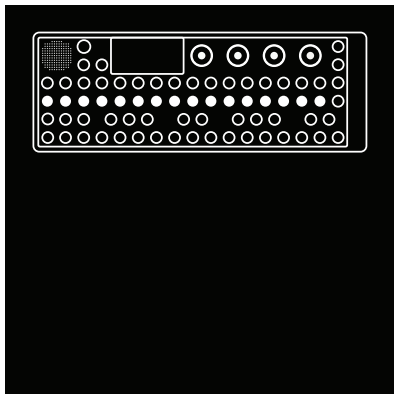
OP XY

portable sequencer
quick start guide

OP–XY

introduction



to begin, we'd like to say thank you for choosing OP–XY. we have spent many years sketching and building this wonderful machine to help you channel your creativity and can't wait for you to fall in love with it as much as we have. OP–XY builds on the idea of a sequencer based workflow and is designed to help you come up with musical ideas and record them as quickly and powerfully as possible.

thank you!

quick start guide

this is an abbreviated quick start guide to help learn the basics of OP–XY and start making your first song on it. this guide covers everything you need to know to get started and understand the basic concepts of OP–XY, for a more in depth explanation of the device please read the full guide: teenage.engineering/guide/op-xy

care

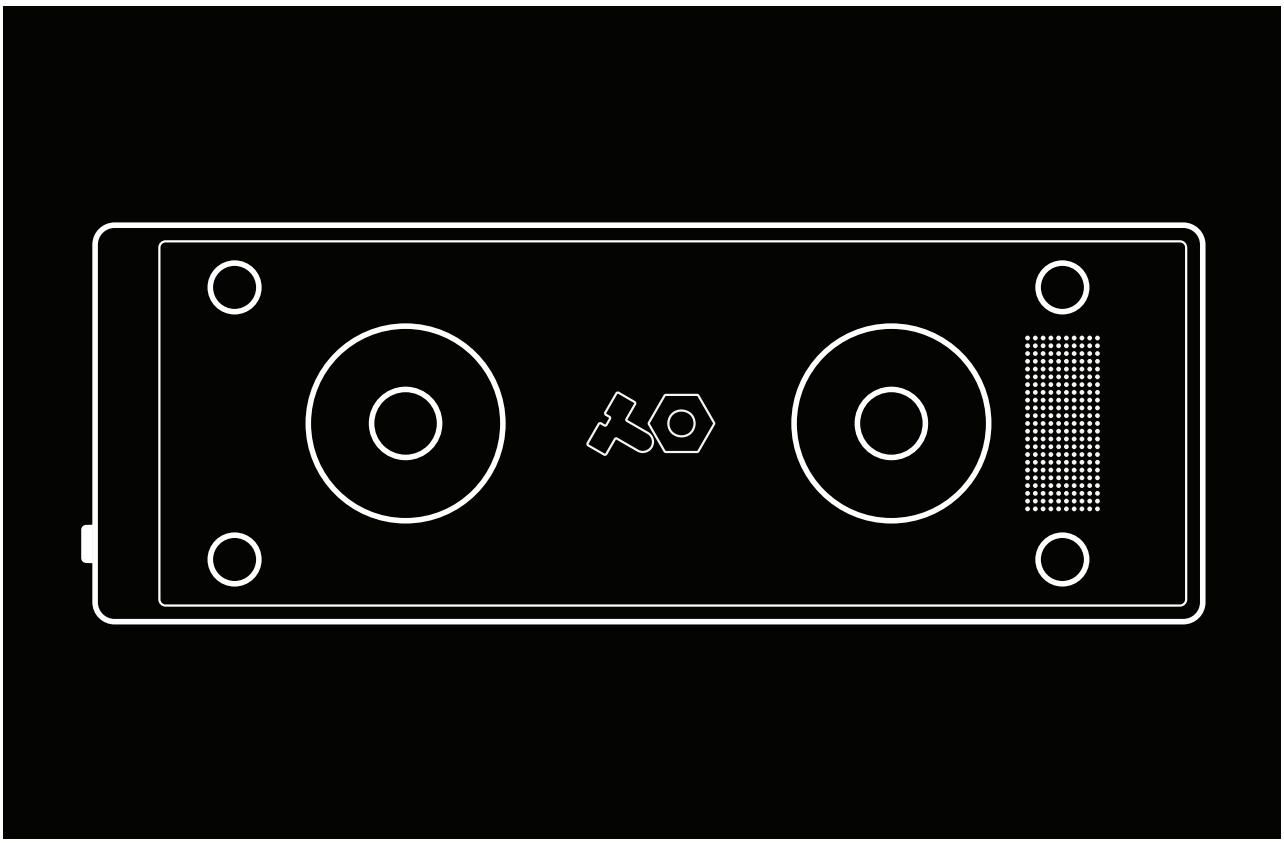
before getting started, make sure to carefully read these instructions. see the section at the end on warnings and warranty for more information. OP–XY is a highly technical and delicate product. make sure to learn how to properly operate, care for and store your device. take the time to register your unit here: teenage.engineering/register

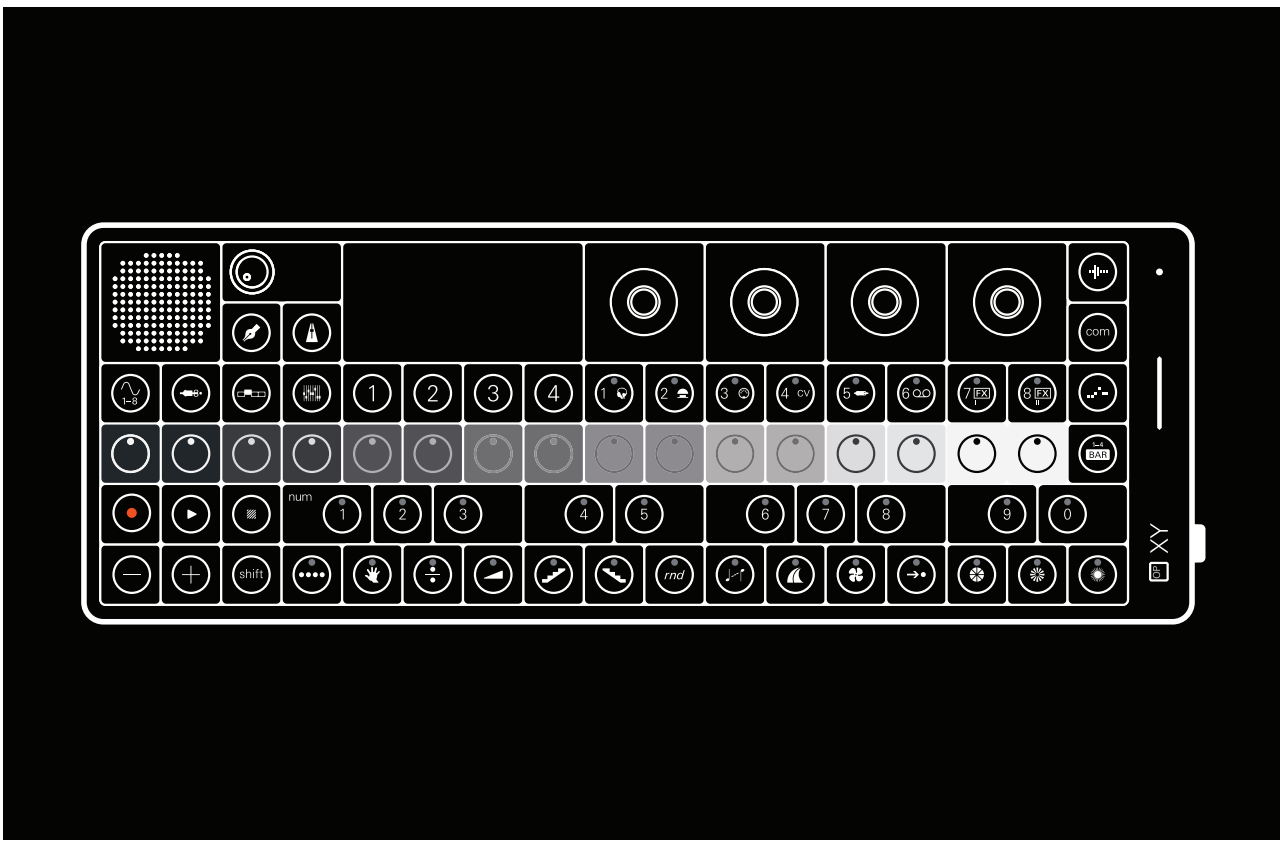
hardware

OP–XY is a precision tool, made in black anodized aluminium, with encoders in a fading gray scale from black to white. the backlit low profile keyboard is tactile, durable and responsive. the display is a custom made color lcd, mounted directly onto the keyboard. the soft velcro rings on the bottom side mean the unit can be safely attached to a surface, case or stand. connectivity includes a usb type-c port, audio in, midi in, multi out and audio out as well as bluetooth ble.

OP–XY highlights:

- powerful sequencer workflow
- 16 programmable tracks
- unique synth engines
- built-in effects
- drum and synth sampler
- usb audio/midi host and device
- 64-step sequencer
- 24-voice polyphony
- 1920 PPQN
- parameter locks
- step components
- stereo signal path
- midi over bluetooth ble

