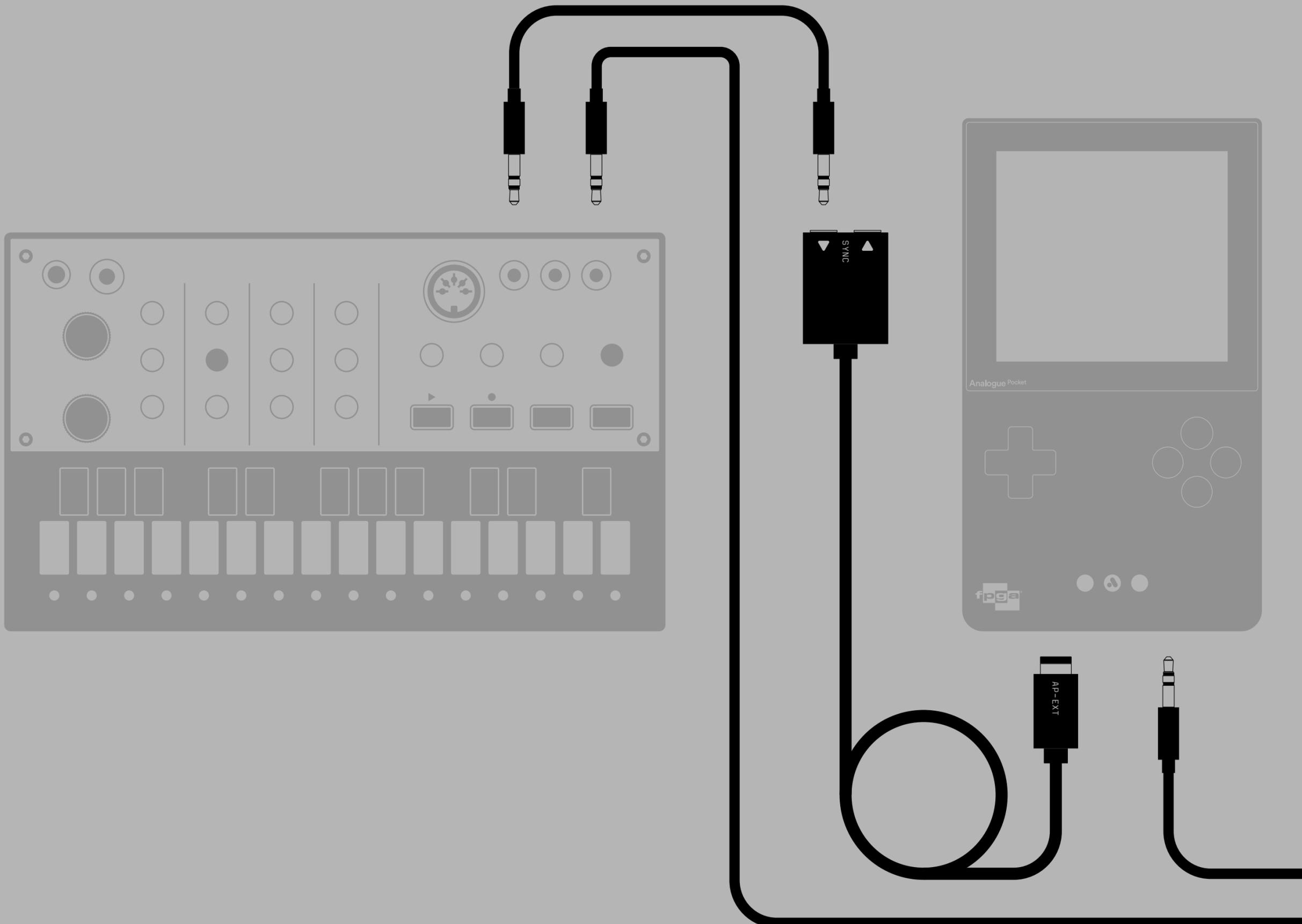
You can reset nanoloop to pattern start with B+A.



