ANAMORPH OWNER'S MANUAL

Anamorph runs the original firmware of *the morphing analog* on an emulated board, plays up to 40 voices and adds a voice editor that draws every parameter. This manual shows how to set it up, how to play it and choose its voices, and how to shape them, scene by scene.

Formats VST3 · AU · CLAP · LV2 (Linux)

Systems macOS 11 or later · Windows 10 and 11, Linux 64-bit (in testing)

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CHAPTER 0

ABOUT THIS MANUAL

Anamorph is a virtual analog synthesizer with a past. It is built on an instrument we call **the morphing analog**: *1997: analog physical modelling on a DSP, two scenes per voice with a morph between them, a Free EG and a ribbon.* The original modelled the circuits of an analog synthesizer, oscillators, filters, amplifiers and envelopes, on its VOP3 sound chips, and called the result *Analog Physical Modeling*. Anamorph does not imitate it: it runs the original's own firmware, version 1.04, on an emulated processor and two emulated VOP3 chips. The voices, the scenes and the morph, the knobs, the arpeggiator and the step sequencer therefore behave as they did on the hardware. The effects are the exception: the original computed them in a chip whose program is not known, and Anamorph rebuilds them in its own code.

The manual follows the order of the original's own owner's manual: the basic ideas, the panel, setting up, selecting and playing voices, then editing, one section of the voice at a time, then the effects and the memory. Where the hardware asks you to step through its sixteen-character display, Anamorph's voice editor shows the whole section on one screen, so most procedures here are done in the editor; the panel's own way of editing is in chapter 6. Chapters 15 and 16 cover what Anamorph adds: the bank library, AUTO level, up to 40 voices, your DAW and editing the hardware over MIDI.

Topics of the original manual that do not apply to a plugin are left out: power, audio and MIDI cables, the keyboard and the pedal jacks, the backup battery. Anamorph receives everything over MIDI from your DAW.

Conventions

WRITTEN AS	MEANS
VOICE EDITOR	A key on Anamorph's panel.
COMPARE	A button, tab, page or label in the voice editor or in one of Anamorph's windows, as it reads on screen.
SURE?[Y/N]	Text on the panel's display.
C3	A note, named as the original names it: C3 is MIDI note 60, middle C.
0...127	A range of values, from 0 to 127.
001 *Relaxx*	A voice, by its number and name.

The screenshots show Anamorph 1.1 with the original's factory voices, at panel size 100%. Click any screenshot to open it at full size.

CHAPTER 1

ANAMORPH BASICS

An Anamorph voice is built like a classic analog synthesizer: two oscillators, a mixer, filters and an amplifier, each shaped by envelopes and LFOs. What sets it apart are the **scenes**. Every voice holds two complete sets of its sound parameters, scene 1 and scene 2, and can play either, both at once as two layers, or any point between them, moved by a wheel, a pedal or your DAW. That move is the **morph**, and it is what the name Anamorph comes from.

The signal path

VCO 1 · VCO 2 → MIXER → HPF → VCF → VCA → EFFECTS → OUT

The path of one voice. The effects are shared by all the voices.

Oscillators (VCO 1, VCO 2)

Two oscillators with seven waves each. VCO 2 can drive VCO 1 by *hard sync*, restarting its cycle, and by *FM*, modulating its frequency. See chapter 7.

Mixer

The levels of the two oscillators, a ring modulator that multiplies them, and noise.

Filters (HPF, VCF)

A high-pass filter, then the main filter with six types, from a 24 dB low-pass to a band-eliminate. Its envelope is the **FEG**. See chapter 8.

Amplifier (VCA)

The voice's level, shaped by the **AEG**, with a feedback path that thickens and drives the sound. See chapter 9.

What moves the sound

- Three envelopes: the **PEG** for pitch, the **FEG** for the filter, the **AEG** for the level.
- Two **LFOs**: LFO 1 with a choice of waves and a delay, LFO 2 with a speed of its own.
- The **control matrix**: sixteen routings per scene from a source, such as aftertouch, a knob or velocity, to a parameter. See chapter 11.
- The **Free EG**: four tracks of 192 points that you draw, each driving one parameter in time with the tempo or in seconds. See chapter 12.
- The **arpeggiator** and the 16-step **sequencer**. See chapter 13.

Scenes and the common

Everything above, from the oscillators to the control matrix, exists twice in a voice: once in each scene. What belongs to the voice as a whole is its **common** part: its name, its layer mode, its tempo, the effects, the arpeggio or sequence, the Free EG, two more matrix routings, and which scene plays.

A VOICE PLAYS	WHAT YOU HEAR
Scene 1 or scene 2	One scene. The mod wheel works through the scene's own matrix routings.

A VOICE PLAYS	WHAT YOU HEAR
Scene Ctrl	Both scenes under the *SCENE* controller, the mod wheel unless you change it: at one end scene 1, at the other scene 2, and every blend between. See chapter 10.
DUAL or SPLIT layers	Scene 1 and scene 2 at the same time, as two layers, or one on each side of a split point. See Layer.

Voices and polyphony

The original plays ten notes at once, five on each of its two sound chips. Layer modes that use two voices for each note, such as UNISON and DUAL, halve that to five. Anamorph can run up to four such instruments side by side for 20, 30 or 40 voices: see Polyphony.

The memory holds 128 voices, 001 to 128. Anamorph starts with the original's 128 factory voices, listed in appendix A, and keeps your own banks in its library.

CHAPTER 2

THE PANEL AND THE EDITOR

Anamorph opens on its front panel, laid out after the hardware's: the knobs and their parameter groups at the top, the display, the edit section and the controllers below. The panel plays and selects voices and drives the firmware's own display and edit matrix. The voice editor, one click away, is where most of the editing is done.



Anamorph's front panel with 016 MorphEP, which plays in Scene Ctrl, and the VCF group chosen. The numbers match the list below.