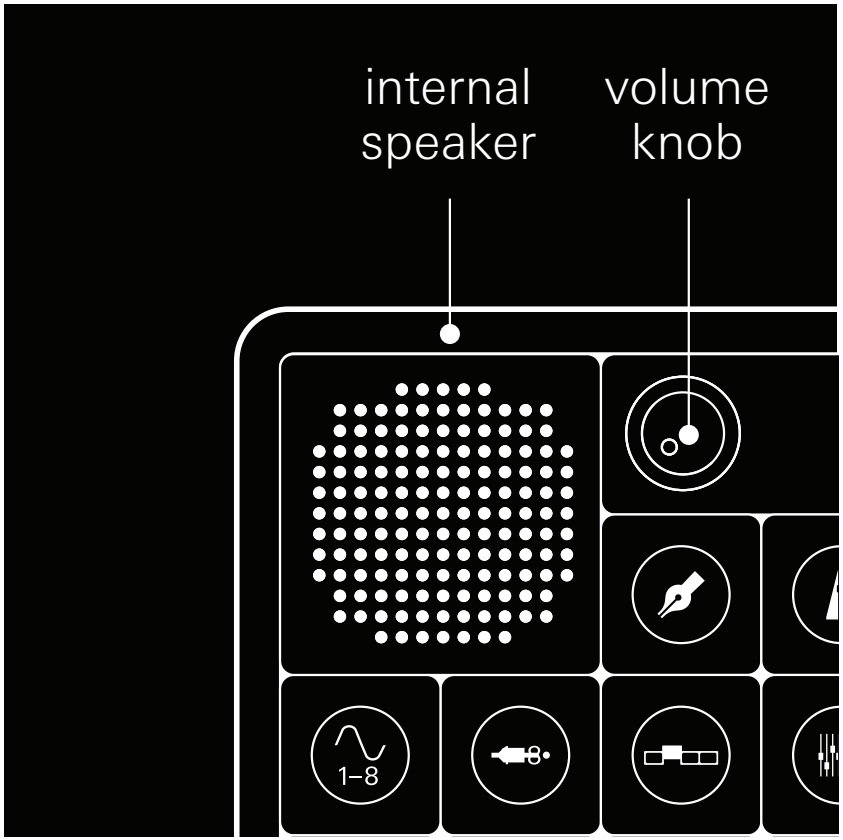



com
num
shift
rnd
BAR
XY

overview

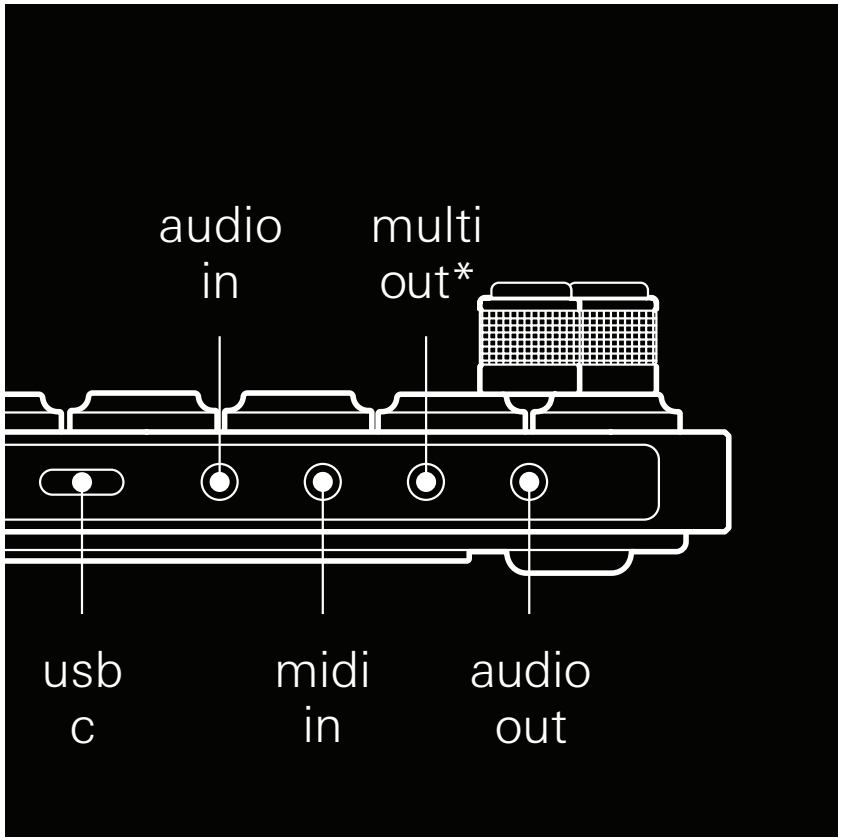
left side

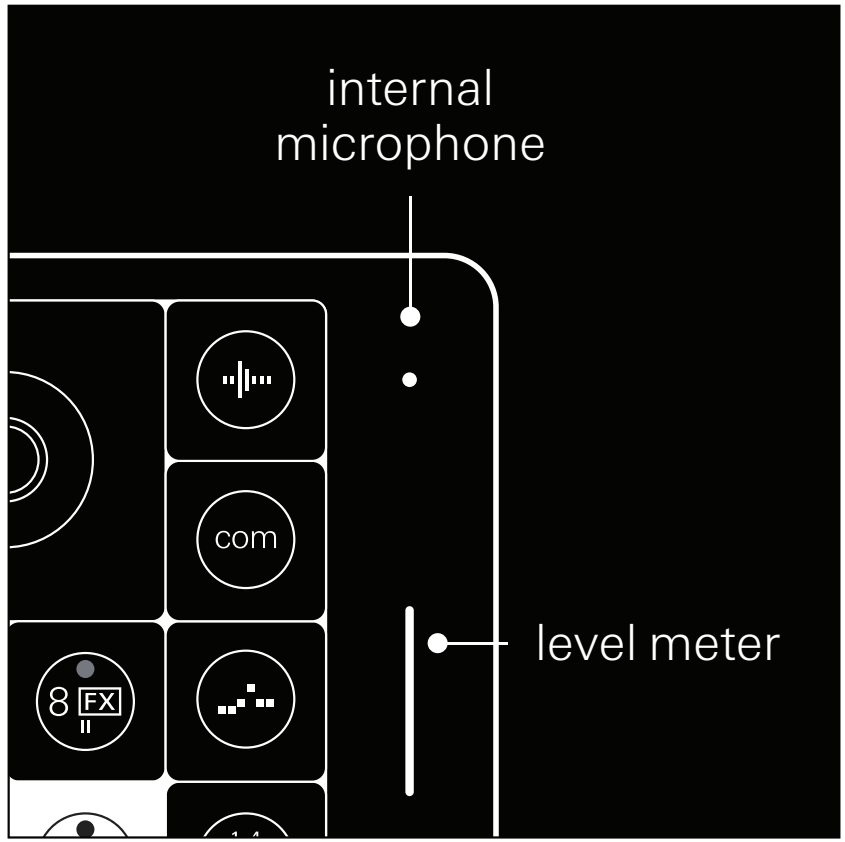
the top left holds the internal speaker and the main volume knob. on the right side of the OP–XY you can find a 3.5 mm audio output jack, used to connect headphones or speakers. next, multi out. then midi in, to control your OP–XY with other midi devices, followed by the 3.5 mm audio input jack to record line level audio straight into OP–XY. a usb-c port for audio / midi / charging and data, a charging led and the power switch. on the top right you can find the built-in microphone and the level meter.



right side

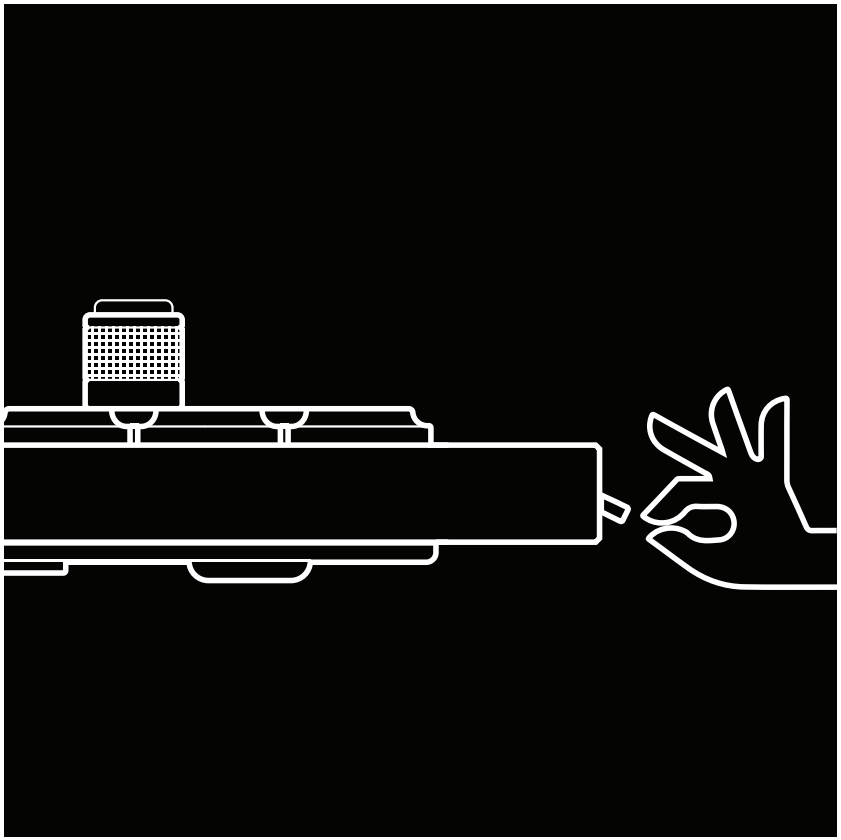
*the multi out can be configured to send midi, sync, cv + gate or audio.





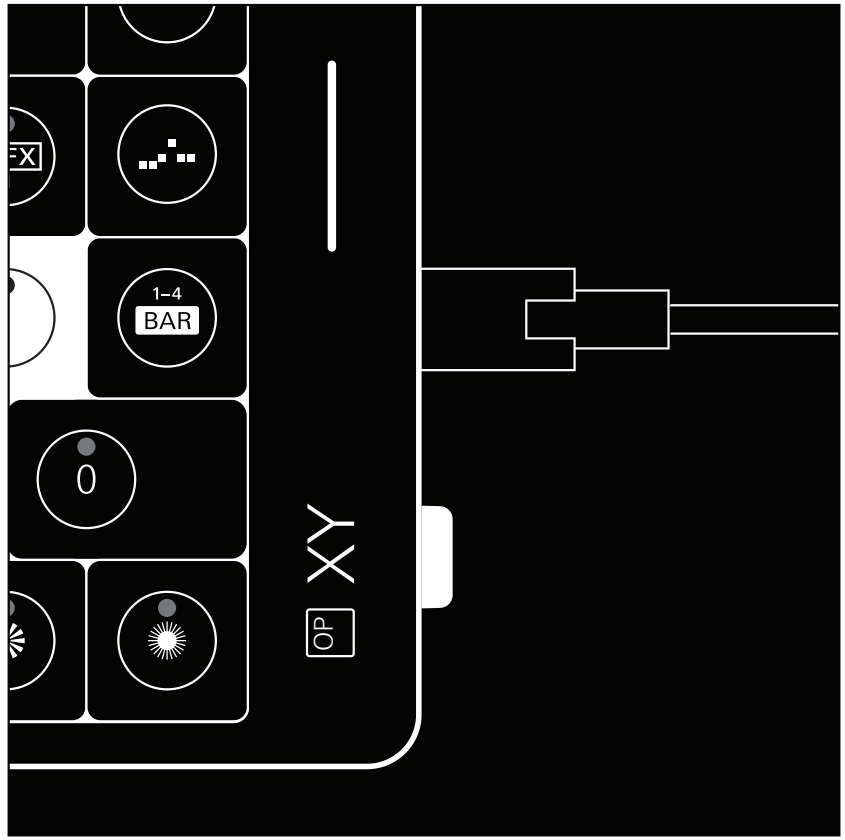
power on

to power on your unit, flip the power switch located on the right side of the device to the up position. the display will show the logo and the current installed firmware version, you then arrive at the last selected track. to power off, flip the switch to the down position. data is stored automatically, so you don't have to worry about saving. the next time you power on your OP–XY, everything will still be there, exactly as you left it.