Pocket to Analog Sync Cable Use Cases

Korg Volca as SLAVE with analog sync cable

- ① On Volca
 - Stop playback
- ② In nanoloop
 - Stop playback with B + A
 - If not set to "S8", select "S8" mode with B + ▲
 - Press START

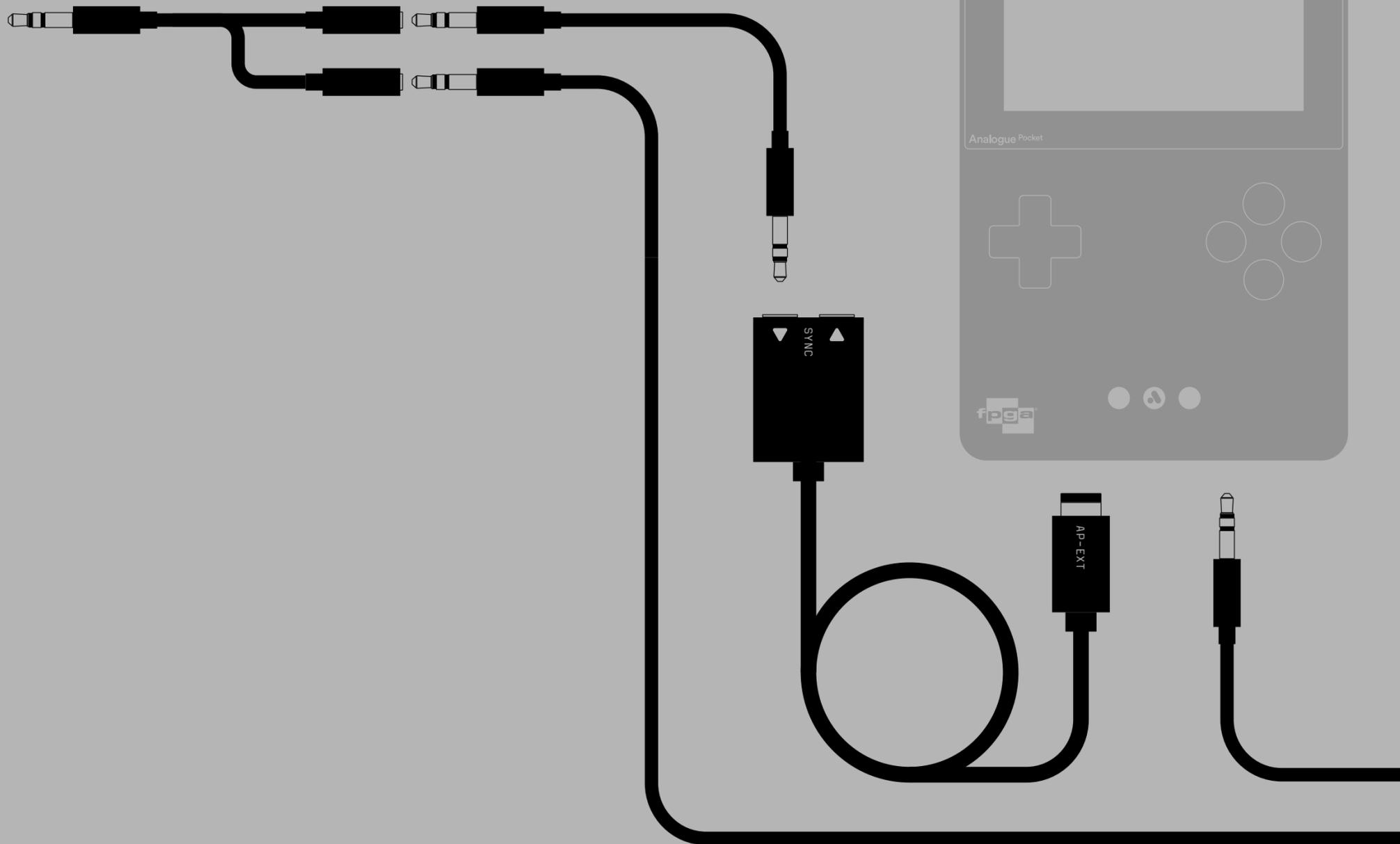
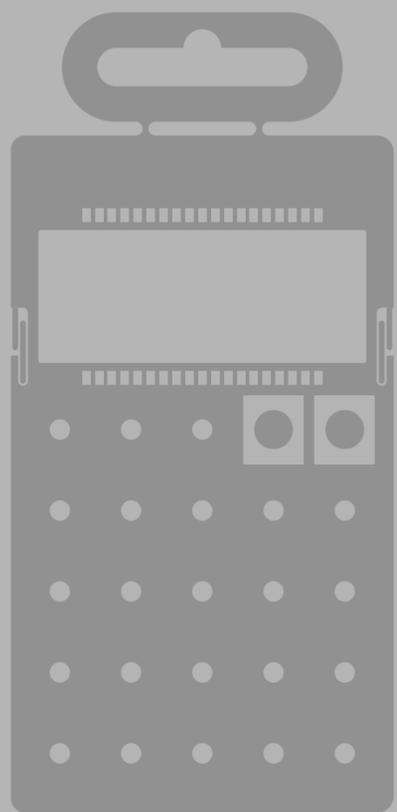