1. **Volume**, Anamorph's level. It works like the hardware's master volume, after the instrument, and at the top it gives the calibrated level. Your DAW can automate it as *Volume*.
2. **Output**, a gain after Volume, –12…+24 dB, with its value under the name. Drag up or down (with shift, finer), or double-click it to go back to 0 dB. With AUTO on it is the correction you give the voice that plays: see AUTO level.
3. AUTO plays every voice at the same loudness. Its LED is lit while it is on; the gain it gives the voice shows under Output, for example AUTO +8.8.
4. The **scene keys** 1 and 2 choose what plays: one key its scene, both together Scene Ctrl, with both LEDs lit. **CTRL**, the scale between them, shows the morph. See chapter 10.
5. The **eight knobs**. Each cell names the knob's parameter in every group, in the group's colours, and frames the names of the group in use in red. The gold band at the bottom is the knob's ASSIGN controller. See The knobs.
6. The **display**, the hardware's, one line of sixteen characters. Click it to open the voice list. Right-click it (or control-click) for its colours and for ROMS….
7. The **MIDI LED** flashes with each message from your DAW. Beside it, the share of the processor the emulated instrument takes, or STARTING THE FIRMWARE… while it starts.
8. The **knob parameter group** keys: SYNC/FM PEG/LFO VCO1 VCO2 VCF MIX/VCF VCA ASSIGN give the knobs their parameters. The lit LED shows the group in use.
9. VOICE LIST opens the voice list and the library.
10. VOICE EDITOR opens the voice editor.
11. MEMORY opens a menu to import and export voices, save a default memory and reset to the factory voices. See chapter 15.

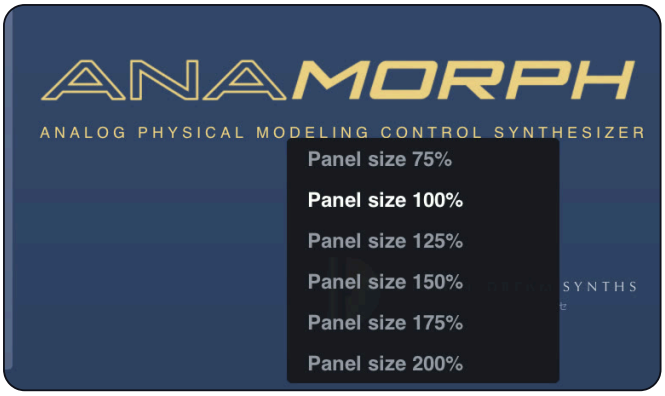
12. **Polyphony**: 10 20 30 40, the voices Anamorph plays. See Polyphony.
13. **Program change**: the number keys, − (NO) and + (YES/ENTER) select voices and answer the display's questions. The letters over them are for naming a voice.
14. The **ribbon**: drag along it. Pressing it and the position from the left are two controllers.
15. The **pitch** wheel, which springs back, and the **modulation** wheel. Both also show what arrives from your DAW.
16. The **EDIT** rotary switch picks a row of the original's edit matrix: COMMON, EFFECT, FREE EG, ARP, SEQ, SYSTEM. Click the knob to step it, or click a name.
17. The ten edit columns, + and −: the first press shows the column's parameter on the display, the next ones change it. See The panel's edit matrix.
18. LAYER steps through the layer modes; the key shows the one in use.
19. PORTA turns the voice's portamento on and off. Its LED is lit while it is on.
20. ARP/SEQ turns the voice's arpeggio or step sequence on and off. Its LED is lit while it is on.
21. STORE stores the voice you have edited: see Storing a voice.

> **NOTE**
> The hardware has LEDs only on the knob groups and the scenes. Anamorph adds the LEDs of Auto, Portamento, Arp/Seq and MIDI, and the layer mode's name on LAYER, so you can see these states without waiting for the display.

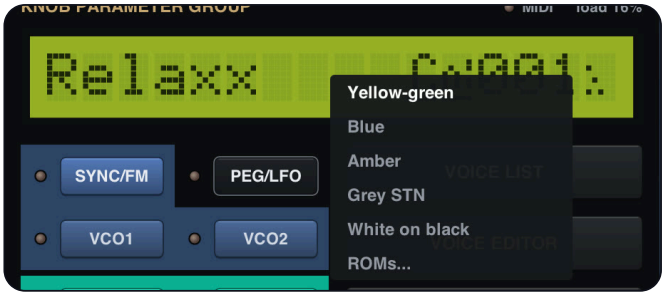
Size and display colours

Right-click the panel anywhere outside a control for PANEL SIZE, 75% to 200%; you can also resize the window by its corner. The size is remembered for every new instance. At 100% the panel is 1460 × 576 points and fits a 1920 × 1080 screen with the DAW's window round it.

Right-click the display for its colours: *Yellow-green* as the original shipped, *Blue*, *Amber*, *Grey STN* and *White on black*. The colours are a preference of yours, not part of a project.



The panel's menu.



The display's menu.



The five colour schemes.

The voice editor at a glance

Click VOICE EDITOR. The window grows to the editor's size, 1240 × 760 at panel size 100%, and shows the voice that is playing. Click PANEL or press ESC to go back.



The voice editor, here on **Common** with 001 Relaxx.

The header

PANEL; MIDI, for editing the hardware; the **display**, as on the panel, between < and >, which select the previous and next voice (click the display for the voice list); the SCENE 1 and SCENE 2 LEDs; COMPARE, undo, redo and STORE.

The tabs

COMMON, SCENE 1, SCENE 2, MORPH, FREE EG, ARP · SEQ and EFFECTS. A dot beside a scene tab marks the scenes that play. At the right, the layer mode, the layer pan and the tempo.

The page

A drawing at the top, which you can often drag, and cards of parameters below. The scene tabs have three pages, chosen under the tabs.

The footer

On the left, what the page shows; on the right, how to use it.

CHAPTER 3

SETTING UP

What you need

- **macOS 11 or later**, Apple Silicon or Intel: VST3, AU or CLAP. **Windows 10 or 11**, 64-bit: VST3 or CLAP. **Linux**, 64-bit, glibc 2.35 or later: VST3, CLAP or LV2. Windows and Linux are still in testing.
- A DAW that hosts instrument plugins, and a MIDI keyboard.
- **The original firmware 1.04 and the VOP3 mask ROM**, as image files. They do not ship with Anamorph: you supply them, and Anamorph keeps a copy. The LCD character ROM is optional.