charging

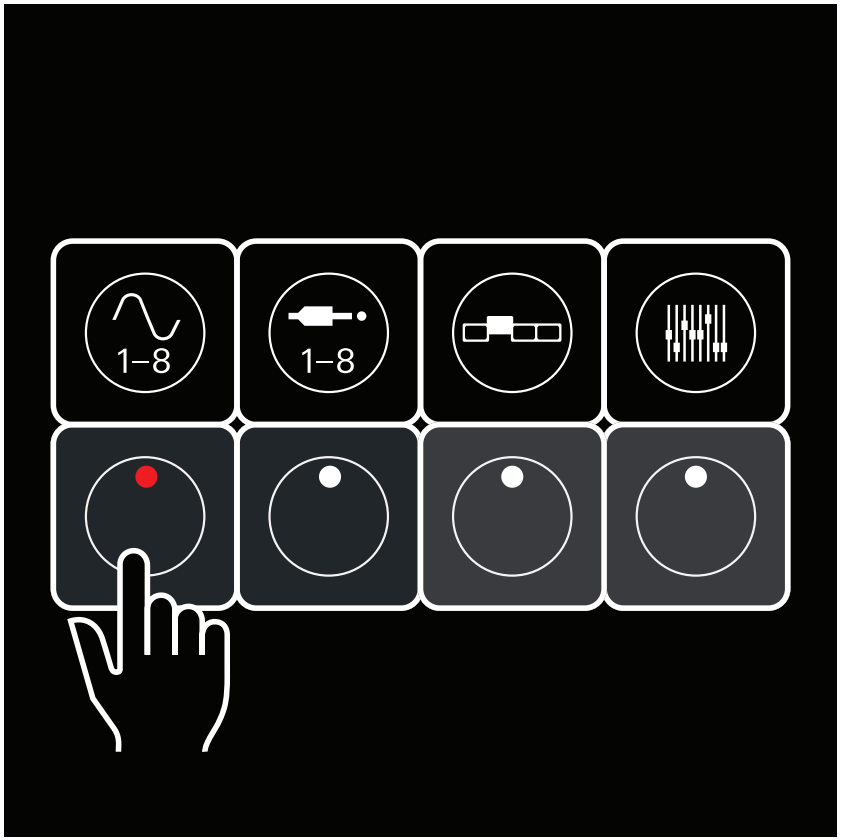
OP–XY is charged through the usb-c port located on the right side of the unit. the first thing you should do is connect it to a computer or a usb charger. keep it connected until the battery is fully charged, indicated by the charging led on the right side of the level meter. to check battery go to system settings. the leds will light up to indicate the level. to keep the battery healthy, the unit should be charged at least every 6 months.



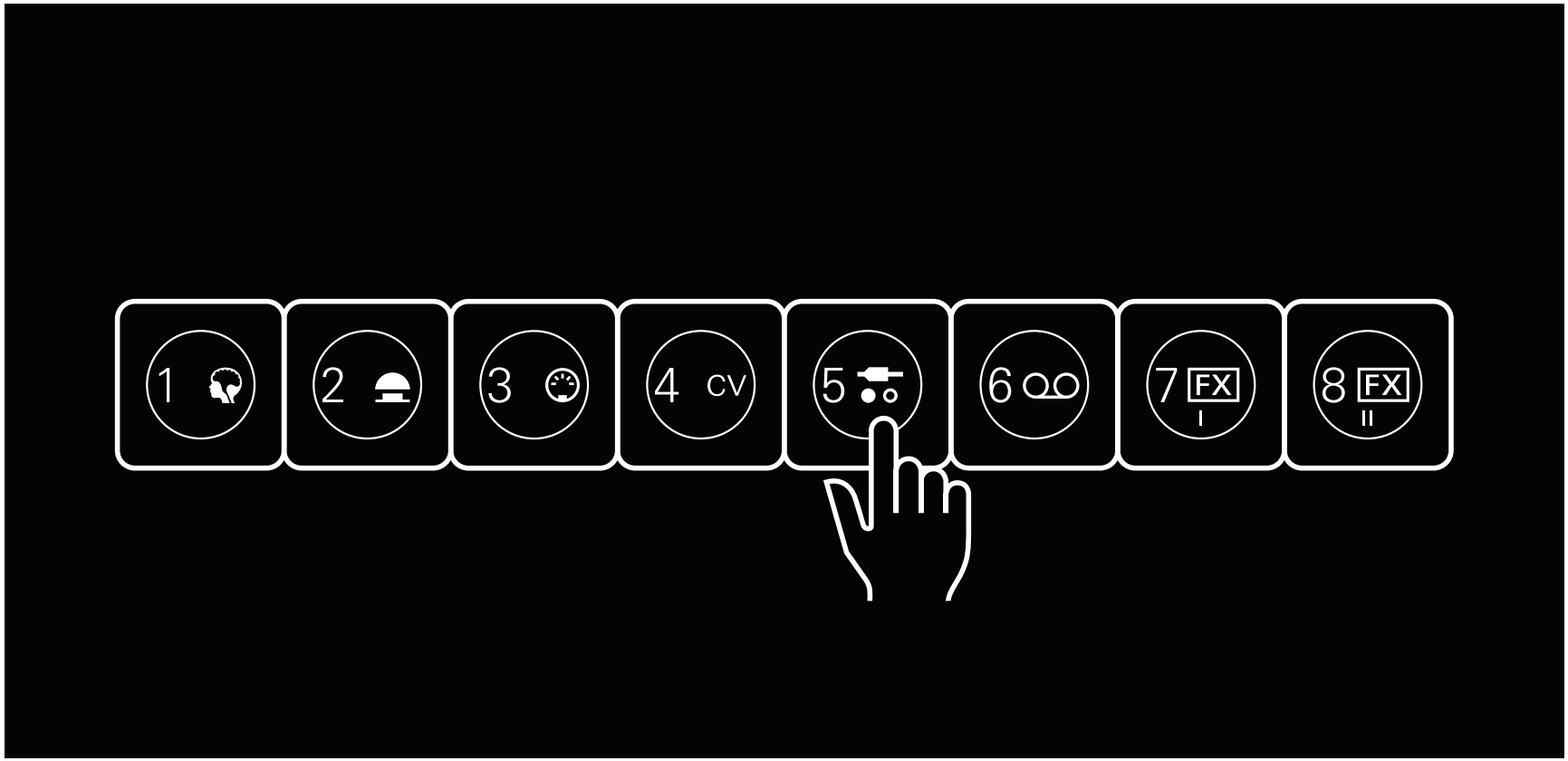
layout

workflow

the OP–XY workflow is based around sequencing tracks one by one to build the layers of a song. the four main modes: instrument, auxiliary, arrange and mix are where you'll spend the most time. press instrument to access the drum and synth tracks. beneath the encoders you will find the 8 track buttons, press these to select which track to edit. press a note then a button on the step sequencer. keep layering and arranging. press mix to adjust track levels and eq of your mix. that's all it takes to build a song on OP–XY.



track buttons

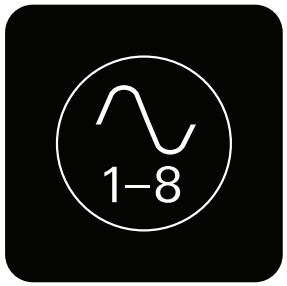


main modes

OP–XY is made up of four main modes.

- instrument is where you compose and add sounds to your song. play with a variety of built-in synth engines and samplers.
- auxiliary is where you can control the effects as well as external inputs and outputs, transpose your whole song and sequence punch-in FX™.
- arrange is where you can create new patterns, chain them together and build scenes to perform your song.
- mix is where you control the output stage of the device, here you can mix the levels of each track, pan them, eq the master output and balance the percussive and melodic tracks.

instrument

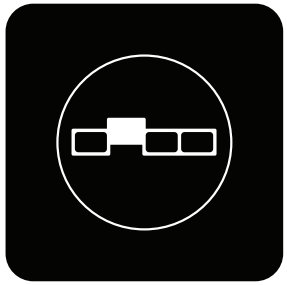


in instrument mode, the 8 track buttons allow you to control and edit the 8 instrument tracks available in the OP–XY.

auxiliary

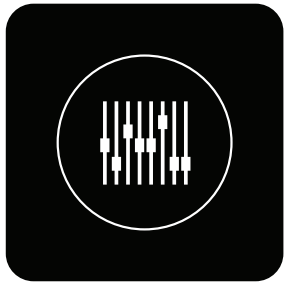
in auxiliary mode, the 8 track buttons allow you to transpose your tracks, edit send effects, external ins and outs and add punch-in FX™.

arrange



in arrange mode, you build your song by chaining scenes which are made up of patterns from your 16 tracks.

mixer



in mixer mode, you control levels and panning for each of the tracks as well as the main eq and master compressor.

guide conventions

sometimes you will need to press keys in sequence, sometimes in combination. these illustrations and texts will help you to follow along in the guide.

to press a key, you tap it and then release. to hold a key, you press it and keep it pressed down. the encoders and most keys have different functions depending on the context.

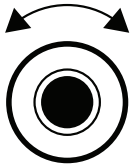
press one key at a time.

hold one key and press the second key.

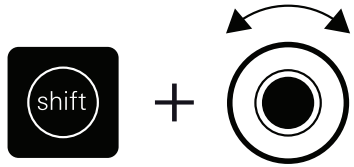
sometimes gray keys are shown for context but not active.

encoder commands

the four gray-scale encoders are related to the graphical interface on the display. by turning an encoder, you control the parameter with the corresponding gray-scale tone. every screen on OP–XY has a unique set of parameters controlled by the encoders. encoders can have multiple functions. using shift in combination with an encoder typically edits a secondary function. try turning them while in the instrument tracks to edit the sounds!