Pocket to Analog Sync Cable Use Cases

Pocket Operator or OP-1 as master

These devices send sync clicks and audio on left/right channel. To separate both, a stereo-mono splitter is required:

- ① In nanoloop
 - Stop playback with B + A
 - If not set to "S8", select "S8" mode with B + ▲
- ② On PO / OP-1
 - Select "SY1" / "PO" sync mode
 - press "play"



Sync via 3.5mm Audio Cable

This option works with just a standard 3.5mm small jack stereo cable. A Pocket Operator (PO) can receive sync clicks on the left channel and mix mono audio from the right channel with its own sound. When in sync mode “SY1”, nanoloop plays clicks and mono audio on the headphone output accordingly.

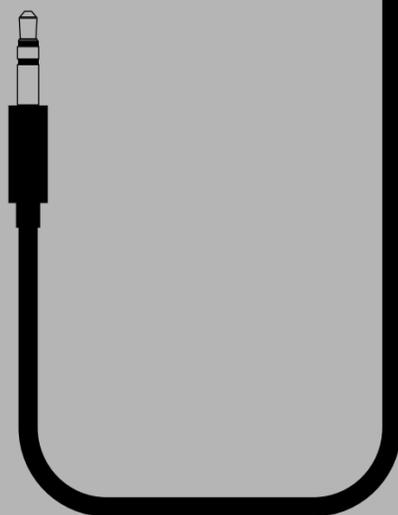
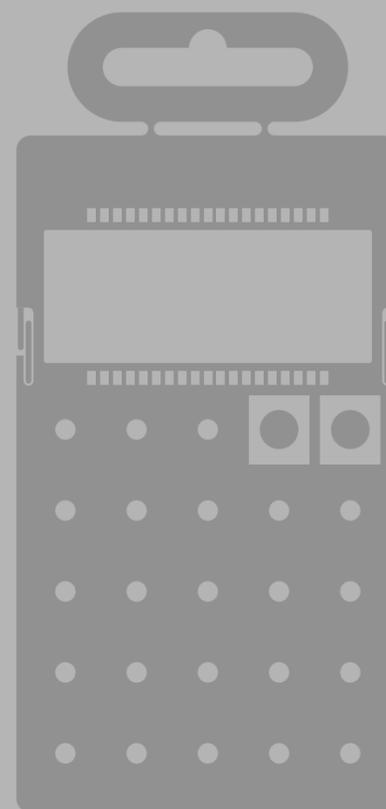
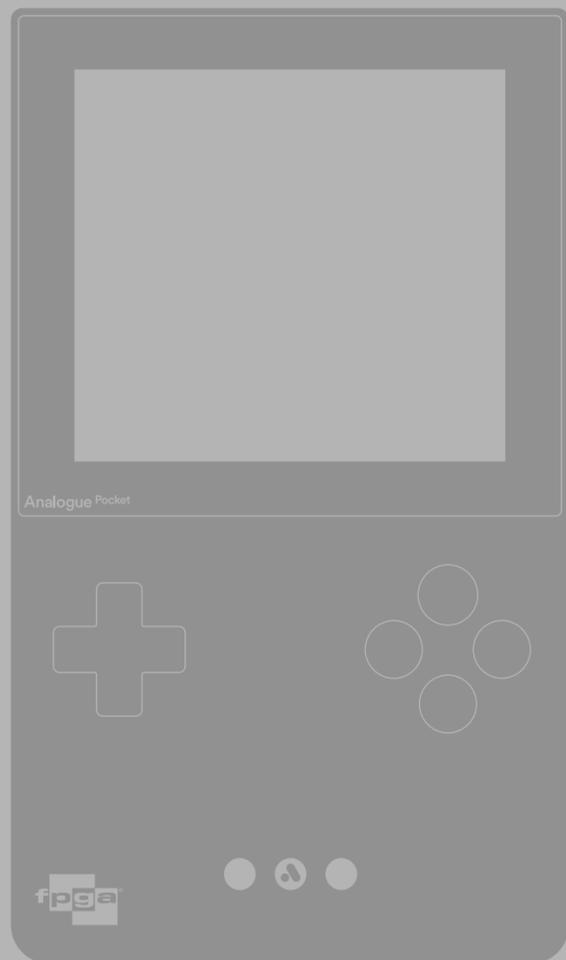
Setup