Installing with DDS Hub

DDS Hub, Digital Dream Synths' installer, is the easy way. Choose Anamorph and the formats your DAW uses; Hub downloads them, checks each file and puts it in your plugin folders. On macOS and Linux those are your user's, and no administrator's password is needed. On Windows, Hub asks once who gets the plugins: **All users**, the default, puts them in `C:\Program Files\Common Files\VST3\DDS` and `…\CLAP\DDS`, where every DAW looks, and Windows asks for permission at each install or update; **Only for me** uses your user folders and asks nothing. Anamorph's card in Hub shows, for each ROM, whether it is missing or recognised, and takes your file. Hub and the plugin keep the ROMs in the same folder, so what one adds, the other sees.

Installing by hand

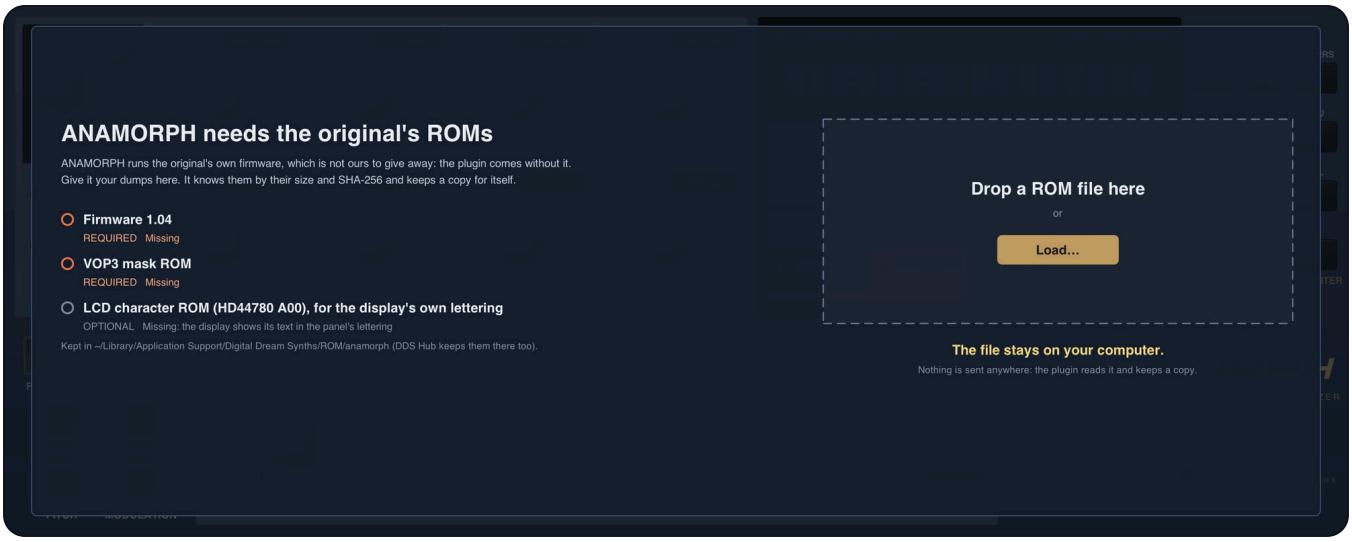
The download page has the same zips Hub uses, one for each format, each holding a single item. Unzip it and move the item into the folder of its format:

SYSTEM	FORMAT	FOLDER (YOURS)
macOS	VST3	`~/Library/Audio/Plug-Ins/VST3`
macOS	AU	`~/Library/Audio/Plug-Ins/Components`
macOS	CLAP	`~/Library/Audio/Plug-Ins/CLAP`
Windows	VST3	`%LOCALAPPDATA%\Programs\Common\VST3`
Windows	CLAP	`%LOCALAPPDATA%\Programs\Common\CLAP`
Linux	VST3, CLAP, LV2	`~/.vst3`, `~/.clap`, `~/.lv2`

- **macOS:** a plugin downloaded with a browser is marked as coming from the internet, and macOS refuses to load it. Remove the mark in Terminal, for example `xattr -dr com.apple.quarantine ~/Library/Audio/Plug-Ins/VST3/ANAMORPH.vst3`. Plugins installed by Hub do not need this.
- **Windows:** some DAWs look only in the system folders (`C:\Program Files\Common Files\VST3` and `…\CLAP`). Add the folder above in your DAW's settings, or use the system folder.
- Then restart the DAW or let it scan its plugins again. Anamorph is listed under Digital Dream Synths.

Loading your ROMs

The first time Anamorph opens without the firmware or the mask ROM, it stays silent and a panel covers its own:



The ROM panel, before any ROM is in.

1. **Give it a file.**
   Drag a ROM image onto the dashed area, or click LOAD... and choose it. On Windows and Linux use LOAD....

2. **Anamorph recognises it**
   by its size and its SHA-256 checksum, whatever the file is called, and copies it into its ROM folder. The slot's row turns to the dump it found. For the firmware, both the EPROM dump and the dump in the processor's byte order are accepted.

3. **The rest of the set comes with it.**
   Anamorph also looks at the other files in the same folder, not in its subfolders, and takes those it recognises for the slots still missing: when your dumps are together, one file is enough. The line under the message names each one it took. Files it does not recognise there are left alone.

4. **Add the others**
   if they are elsewhere. As soon as the firmware and the mask ROM are both in, the instrument starts, the panel goes, and voice 001 plays.

A file Anamorph does not know is not kept: the panel shows its size and checksum, so you can compare them. Nothing is ever sent anywhere.

The **LCD character ROM** gives the display its original dot-matrix lettering. Without it the display shows its text in the panel's lettering, and everything else works the same. To add it later, right-click the display and choose ROMS...; CLOSE or ESC closes the panel.