rotate dark gray
rotate mid gray
rotate light gray
rotate white

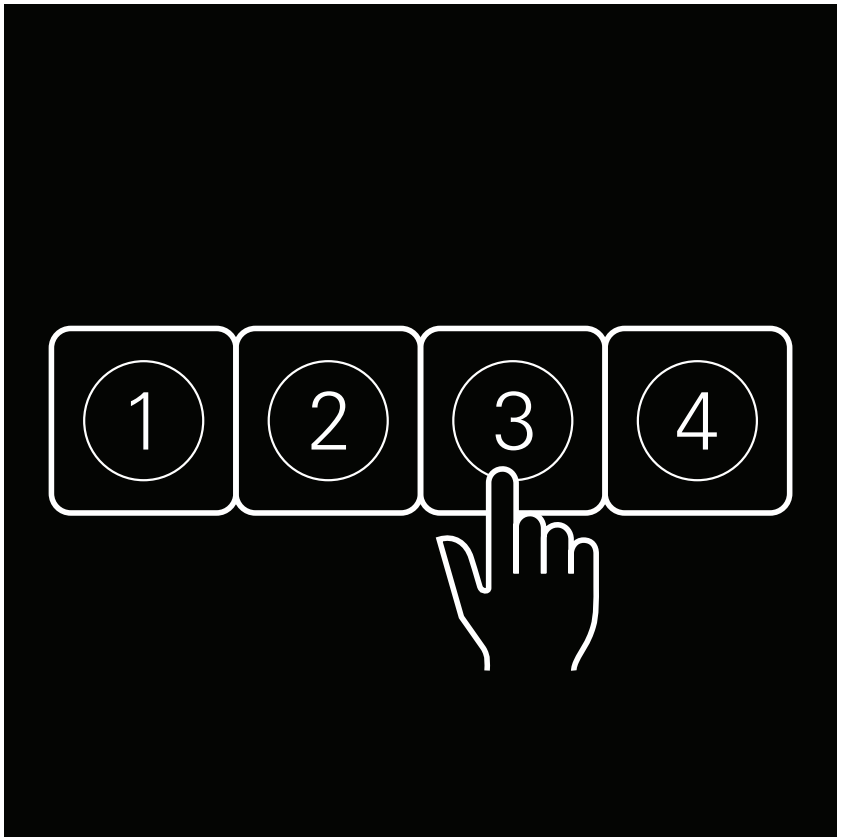


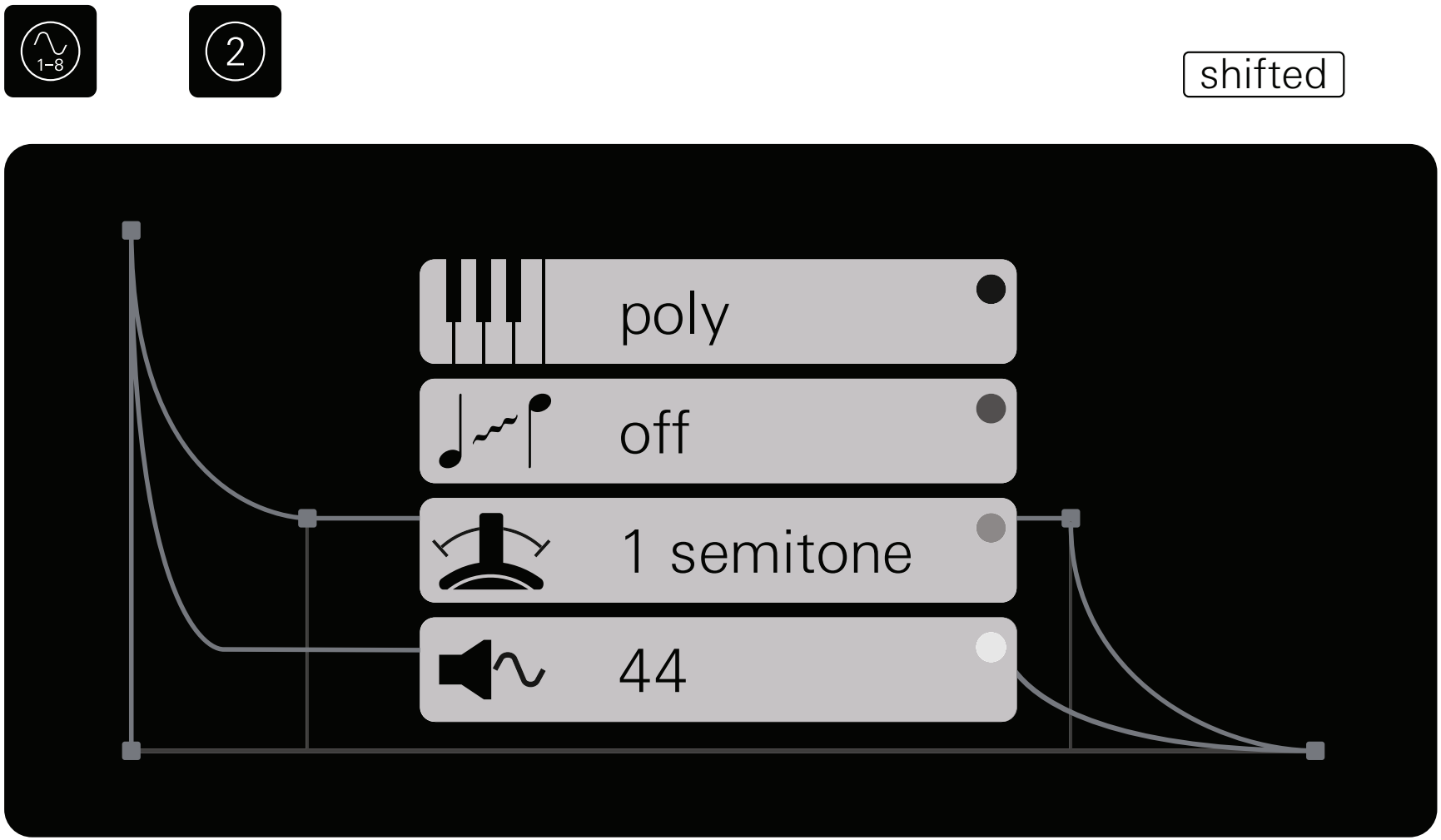
rotate dark gray
rotate mid gray
rotate light gray
rotate white

shifted

modules

each main mode with the exception of arrange, features four sub modes called modules, these allow you to edit the various parameters within the selected track using the four encoders. switch between the available modules using the four buttons underneath the screen. in some instances a screen may have extra parameters that can be accessed by holding shift.




1–8
2
shifted
poly
off
1 semitone
44

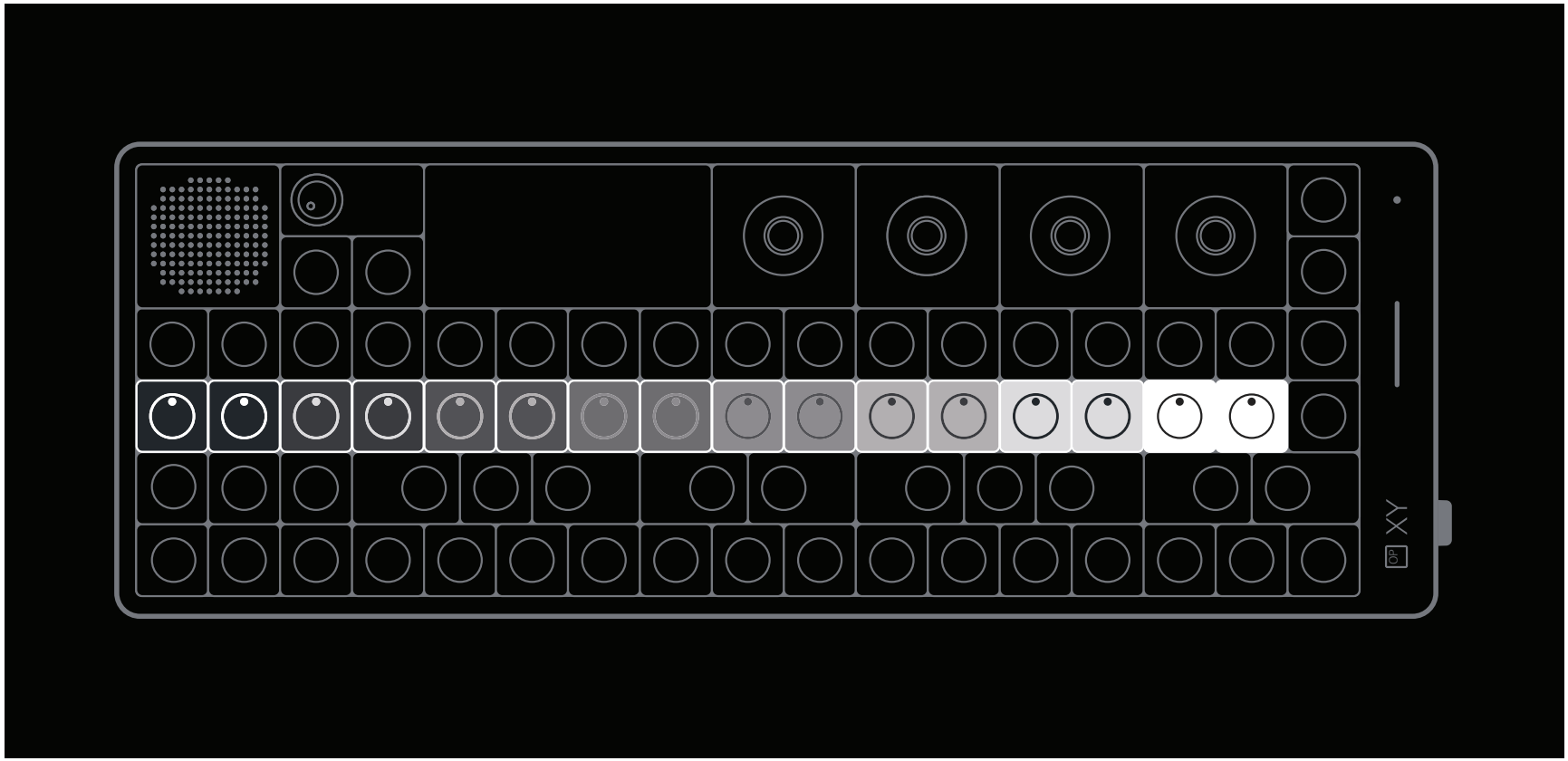
sequencer

running across the length of the device you will find the step sequencer. this is where you can program a sound into the musical grid and is the primary tool for creating music within OP–XY.

play a note on the keyboard then press a step on the step sequencer to add it to the grid, it will light up to show you that a step has been recorded. to remove a note from the sequence just press a lit step.

hold a step to edit the note or notes recorded to that step. pressing a nearby step while holding another will adjust the length of the note and pressing - or + will nudge the note.