Connect Pocket’s headphone output to PO’s left input with an audio cable as shown below. The mixed output of nanoloop and PO will be available on PO’s audio out.

- ① **In nanoloop**
 - Stop playback with B + L
 - Select “SY1” mode with B + ▲
- ② **On PO**
 - Stop playback with “play” button
 - Select “SY4” mode with “acc” + “bpm”
 - Press “play” button again

PO is now waiting for sync
(play button blinking)

- ③ **In nanoloop**
 - Hit START



Clicks are recognized by PO only from a certain volume on. If it's not playing, please increase volume until PO starts playback and then restart the procedure (in nanoloop, press B+A, on PO press play twice, in nanoloop press START).

Pocket MIDI IN Cable

The MIDI IN cable allows to sync nanoloop as slave to MIDI clock from external gear.

Setup

The MIDI IN cable allows to sync nanoloop as slave to MIDI clock from external gear.

While in sync, tempo changes and pause / resume are possible. However, when the sequence is stopped and reset to start position, nanoloop's play position needs to be reset, too, with B+A.

① On device

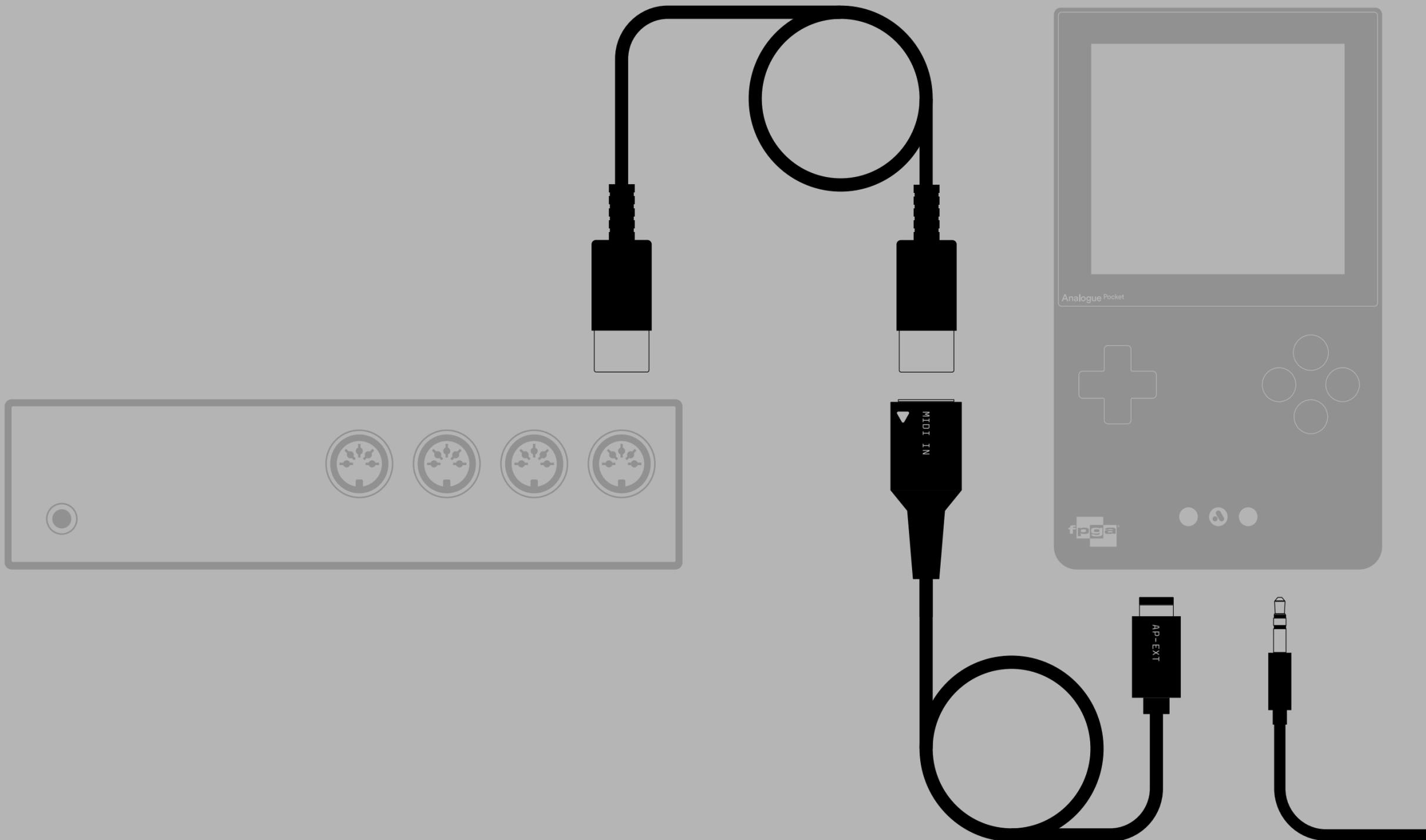
- enable MIDI clock if necessary (often it's on by default)
- stop playback and rewind to start position if necessary