The ROM folder is `~/Library/Application Support/Digital Dream Synths/ROM/anamorph` on macOS, `%APPDATA%\Digital Dream Synths\ROM\anamorph` on Windows and `~/.local/share/digital-dream-synths/rom/anamorph` on Linux. Each time it starts, Anamorph checks the files again; one that no longer matches counts as missing, and the panel asks for it.

The first start

Add Anamorph to an instrument track. The group block reads STARTING THE FIRMWARE... for about a second while it boots, then the display shows 001 *Relaxx*. Each instance runs its own emulated instrument.

- Anamorph is an instrument with a stereo output and no audio input. It has no MIDI output.
- It plays on every MIDI channel: whatever channel your keyboard sends on reaches the firmware.
- The emulated instrument runs at 44.1 kHz. At another sample rate Anamorph converts its output and reports a latency of 16 samples to the DAW, which compensates for it; at 44.1 kHz there is none.

Anamorph keeps its own files in a data folder: `~/Library/Application Support/Digital Dream Synths/anamorph` on macOS, `%APPDATA%\Digital Dream Synths\anamorph` on Windows, `~/.local/share/digital-dream-synths/anamorph` on Linux. Inside are your library, your default memory and your settings: see What the project keeps.

CHAPTER 4

SELECTING VOICES

The memory holds 128 voices, numbered 001 to 128. The display shows the voice's name, its category in two small letters (`Ld` for a lead, `Pd` for a pad, `Ba` for a bass…) and its number. A dot after the number means the voice has been edited and not stored.

On the panel

- `+` (YES/ENTER) and `−` (NO) select the next and the previous voice.
- To go to a voice by its number, type it on the number keys and press `+`: `1` `2` `+` plays 012 *Mini*. The number blinks on the display until you confirm.
- If the display shows a parameter, the first press of `+` or `−` brings the voice's name back; the next one changes the voice.

A voice change takes the firmware about a third of a second. Presses during it are dropped, as on the hardware.

The voice list

Click the display, or `VOICE LIST`, to see all 128 voices at once.



The voice list, with a bank of your own, **Night Set**, playing its voice 006.

- Eight columns of sixteen voices, by the names the memory holds now. The voice playing is gold.
- **Click** a voice to play it; the list stays open, so you can try several. **Double-click** one to play it and close the list.
- < and > step to the previous and next voice. The arrow keys move through the grid: up and down one voice, left and right a column.
- `ENTER`, `ESC`, × or a click outside the list close it.
- At the left is the **library** of banks: see chapter 15.

The list also opens over the voice editor: click the display in the editor's header. A double click then takes you back to the editor.

From your DAW

- **Program change.** MIDI program changes 0 to 127 select voices 001 to 128 in CLAP and AU.
- **The Voice parameter.** In every format Anamorph has a parameter, *Voice*, with the 128 names. Your DAW can automate it and the project keeps it. It follows the voice you choose on the panel or in the list.
- **The DAW's program list.** VST3 hosts that map program changes to a plugin's programs see the same 128 names.

> **NOTE**
> VST3 passes no MIDI program changes to a plugin. In a VST3 host, select voices with the Voice parameter, the panel or the list.

The names your DAW shows are always the factory names. When the memory holds another bank, the panel's list shows the right ones.

CHAPTER 5

PLAYING: THE CONTROLLERS

The original was made to be played with your hands on its panel: eight knobs, a ribbon, two wheels and the scene keys. Anamorph has all of them on screen, and each one also answers MIDI from your DAW.

The instrument's controllers over MIDI

The firmware receives each of its controllers on a control change number, set in the SYSTEM row of the edit matrix, columns 9 and 10. At power-on they are:

CONTROLLER	MIDI	IN THE CONTROL MATRIX
Modulation wheel	CC 1	A.MW
SCENE, the morph	CC 1, with the mod wheel	(in Scene Ctrl)
Foot controller	CC 4	A.FC
Foot volume	CC 7	A.FV
Ribbon, pressure (Z)	CC 12	A.RbZ
Ribbon, position (X)	CC 13	A.RbX
Knobs 1–8 in the Assign row	CC 41–48	Knob1–Knob8
Foot switch (sustain)	CC 64	A.FS
Aftertouch, pitch bend, velocity	as MIDI	AT, PB, Vel

A changed number is kept with the project. In VST3 hosts that list a plugin's controller ports for automation, these ports carry these names: *CC 1 Mod Wheel / Scene*, *CC 13 Ribbon X*, *CC 41 Knob 1* and so on.

Wheels and ribbon

Drag the **pitch** wheel up or down; it springs back when you let go. The **modulation** wheel stays where you leave it. Both move by themselves when pitch bend or the mod wheel arrive from your DAW. On the **ribbon**, pressing starts the pressure controller and the position counts from the left; letting go releases it.

The knobs

The eight knobs edit the voice's most used parameters, a group at a time. Choose the group with its key in the black block; its LED lights and the knob cells frame that group's names in red.

GROUP	1	2	3	4	5	6	7	8
Sync/FM	Algorithm	Sync Pitch	Sync Pitch Depth	Sync Pitch Src	Sync Pmod Sw	FM Depth	FM Src1	FM Src2

GROUP	1	2	3	4	5	6	7	8
PEG/LFO	PEG Decay	PEG Depth	PEG Sw	Port Time	LFO1 Wave	LFO1 Speed	LFO1 Delay	LFO2 Speed
VCO1, VCO2	Wave	Pitch	Fine	Edge	PW	PWM Depth	PWM Src	Pmod Depth
Mix/VCF	VCO1 Level	VCO2 Level	Ring Mod	Noise Level	HPF	VCF Type	Fmod Depth	Key Track
VCF	Attack	Decay	Sustain	Release	VCF Cutoff	Resonance	FEG Depth	Vel Sens
VCA	Attack	Decay	Sustain	Release	Feedback	Volume	Amod Depth	Vel Sens
Assign	Control changes 41 to 48, for the voice's control matrix (Knob1–Knob8)							

- **Turn** a knob by dragging up or down; with shift held, finer.
- **Click** a knob without moving it: the display shows its parameter and value, which stays unchanged.
- **The knobs pick up.** A knob changes its parameter only once it passes the value the parameter already has, as on the hardware, so a sound does not jump when you touch a knob. The knobs start at mid-travel.