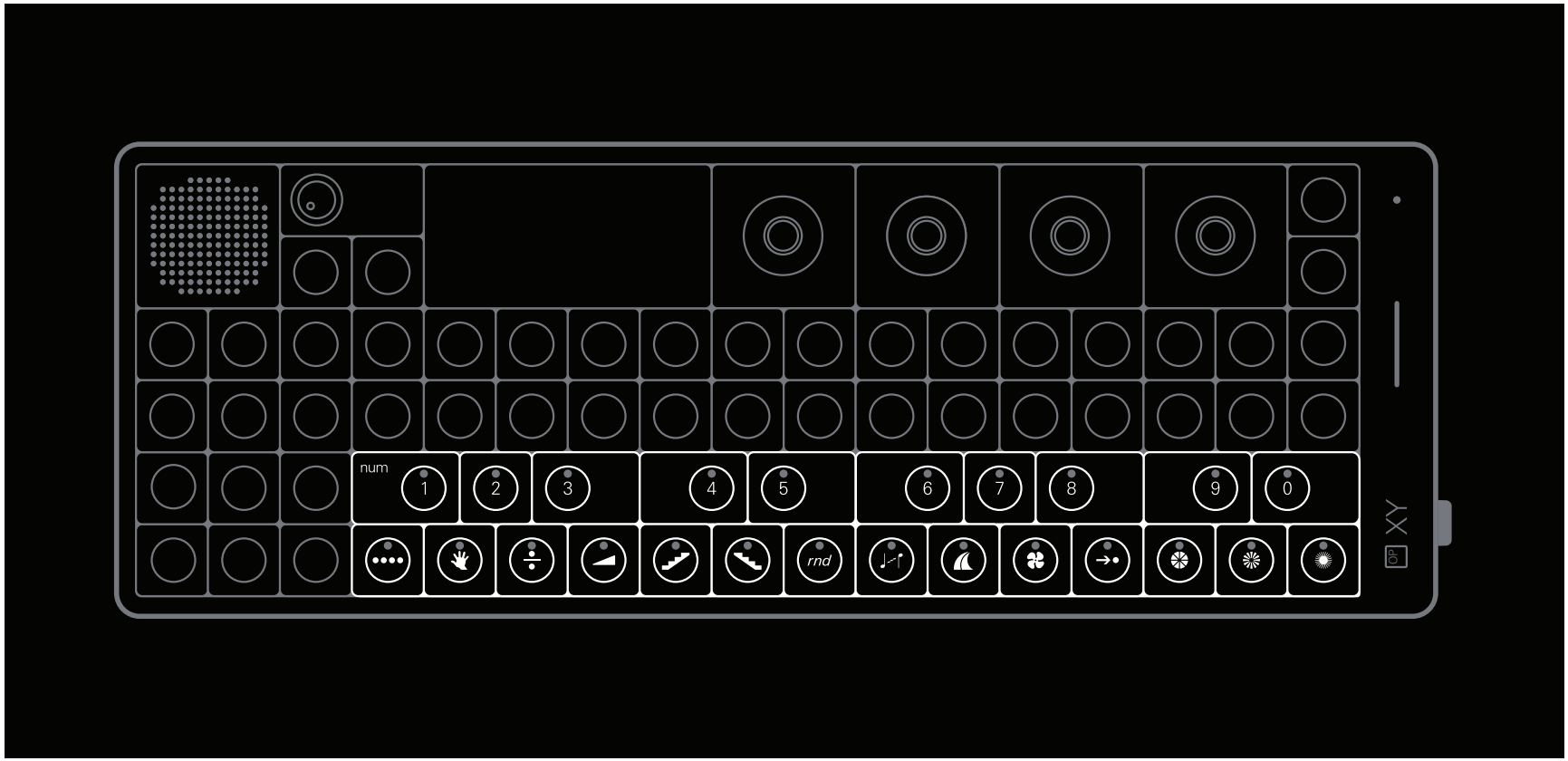
holding a note will show all the steps that have that note recorded to them, this allows you to sequence complex drum patterns and note sequences in detail.


XY

musical keyboard

beneath the step sequencer and to the right of the transport controls you will find the musical keyboard. this is where you can play instruments and punch-in FX™. use the musical keyboard to record notes in live or select notes to sequence on the sequencer. the icons on the 'natural' keys represent step components, a powerful sequencing tool, learn more about them in the full guide. the numbers on the 'accidentals' allow you to select values within the device such as pattern length.

on a conventional musical keyboard the white keys are referred to as 'naturals' and the black keys as 'accidentals'. as the OP–XY has an all black keyboard and the terms white and black keys may cause confusion, the term 'naturals' will be used to describe the diatonic notes (white keys) and the term 'accidentals' for the sharps (black keys).


num
1
2
3
4
5
6
7
8
9
0
rnd
XY

project

OP–XY can store and load hundreds of projects. press the project button to view and edit the current project.

rename

rename the current project. turn the dark gray encoder to select the character and the mid gray encoder to change the character.

commit

commit the current project. this will "save as" and allow you to save versions of your project to the history page within the projects folders.

new

hold until the screen animation finishes and shows a tick to create a new project.

config

config is where you can configure project settings such as polyphony and other project specific settings.

project folders

to change the current project, hold shift and press the project button. this will open the project folders.

turn the dark gray encoder to select the project folder and the mid gray encoder to select the project.

load

load the current selected project.

history

view the history of the current selected project. this is where you can view all of the committed versions of a project.

clone

clone the current selected project, this will maintain all the tracks, sequences and effects.

clear

delete a project, allowing you to start fresh.

tempo

press the tempo button to open the tempo menu. tempo is where you change the BPM, swing and metronome volume.

tempo

- bpm
- swing
- metronome

record

to arm the recording, hold record and press play. the step sequencer will light up red to reflect that it is armed to record. play a note or press play to start the recording.

press stop to stop the sequencer and the recording or press play again to continue the sequence but stop the recording.

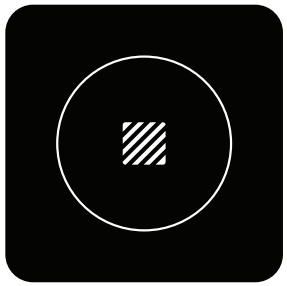
hold record and play notes on the musical keyboard to record notes into the step sequencer one at a time.

you can move forwards and backwards through these steps by pressing plus or minus while holding record, allowing you to create breaks or edit previous steps.

play

press play to hear the current recorded sequences. press it again to retrigger the start of the sequence.

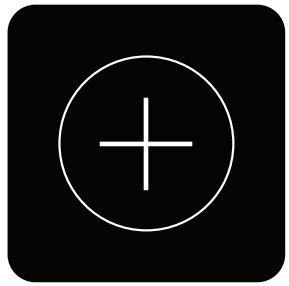
stop



press stop to pause the sequence.

for hanging notes or any trailing effects press stop again to cut them off.

plus/ minus



press minus or plus to change the octave of the instrument or press while holding a step in your sequence to adjust micro timing.

shift

press shift to access sub menus and edit parameters in greater detail. try pressing shift in combination with other buttons.

sample

sampling is a great way to find new sounds or bring familiar sounds into your OP–XY. use the sample button when on a sample track to change the sample. choose from the samples already available or record a new one

hold shift and press sample to select the sample source.

sources include the built in mic, the line input, usb audio and in-out which allows for resampling.

com

com is where you will find the various system settings and connectivity options in OP–XY.

use com to access system configuration and outputs, bluetooth ble, use OP–XY as a midi controller and transfer files to and from OP–XY.

you can find more details on what you can do with com in the full guide.

player

use player to add an creative variations to any selected track.

hold shift and press the key to select the player type.

each player has a unique style that can add variations to your sequences, try them out and see how they change your sequence!

bar

bar allows you to to edit the behaviour of the step sequencer.

hold bar and press plus to extend the sequence, adding additional bars. you can then move between bars by tapping bar.

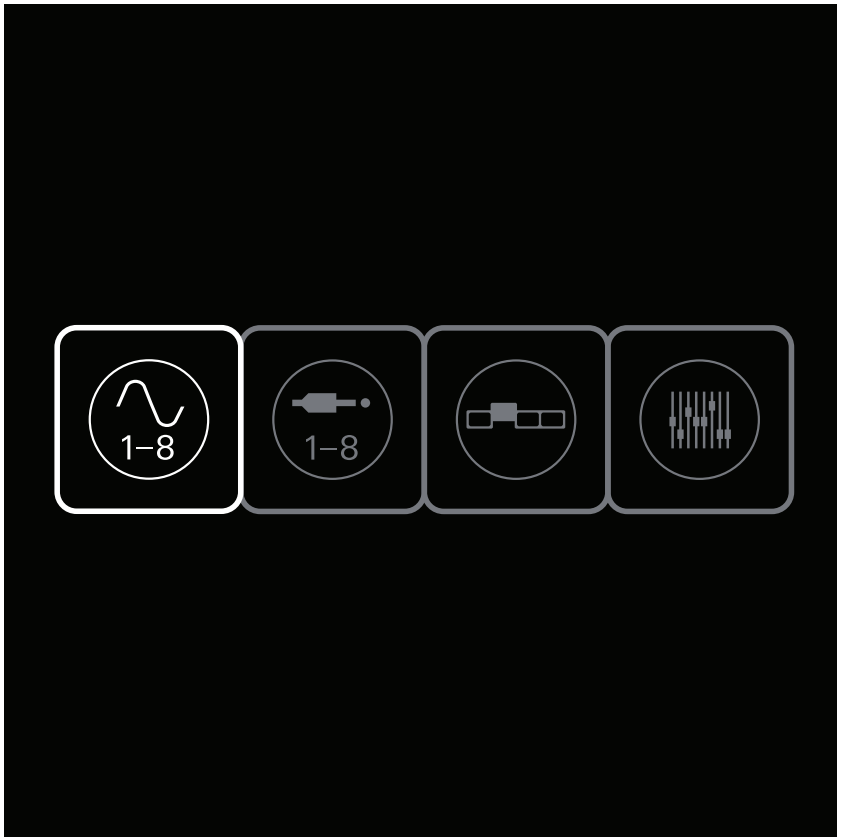
hold bar then press the accidentals to multiply the step length. this will slow down the sequence and extend the length of each step on the sequencer, perfect for chords!

modes

instrument

instrument mode holds 8 instrument tracks. an instrument can either be a sample based drum or melodic sound or use one of the built in synth engines, each with its own characteristics.

select a track by pressing a track button, to change the instrument assigned to a track, press shift + M1 to select a sample pack or synth engine. to change the preset on that track hold shift and press the track button you wish to replace.



module keys M1–M4

view and edit the synth or sample engine. this is what generates the sound that you hear.

edit the amp and filter envelopes. modify the envelopes with the encoders. press an encoder to toggle between amp and filter.

edit track filter, hold shift to send the track to FX and internal sends. hold shift and press again to change filter type.

edit track LFO, hold shift and press again to select the LFO type. use the LFO to modulate parameters and create unique sounds.

auxiliary

auxiliary mode holds 8 aux tracks ranging from midi effects to audio effects, as well as FX sends and punch-in FX™. the following describes each of the 8 available auxiliary tracks.

brain: intelligently transpose tracks

punch-in FX™: quick and powerful variations

midi: send and receive midi notes and data

cv: send notes and values to external cv devices

aux: send and receive audio out or into OP–XY

tape: quickly chop up and beat repeat your song

FX I: select and edit the first fx slot

FX II: select and edit the second fx slot

arrange

use arrange to create new patterns on each track and combine them to create full songs.

press the encoders or the track buttons to switch the current selected tracks or rotate the encoders to change the active pattern on the current track.

press the arrange button again to switch between instrument and auxiliary tracks.

holding shift and pressing the 'accidental' keys allows you to switch between scenes. scenes are arrangements of patterns and you can store up to ten scenes for each project.

you can chain scenes to arrange the structure of a song by holding down shift and play then pressing the accidentals in the order you would like the scenes to play. to exit a chain, select any scene by holding shift and pressing one of the accidentals.

new

create a new pattern on the selected track.

copy

copy the current selected pattern.

paste

paste a copied pattern into the current selected track and pattern.

delete

delete the current selected pattern.

mix

mix, pan, eq and master your tracks to find the perfect balance in mix mode.

press the encoders in mix and pan to switch between the current selected tracks.