② On Pocket

- Navigate to tempo setting (leftmost position in menu 2)
- Press B + A to stop
- Press A + ▲ to select S24

③ On device

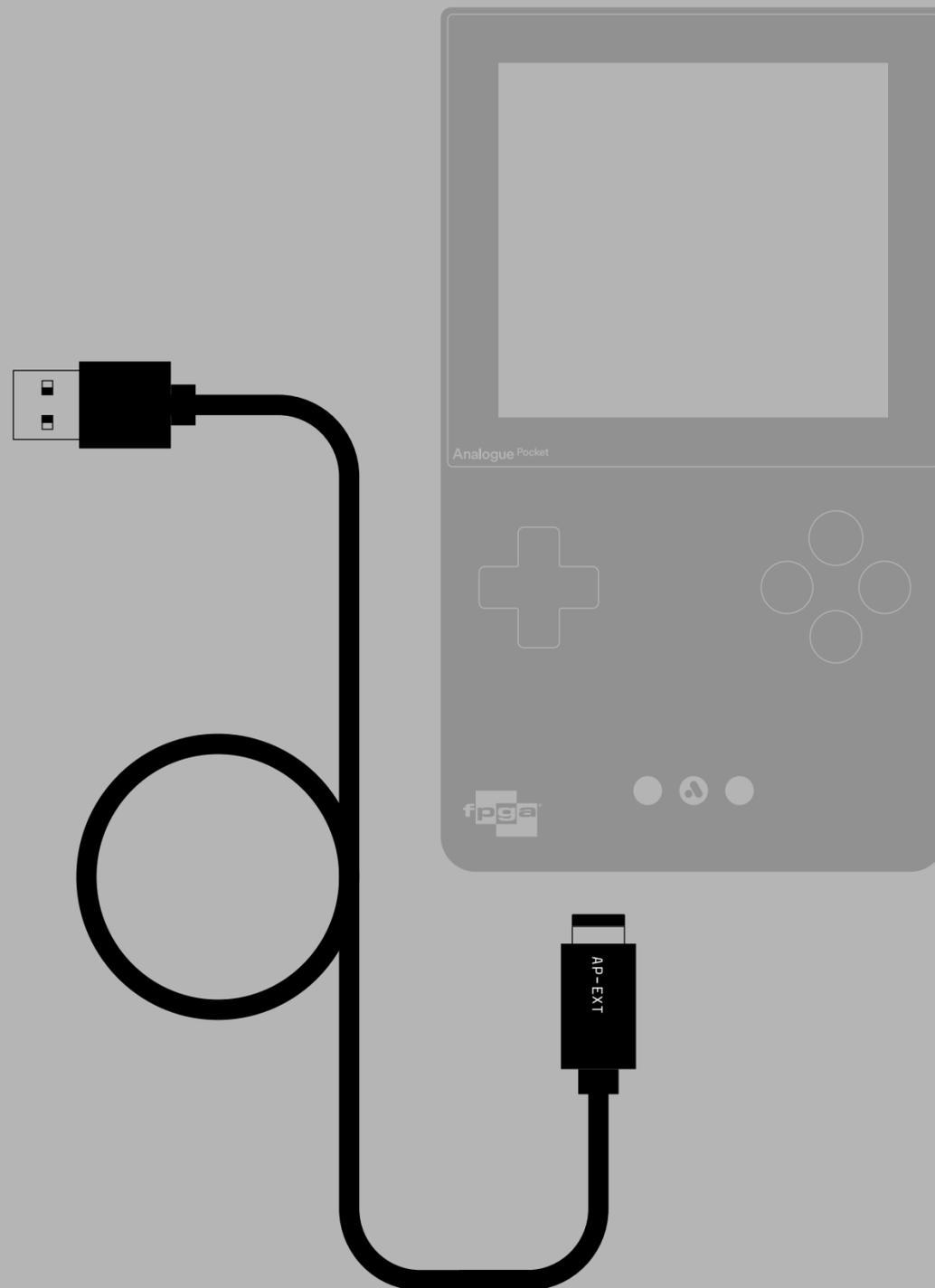
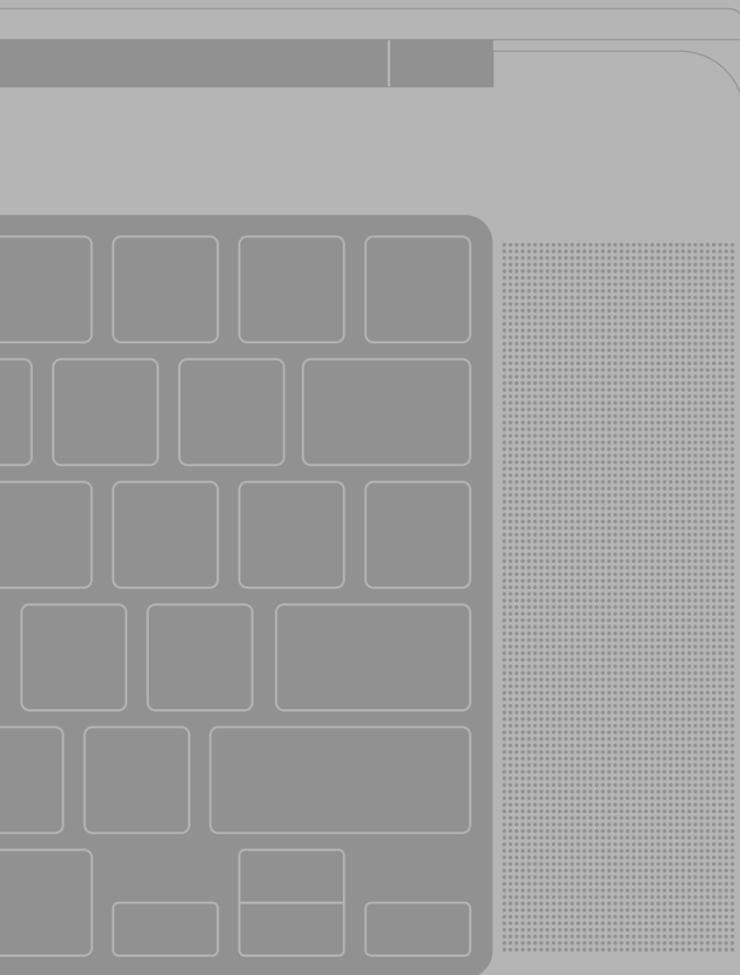
- start playback



Pocket to MIDI USB-A Cable

This cable establishes a USB-MIDI connection between Pocket and a PC. It allows to transfer files and to run nanoloop in sync to a DAW.

This document only covers the sync function, data transfer is handled by a dedicated web page that has all necessary instructions embedded:
www.nanoloop.com/update/nlmidipocket.html



SYNC nanoloop to Ableton Live

Setup

Connect the cable to Pocket and PC

① In Live

- stop playback
- go to Preferences → Link MIDI.
- enable “sync” for “Analogue Pocket nanoloop USB”
- make sure all other switches are set to “off”

② In nanoloop

- go to tempo setting (rightmost in menu 2)



- press B + A to stop playback
- press B + ▲ to select S24 sync mode

③ In Live

- start playback

While in sync, tempo changes and pause / resume are possible.