In the ASSIGN group the knobs send control changes 41 to 48. They change no parameter directly: the voice's control matrix decides what each one does, through its sources Knob1 to Knob8. Most factory voices put knob 7 on the delay's return and knob 8 on the reverb's.

Portamento, layer and arpeggio

- PORTA turns portamento on and off for the voice; the display reads `Portamento ON` or `Portamento off` for a moment. The time is *Port Time*, knob 4 in the PEG/LFO group.
- LAYER steps through SINGLE, UNISON, DUAL, DUAL UNISON, SPLIT and SPLIT UNISON: see Layer.
- ARP/SEQ starts and stops the voice's arpeggio or step sequence: see chapter 13.

All three belong to the voice: they are stored with it, and the next voice brings its own settings.

MIDI learn

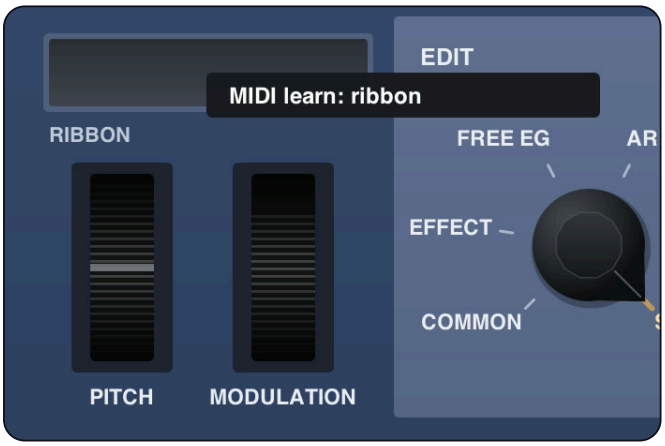
The ribbon, the scene morph and the eight knobs can learn any control change of your MIDI controller.



Right-click a knob's cell.



`LEARN` blinks until a controller arrives.



The ribbon's menu.

1. **Open the menu.**
   Right-click (or control-click) the ribbon, the SCENE box, a knob's cell, or the slider on the editor's Morph page. Choose MIDI LEARN.

2. **Move the controller.**
   MIDI LEARN, or LEARN on a knob's band, blinks until a control change arrives from your DAW, on any channel. Bank select and the channel mode messages are ignored.

3. **Done.**
   The target shows CC N. A controller learned for one target leaves any other it had.

- A learned controller arrives as the controller the firmware itself uses for that target: the ribbon's position (CC 13), SCENE (CC 1) or the knob's Assign controller (CC 41–48). A knob's learn therefore drives the voice's Knob source in the control matrix, whatever group the panel shows, and the knob on the panel turns to show its value.
- CANCEL MIDI LEARN in the same menu stops waiting; FORGET CC N lets the controller go.
- The project keeps what you have learned, and new instances start from your latest choices.

CHAPTER 6

EDITING A VOICE

When you select a voice, the firmware copies it from the memory into its **edit buffer**, and that copy is what plays. Every edit, from the knobs, the editor, the panel's edit keys or your DAW, changes the edit buffer only. The display then shows a dot after the voice's number. Select another voice and the edits are gone, unless you have stored them. Saving your project keeps them too: see What the project keeps.

The editor's pages

TAB	WHAT IT HOLDS	CHAPTER
COMMON	The voice field, the layer mode and pan, the tempo, the control matrix of both scenes and the common's two sets.	11
SCENE 1, SCENE 2	Three pages each: VCO · SYNC · FM, MIXER · VCF · FEG, VCA · AEG · PEG · LFO.	7, 8, 9
MORPH	Both scenes side by side, what plays, and the morph.	10
FREE EG	The four tracks, drawn, and their settings.	12
ARP · SEQ	The arpeggio or the step sequence, its steps and its play effects.	13
EFFECTS	Variation, EQ, delay and reverb.	14

Changing a value

- **Sliders:** drag sideways, or turn the mouse wheel over the row. Hold shift for finer steps.
- **Choices**, such as a wave, a filter type or a layer mode: click the button.
- **Drawings:** many can be dragged. The footer says how, page by page: a point of an envelope, the filter's cutoff and resonance, a pulse width, a step of the sequence.
- On a scene page, a value in **white** differs from the same value in the other scene.

Each change goes to the firmware as a MIDI parameter change, the message the hardware itself sends when you turn one of its knobs, and the firmware applies it as it would its own. The editor then shows the value the firmware holds, and each slider covers the range the firmware accepts for its parameter.

Compare, undo and redo

COMPARE plays the voice as it was when you selected it; click it again to return to your edits. The two arrows beside it undo and redo, one gesture at a time (on a Mac also ⌘Z and ⇧⌘Z). Undo works on everything the editor changed, drawn Free EG tracks included.

Storing a voice

STORE in the editor's header writes the edited voice over its own number in the memory. On the panel, press STORE: the display asks SURE?[Y/N]; answer + for yes or − for no. The firmware shows nothing at the first press of STORE after it starts: press it again.

> **TIP**
> Storing replaces the voice that was there. To keep it, export it first (MEMORY › EXPORT THIS VOICE (.SYX)...), or keep your banks in the library, where the factory voices are always one click away.

Naming a voice

A name has ten characters. Turn the panel's EDIT switch to EFFECT and press column 9's +: the display shows the name with the cursor on its first letter. The letters printed over the PROGRAM CHANGE keys are for typing it, as on the hardware. Store the voice to keep the name.

The panel's edit matrix

The original has no menus: it edits everything that the knobs do not reach through a matrix of six rows and ten columns. The EDIT switch picks the row; each column has a + and a − key. The first press of a column shows its parameter on the display; the next presses change it, faster while you hold the key. Anamorph's panel works the same way, and the editor shows the same parameters with their names in full.