mix

mix the levels of all your tracks, press the mix button again to switch between instrument and auxiliary track levels.

pan

edit the pan of each track, press the mix button again to switch between instrument and auxiliary track pans.

equalize

change the master eq, rotate the knobs to edit the various eq parameters.

compress

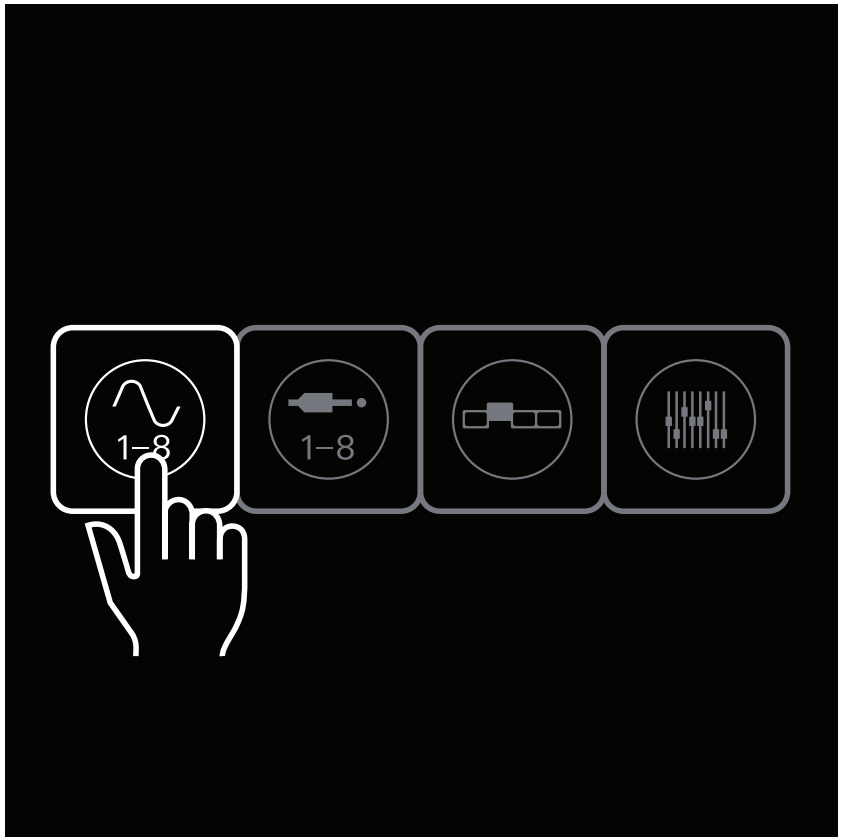
engage the master compressor and quickly balance your percussive and melodic sounds.

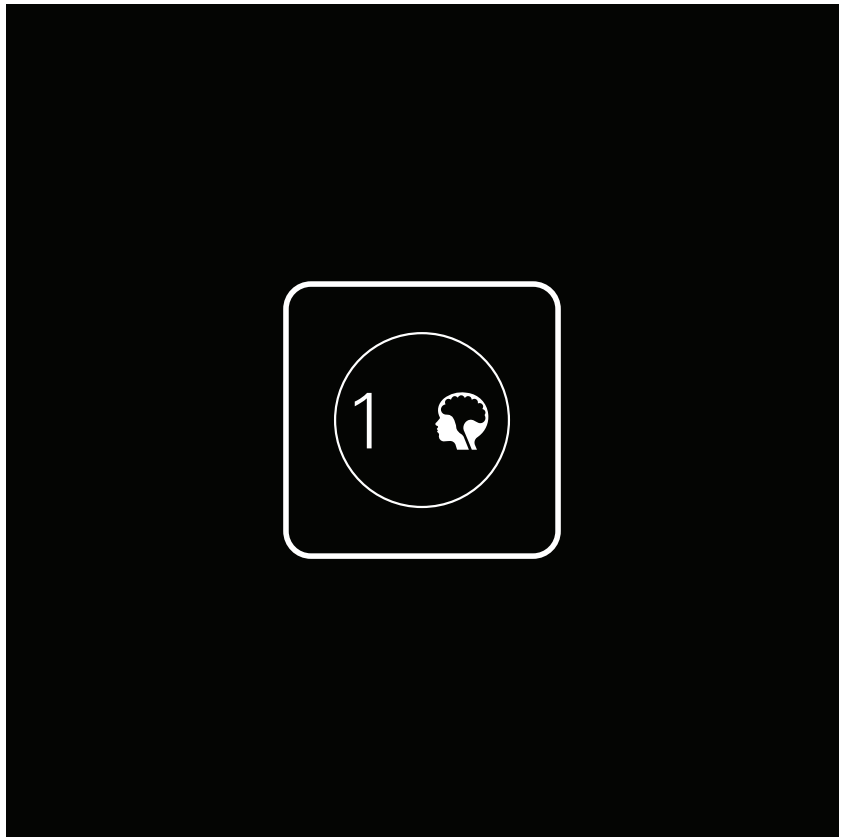
recording

OP–XY features a powerful step sequencer enabling both intricate and immediate step sequencing as well as speedy live recording. in this section we will detail how to get started sequencing and recording sounds into a song.

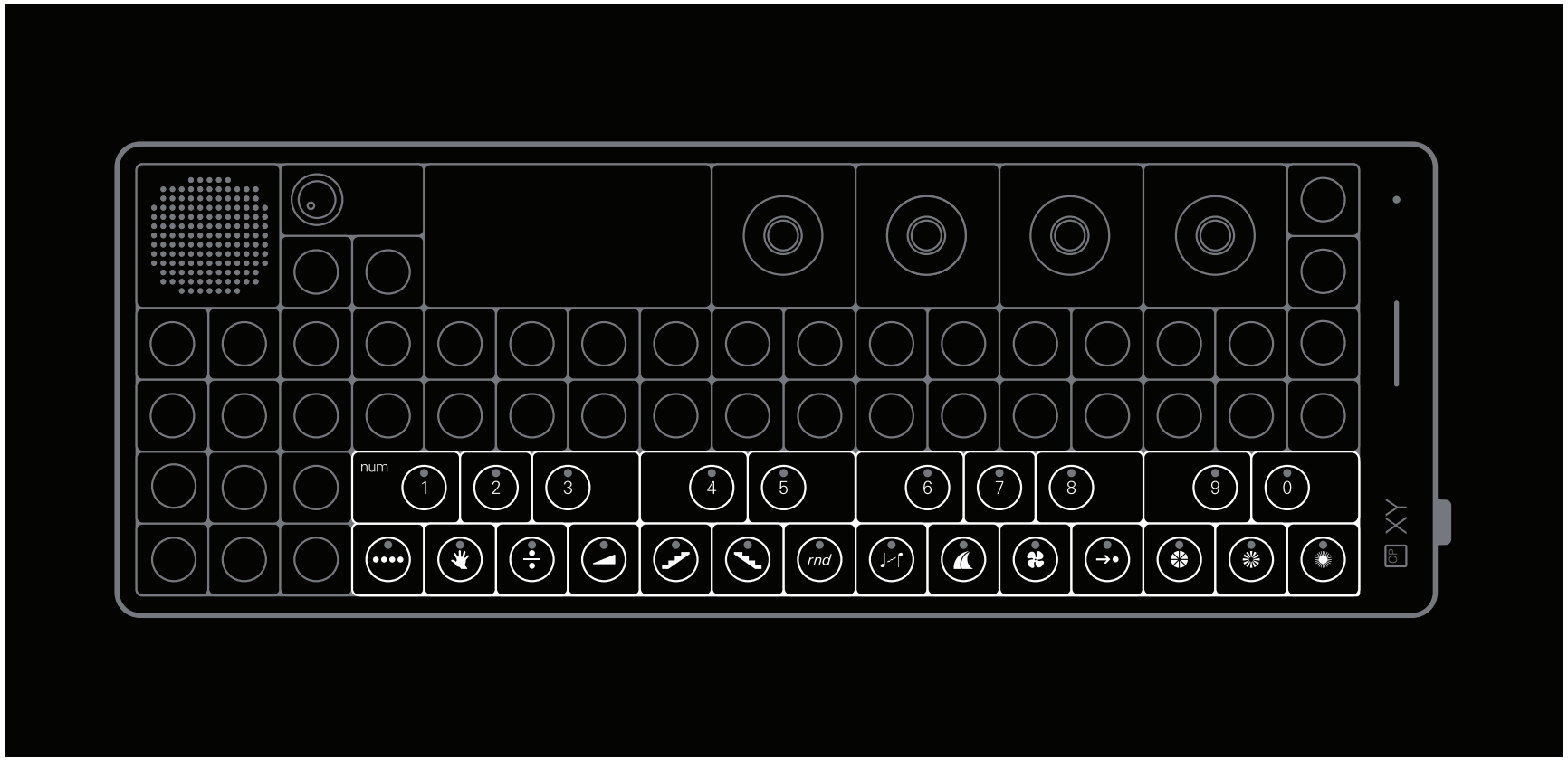
1 open the instrument mode by pressing the instrument key.

2 select track 1 by pressing the first track button.