However, when the sequence is stopped and reset to start position, nanoloop’s play position needs to be reset with B+A, too.

Pocket to Pocket Link Cable

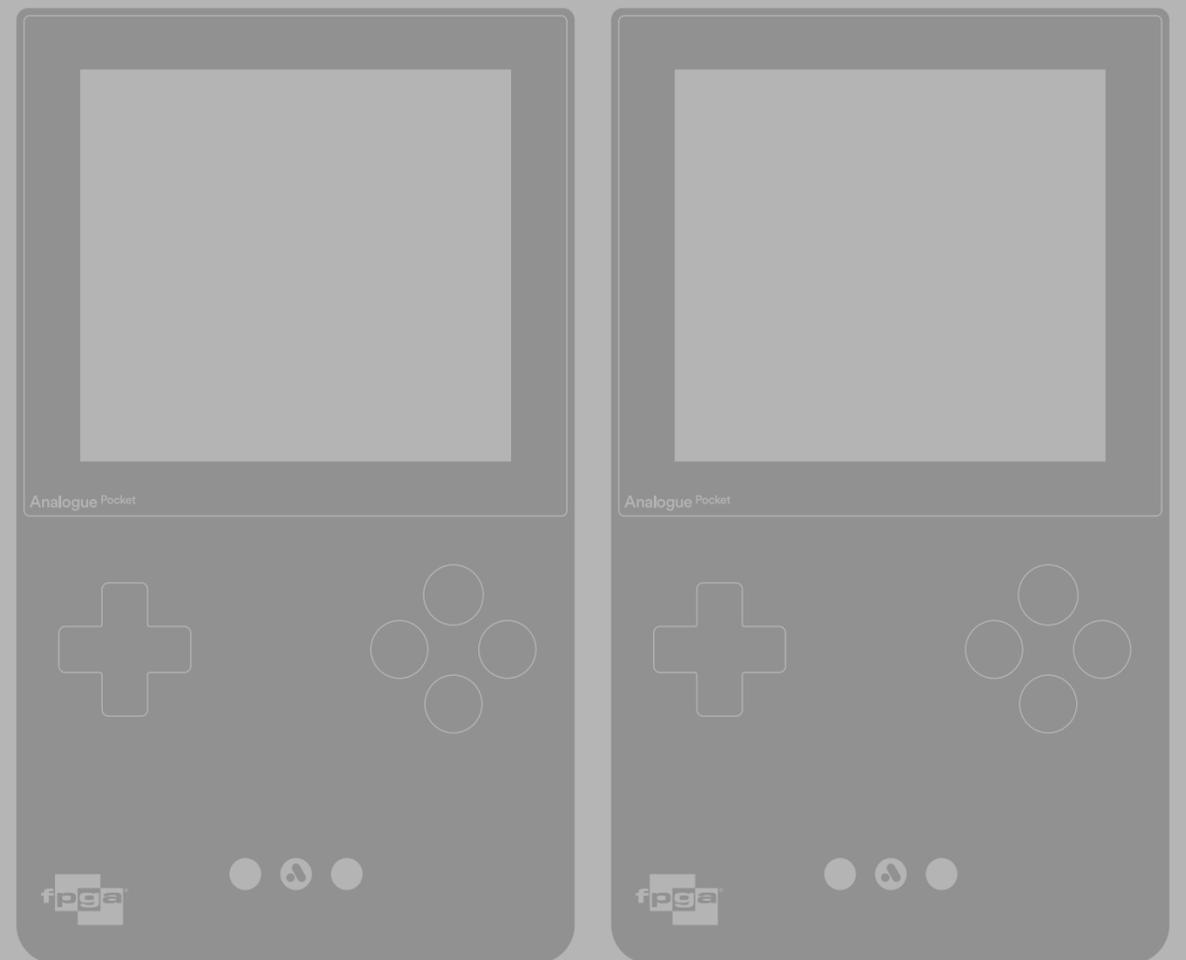
Pocket-to-Pocket Sync

Setup

To sync two Pockets running nanoloop, connect them via link cable (cable must be in GBA mode) and navigate to the tempo icon in menu 2:



Stop both with B + A. Both sides must be in the same sync mode, preferably S16. Sync mode can be adjusted with A + ▲.
Start the master with START.



I got the poison. I got the remedy.