ROW	1	2	3	4	5	6	7	8	9	10
COMMON	Poly Mode	Portamento mode	LFO Reset	Matrix set	its destination	its source	its depth	Layer Pan	Separation	Unison Detune
EFFECT	Tempo	Split Point	Variation type and parameters	value	Variation D:W	Connection, delay and reverb	value	Effect bypass	Name	Name
FREE EG	Trigger	Loop Type	Length	Key Track	Track	its parameter	its scene switch	Rec	Copy from	Undo
ARP	Arpeggio or sequence	Pattern	Kbd Mode	Arp Hold	Scene Sw	Arp TrnsCh	Arp Subdiv	Swing	Velocity	Gate Time
SEQ	Note / Knob	Knob Pos	Step Hold	Bank	Bank	Base Unit	Step Length	Loop	CC No	Seq store
SYSTEM	Master Tune	Kbd Transpose	Velocity Curve	Transmit Ch	Scene 1 Receive Ch	Device No.	Local	Bulk	Controller	its CC number

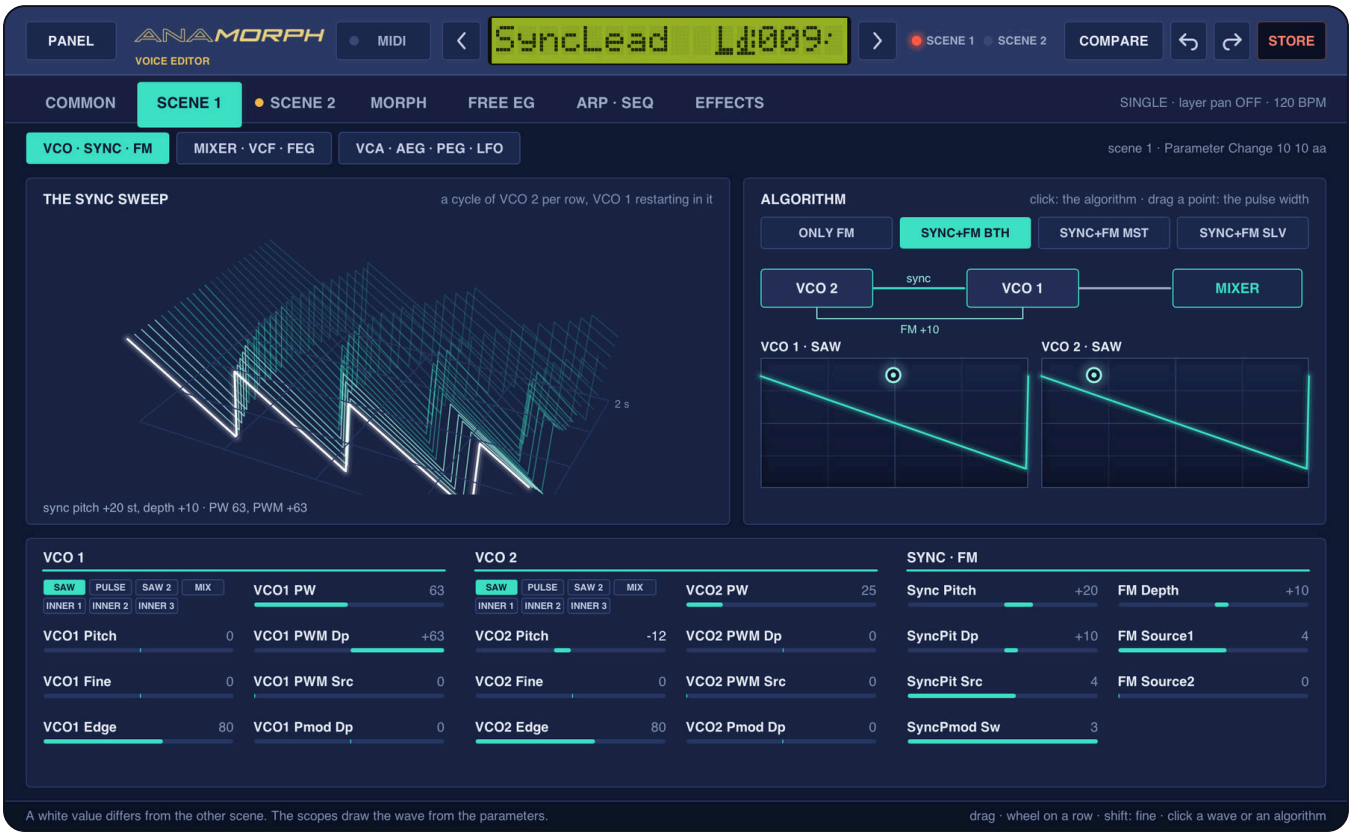
The table gives what the display shows at each column's first press. Some columns lead to several parameters in turn: in the EFFECT row, column 3 steps through the Variation's type, its parameters and the EQ, and column 6 through the connection, the delay and the reverb. The firmware starts on the SYSTEM row.

> **NOTE**
>
> The SYSTEM row belongs to the instrument rather than to a voice. Anamorph keeps it with the project. MIDI-related settings there, such as the receive channel, have little to do in a plugin: Anamorph hands the firmware every channel as its own.

CHAPTER 7

OSCILLATORS, SYNC AND FM

Each scene has two oscillators. VCO 2 is the *master*: besides sounding by itself, it can restart VCO 1, the *slave*, at each of its cycles (hard sync), and modulate its frequency (FM). The page is SCENE 1 or SCENE 2 › VCO · SYNC · FM.



VCO · Sync · FM on 009 SyncLead: VCO 1 swept by sync.

The waves

Each oscillator chooses one of seven waves: SAW, PULSE, SAW 2, MIX and three INNER waves. The two scopes at the top right draw one cycle of each oscillator from its settings. On PULSE, drag the point to change the pulse width.

Pitch and Fine

The oscillator's pitch in semitones, and a fine tuning. Two oscillators a few Fine steps apart beat against each other, the classic thick analog sound.