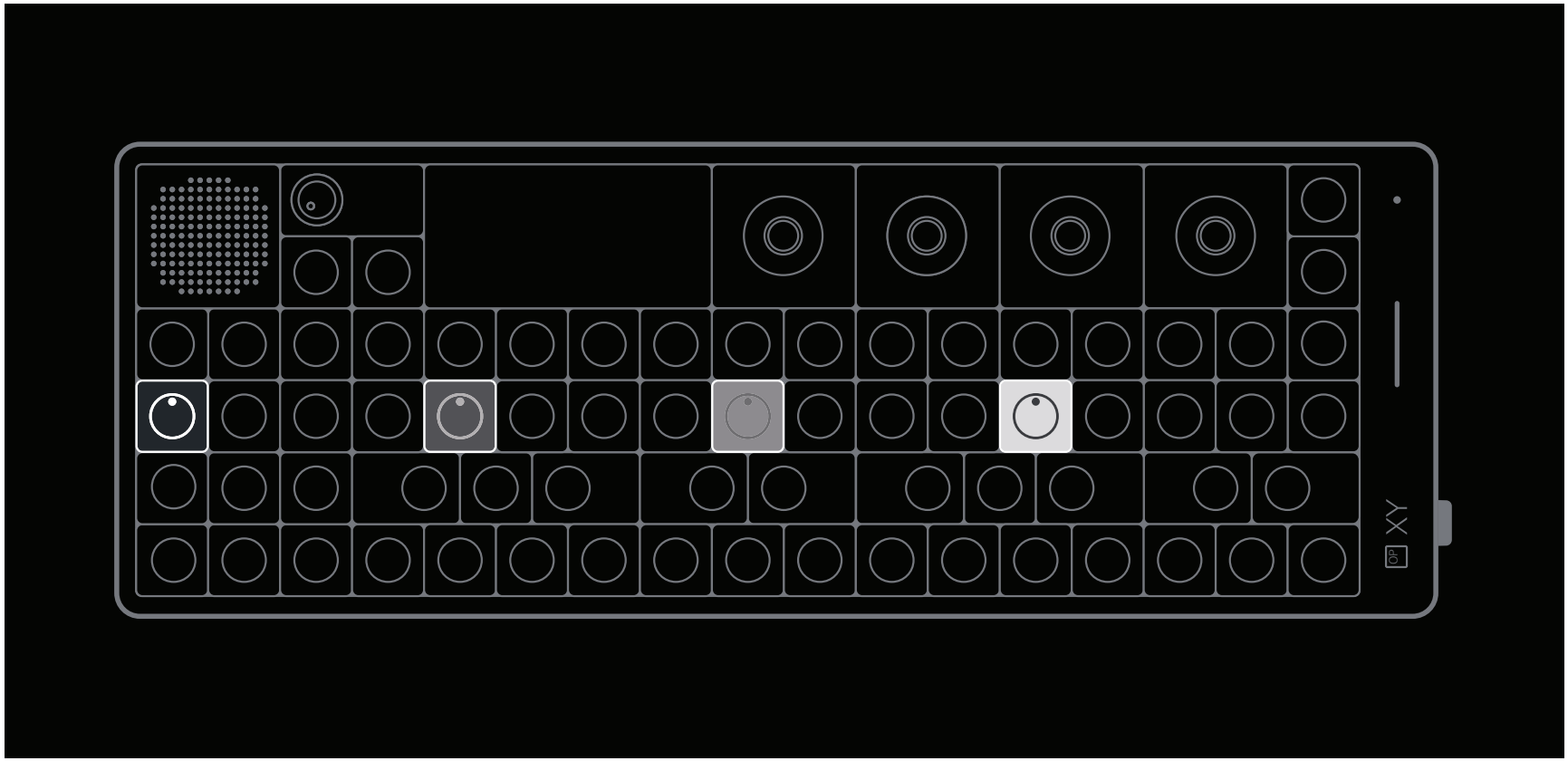




3 use the musical keyboard
to choose a kick drum.

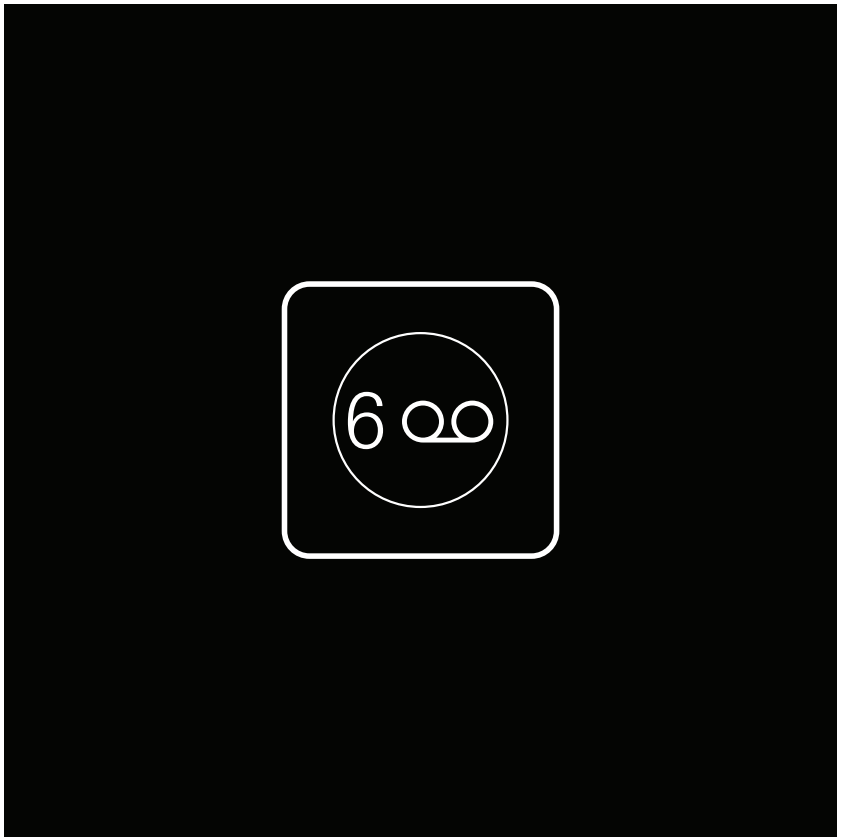


4 press steps 1, 5, 9 and 13
to sequence a kick.

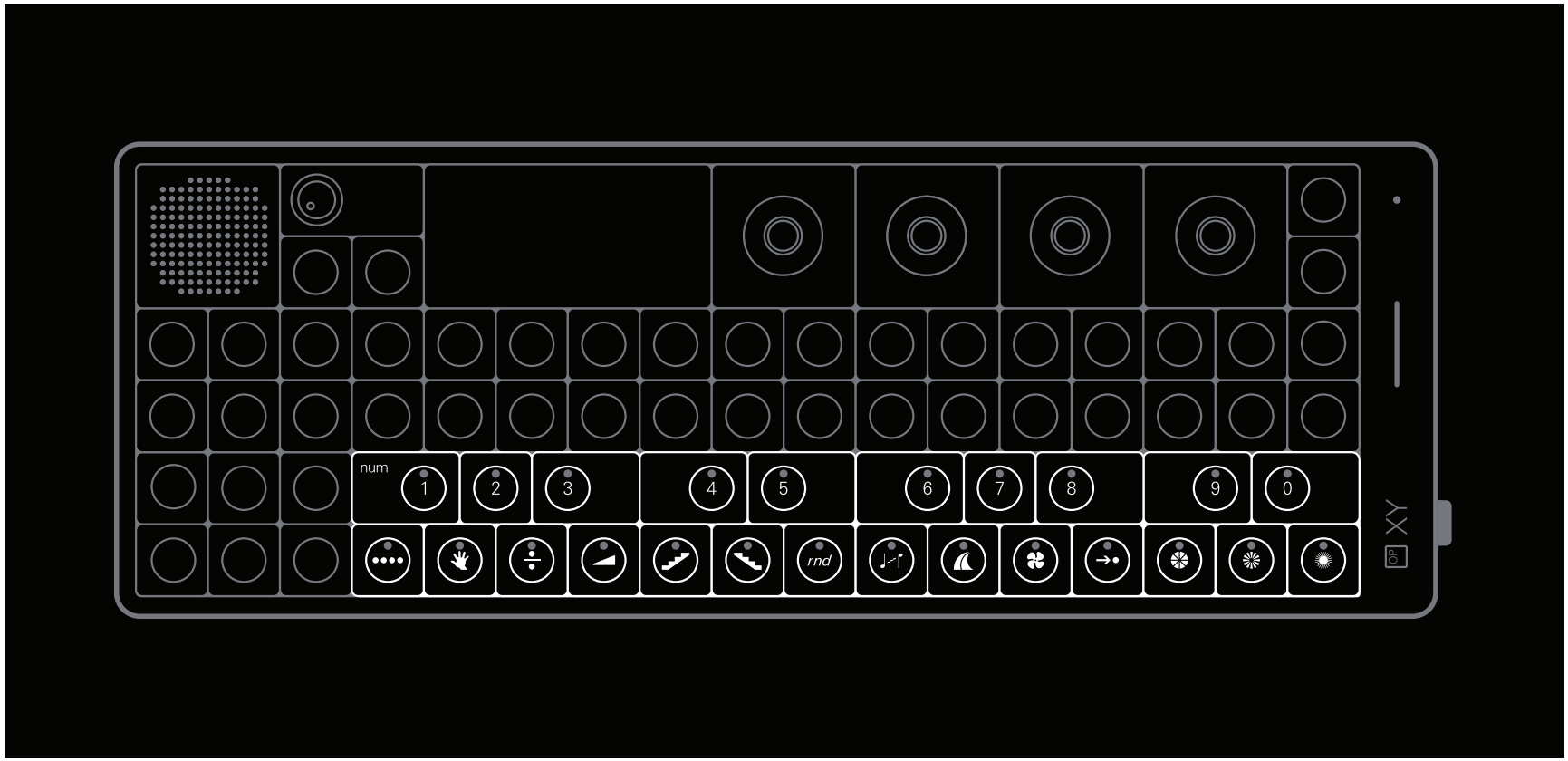


5 press play to hear your kickdrum.

6 select track 6 to change to a lead sound.



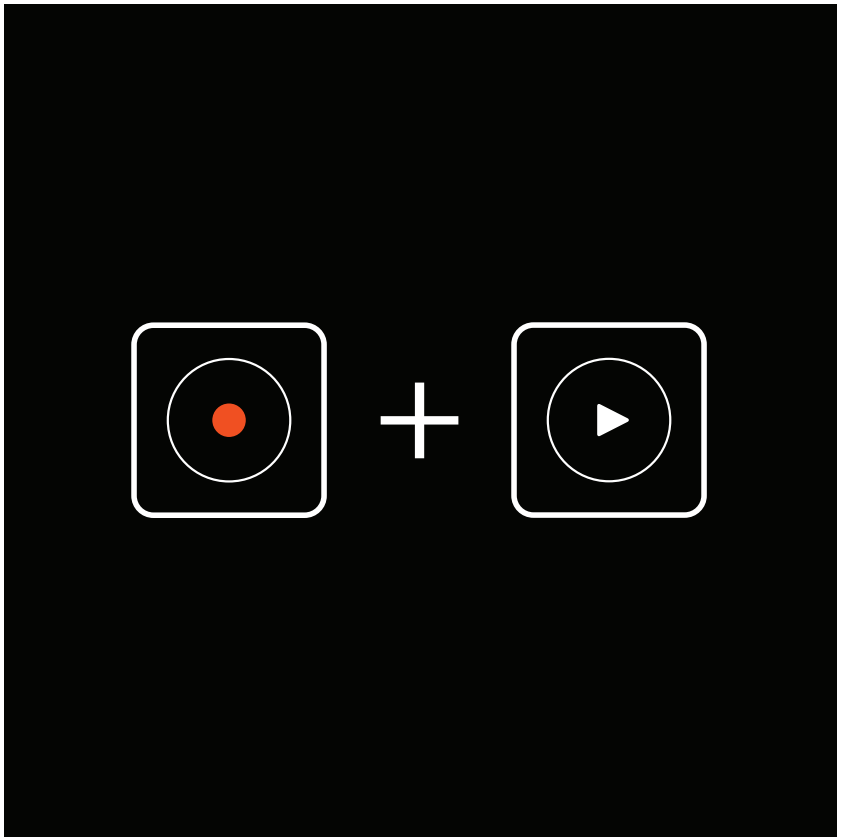
7 play the musical keyboard.