Edge

How sharp the wave is. Low values round it off towards a sine; high values give it its full edges and brightness.

PW, PWM Depth, PWM Src

The pulse width, and how much a modulation source moves it. Pulse width modulation by an LFO gives the moving, chorus-like pulse sound.

Pmod Depth

How much the LFO moves the oscillator's pitch: vibrato, or wilder.

Sync and FM

With sync, VCO 1 starts its cycle again every time VCO 2 starts one, so the sound keeps VCO 2's pitch while VCO 1's tuning changes its tone. **Sync Pitch** is that tuning: sweep it and you get the singing, tearing sync lead. **The sync sweep** at the top left draws it: one cycle of VCO 2 per row, VCO 1 restarting inside it, as the sync pitch moves over two seconds.

Algorithm

How the two oscillators are joined: ONLY FM, without sync, or one of three SYNC+FM algorithms, named BTH, MST and SLV for both, master and slave. The diagram under the buttons shows the path. The differences are easiest to learn by ear: try them on 009 *SyncLead*.

Sync Pitch, SyncPit Dp, SyncPit Src

The sync pitch, and how much a modulation source sweeps it: the sync sound moving by itself.

SyncPmod Sw

A switch of the sync's pitch modulation.

FM Depth, FM Source1, FM Source2

How strongly VCO 2 modulates VCO 1's frequency, and the two sources of that modulation. Small depths add a metallic edge; larger ones give bells and noise.

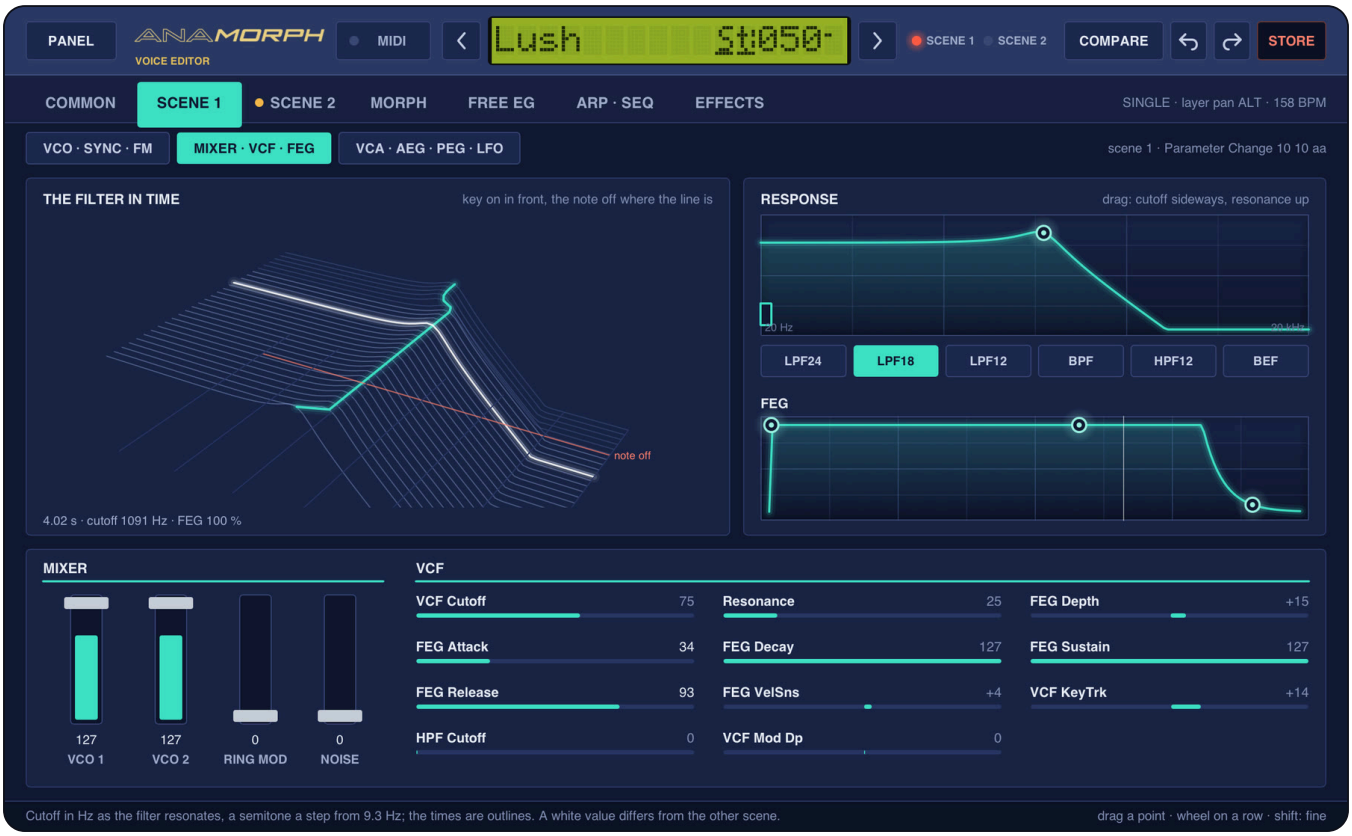
Sources and switches without names on the page are shown as numbers, as the hardware's display shows them.

> **TIP**
> On 009 *SyncLead*, select the Sync/FM group on the panel and turn knob 2, Sync Pitch, while you hold a note: you hear the sync sweep. Open the editor afterwards to see where the knob left it.

CHAPTER 8

MIXER, FILTER AND FEG

The oscillators meet in the mixer, then go through the high-pass filter and the VCF. The page is SCENE 1 or SCENE 2 › MIXER · VCF · FEG.



Mixer · VCF · FEG on 050 Lush, an 18 dB low-pass closing after the attack.

The mixer

Four faders: **VCO 1** and **VCO 2**, **Ring Mod**, the two oscillators multiplied for clangorous, bell-like tones, and **Noise**.