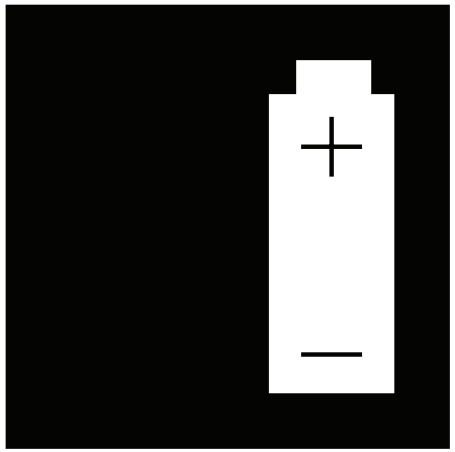
8

press rec + play to start recording and stop when done.

that's all! congratulations on completing your first sequence.



technical specifications



- 3.5 mm stereo input jack
- 3.5 mm stereo output jack with headset microphone support
- 3.5 mm multi output jack
- 3.5 mm midi in
- usb midi host & device
- bluetooth midi
- rechargeable battery
- 16-hour battery life
- 480 x 220 OLED display
- 8 GB user storage

electrical characteristics

audio input:

impedance: 13kOhm
analog gain: 0-31dB
max level: 8dbU, 2Vrms
SNR : 98 dbA

audio output:

max level: 8dBu, 2Vrms
SNR: 124dbA

multi output:

audio max level: 2dBu, 1Vrms
cv range: +-5V
gate level: 5.2V
sync level: 5.2V

handling

to keep the battery healthy, the unit should be charged at least every 6 months. if not used for a long time, it may not charge again.

ambient working temperature:
10°–35°C (50°–95°F)

ambient storage temperature:
0°–35°C (32°–86°F)

clean the shell of the unit with a lightly damp cloth. let dry before usage.

te boot

te boot is the bootloader in OP–XY. it loads and runs the firmware and is used for firmware updates and factory reset.

to access te boot:

- turn OP–XY off.
- disconnect from usb.
- hold com while switching power on to enter te boot.

firmware update

to update the OP–XY firmware:

- access te boot.
- connect OP–XY via usb-c to a computer.
- press 1. the device will show up as a mass storage disk.
- put the new firmware file on the disk and safely eject it.
- wait for the update to finish and follow the on-screen instructions.

the latest firmware version:
teenage.engineering/apps/update

factory reset

to perform a factory reset:

- access te boot.
- press 7.
- press the white knob to confirm.
  note: all user data will be removed.
- restart OP–XY and wait for the factory reset to finish.

factory reset allows you to erase all user settings and content, as well as recreate the original file structure and restore the unit to factory default.

legal

to access the legal screen:

- press com.
- press 1 to access system.
- use dark grey knob to scroll down to legal.

warnings and warranty

TEENAGE ENGINEERING OP–XY
MODEL NO: TE033AS001

RISK OF EXPLOSION OR FIRE IF THE BATTERY IS REPLACED WITH INCORRECT TYPE. ONLY A BATTERY SUPPLIED BY TEENAGE ENGINEERING AND INSTALLED BY QUALIFIED PERSONNEL SHOULD BE USED. TO PREVENT POSSIBLE HEARING DAMAGE, DO NOT LISTEN AT HIGH SOUND LEVELS FOR LONG PERIODS.

FOR WARRANTY, SAFETY INSTRUCTIONS AND FULL REGULATORY INFORMATION, VISIT:
teenage.engineering/guides/op-xy

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES AND ISED CANADA'S LICENCE EXEMPT RSS(S). OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

MODIFICATIONS NOT EXPRESSLY APPROVED BY TEENAGE ENGINEERING COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

FCC ID: Z23033A
IC: 9915A-033A
R-C-TEB-TE033AS001

avertissements et garantie

TEENAGE ENGINEERING OP–XY
MODEL NO: TE033AS001

RISQUE D’EXPLOSION OU DE FEU SI LA BATTERIE EST REMPLACÉE PAR UN TYPE DE BATTERIE INCORRECT. SEULE UNE BATTERIE FOURNIE PAR TEENAGE ENGINEERING ET INSTALLÉE PAR UN PERSONNEL QUALIFIÉ DOIT ÊTRE UTILISÉE. AFIN D’ÉVITER TOUS DOMMAGES LIÉS À VOTRE AUDITION, IL EST RECOMMANDÉ DE NE PAS ÉCOUTER VOTRE MUSIQUE TROP FORT ET TROP LONGTEMPS.

POUR PLUS D'INFORMATIONS À PROPOS DE LA GARANTIE, LES INSTRUCTIONS DE SÉCURITÉS ET INFORMATIONS RÉGLEMENTAIRES, VISITEZ:
teenage.engineering/guides/op-xy

CET APPAREIL EST CONFORME À LA PARTIE 15 DES RÈGLES DE LA FCC ET LE PERMIS D'ISED CANADA NORMES RSS EXEMPTÉES. SON FONCTIONNEMENT EST SOUMIS AUX DEUX CONDITIONS SUIVANTES:

(1) CET APPAREIL NE DOIT PAS PROVOQUER D'INTERFÉRENCES PRÉJUDICIABLES, ET

(2) IL DOIT ACCEPTER TOUTE INTERFÉRENCE REÇUE, Y COMPRIS LES INTERFÉRENCES POUVANT ENTRAÎNER UN MAUVAIS FONCTIONNEMENT.

LES MODIFICATIONS NON EXPLICITEMENT APPROUVÉES PAR TEENAGE ENGINEERING PEUVENT CONDUIRE À ANNULER LES DROITS DE L'UTILISATEUR À UTILISER L'ÉQUIPEMENT.

FCC ID: Z23033A
IC: 9915A-033A
R-C-TEB-TE033AS001

RF EXPOSURE COMPLIANCE

THIS EQUIPMENT COMPLIES WITH FCC/ISED RADIATION EXPOSURE LIMITS SET FORTH FOR AN UNCONTROLLED ENVIRONMENT. END USER MUST FOLLOW THE SPECIFIC OPERATING INSTRUCTIONS FOR SATISFYING RF EXPOSURE COMPLIANCE. THIS TRANSMITTER MUST NOT BE CO-LOCATED OR OPERATING IN CONJUNCTION WITH ANY OTHER ANTENNA OR TRANSMITTER.

THE PORTABLE DEVICE IS DESIGNED TO MEET THE REQUIREMENTS FOR EXPOSURE TO RADIO WAVES ESTABLISHED BY FCC/ ISED. THESE REQUIREMENTS SET A SAR LIMIT OF 1.6 W/KG AVERAGED OVER ONE GRAM OF TISSUE. THE HIGHEST SAR VALUE REPORTED DURING PRODUCT CERTIFICATION FOR USE WHEN PROPERLY WORN ON THE BODY, WITH 0 MM SEPARATION, WAS 1.11 W/KG.

CONFORMITÉ D’EXPOSITION AUX RF

CET ÉQUIPEMENT EST CONFORME AUX LIMITES D’EXPOSITION AUX RAYONNEMENTS FCC/ISED ÉTABLIES POUR UN ENVIRONNEMENT NON CONTRÔLÉ. L’UTILISATEUR FINAL DOIT SUIVRE LES INSTRUCTIONS SPÉCIFIQUES POUR SATISFAIRE LES NORMES. CET ÉMETTEUR NE DOIT PAS ÊTRE CO-IMPLANTÉ OU FONCTIONNER EN CONJONCTION AVEC TOUTE AUTRE ANTENNE OU TRANSMETTEUR.

L'APPAREIL PORTABLE EST CONÇU POUR RÉPONDRE AUX EXIGENCES D'EXPOSITION AUX ONDES RADIO ÉTABLIES PAR L'ISED.

CES EXIGENCES ÉTABLISSENT UN SAR LIMITE DE 1,6 W/KG EN MOYENNE POUR UN GRAMME DE TISSU ORGANIQUE. LA VALEUR DAS LA PLUS ÉLEVÉE SIGNALÉE LORS DE LA CERTIFICATION DE PRODUIT À UTILISER LORSQU’IL EST CORRECTEMENT PORTÉ SUR LE CORPS, AVEC UNE SÉPARATION DE 0 MM, EST 1.11 W/KG.

EU COMPLIANCE

HEREBY, TEENAGE ENGINEERING DECLARES THAT THE RADIO EQUIPMENT TYPE OP–XY, TE033AS001, IS IN COMPLIANCE WITH DIRECTIVE 2014/53/EU. THE FULL TEXT OF THE EU DECLARATION OF CONFORMITY IS AVAILABLE AT THE FOLLOWING INTERNET ADDRESS:

teenage.engineering/guides/op-xy

FREQUENCY BAND: 2400 - 2483.5 MHZ
MAXIMUM OUTPUT POWER: 10 DBM EIRP

UK COMPLIANCE

HEREBY, TEENAGE ENGINEERING DECLARES THAT THE RADIO EQUIPMENT TYPE OP–XY, TE033AS001, IS IN COMPLIANCE WITH RADIO EQUIPMENT REGULATIONS 2017. THE FULL TEXT OF THE UK DECLARATION OF CONFORMITY IS AVAILABLE AT THE FOLLOWING INTERNET ADDRESS:

teenage.engineering/guides/op-xy

RECYCLING

ELECTRICAL AND ELECTRONIC EQUIPMENT, PARTS AND BATTERIES MARKED WITH THIS CROSSED-OUT WHEELIE BIN SYMBOL MUST NOT BE DISPOSED OF WITH NORMAL HOUSEHOLD WASTAGE, IT MUST BE COLLECTED AND DISPOSED OF SEPARATELY TO PROTECT THE ENVIRONMENT.

THIS PRODUCT CONTAINS A BUILT IN LI-I-ON BATTERY.

CAUTION

DO NOT TRY TO CHARGE OR USE A UNIT WITH A SEEMINGLY DAMAGED BATTERY.

ONLY A BATTERY SUPPLIED BY TEENAGE ENGINEERING INSTALLED BY QUALIFIED PERSONNEL SHOULD BE USED.

DISPOSAL OF A BATTERY INTO FIRE OR A HOT OVEN, OR MECHANICALLY CRUSHING OR CUTTING OF A BATTERY, CAN RESULT IN AN EXPLOSION.

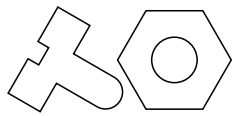
LEAVING A BATTERY IN AN EXTREMELY HIGH TEMPERATURE SURROUNDING ENVIRONMENT CAN RESULT IN AN EXPLOSION OR THE LEAKAGE OF FLAMMABLE LIQUID OR GAS.

TO PREVENT POSSIBLE HEARING DAMAGE, DO NOT LISTEN AT HIGH SOUND LEVELS FOR LONG PERIODS.

STORE SMALL PARTS OUT OF THE REACH OF CHILDREN AND INFANTS. IF ACCIDENTALLY SWALLOWED, CONTACT AN EMERGENCY MEDICINE DOCTOR IMMEDIATELY.

TEENAGE ENGINEERING AB
TEXTILGATAN 31
120 30 STOCKHOLM
SWEDEN / SUÈDE

FIRMWARE VERSION:
1.0



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