The filters

HPF Cutoff sets a high-pass filter before the VCF, which thins out the low end. The **VCF** then has six types:

TYPE	WHAT IT DOES
LPF24, LPF18, LPF12	Low-pass, 24, 18 or 12 dB per octave: the steeper, the darker and more "analog" the closing filter.
BPF	Band-pass: only a band round the cutoff passes.
HPF12	High-pass, 12 dB per octave.
BEF	Band-eliminate: a notch at the cutoff.

VCF Cutoff and Resonance

The cutoff frequency, shown in hertz, and the emphasis at it. Drag the point on the **Response** curve: sideways for the cutoff, up and down for the resonance.

FEG Depth

How far, and in which direction, the filter envelope moves the cutoff.

FEG Attack, Decay, Sustain, Release

The filter envelope. Drag its points in the drawing: time sideways, level up and down.

FEG VelSns

How much the velocity scales the filter envelope.

VCF KeyTrk

How much the cutoff follows the keyboard, so that high notes stay as bright as low ones.

VCF Mod Dp

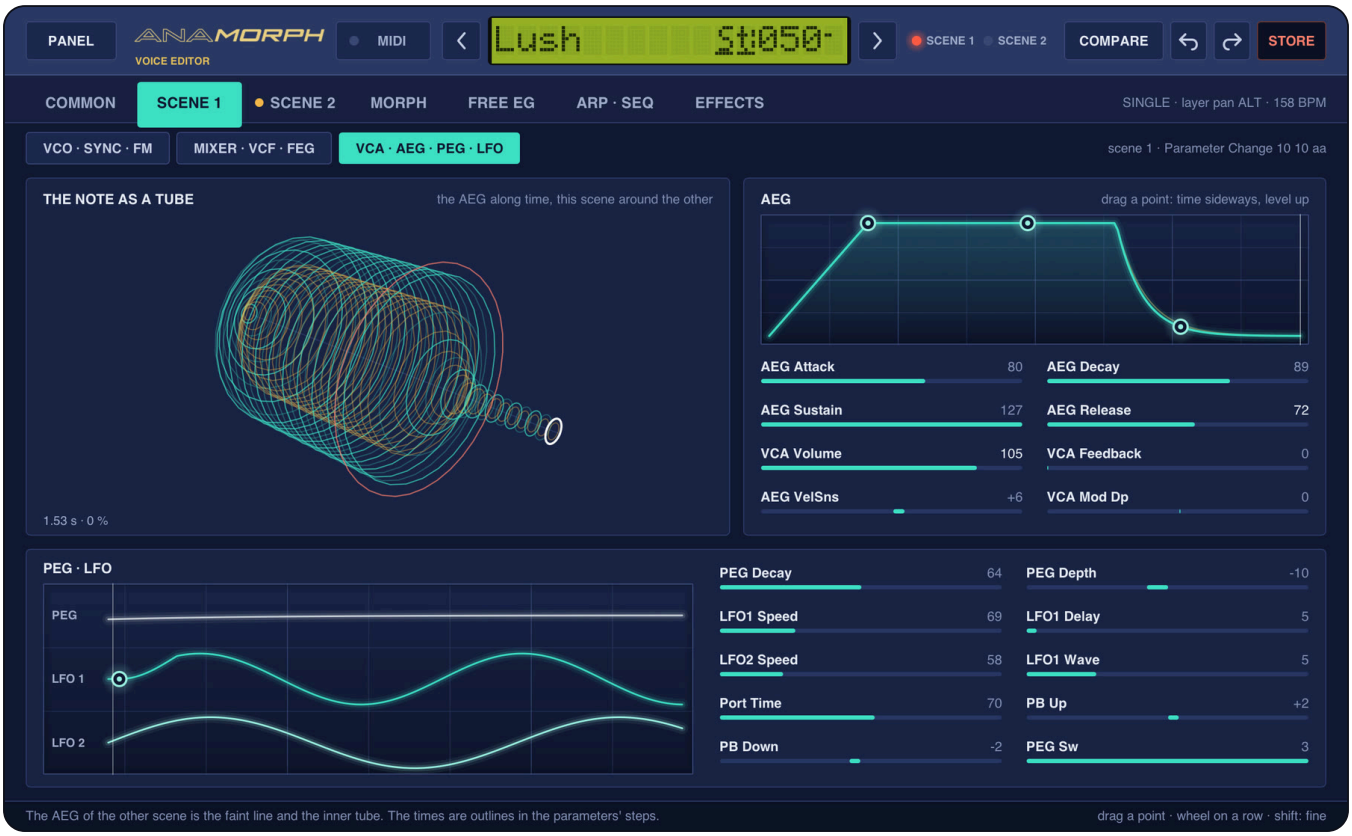
How much the LFO moves the cutoff (the panel's *Fmod Depth*): wah and growl effects.

The filter in time, at the top left, draws the response over the length of a note: the key goes down in front, a line marks the note-off, and the curve's shape travels backwards as the FEG moves the cutoff.

CHAPTER 9

AMPLIFIER, PEG AND LFOS

The third page of a scene holds the amplifier and its envelope, the pitch envelope and the LFOs: SCENE 1 or SCENE 2 › VCA · AEG · PEG · LFO.



VCA · AEG · PEG · LFO on 050 Lush.

The amplifier

AEG Attack, Decay, Sustain, Release

The level envelope. Drag its points: time sideways, level up and down.

VCA Volume

The scene's level.

VCA Feedback

Feeds the amplifier's output back into the filter: from a fuller tone to a driven, gritty one.

AEG VelSns

How much the velocity changes the level.

VCA Mod Dp

How much the LFO moves the level (the panel's *Amod Depth*): tremolo.

The note as a tube draws the AEG along the note's length as a tube whose width is the level, this scene's round the other scene's faint inner one, so you can see at a glance how the two scenes differ in shape.

The pitch envelope

The **PEG** bends the pitch at the start of each note and lets it settle: **PEG Depth** sets how far, up or down, and **PEG Decay** how fast it returns. **PEG Sw** chooses which oscillators it reaches. A short PEG gives the attack of brass, plucks and percussive basses.

The LFOs

- **LFO 1** has a wave (*LFO1 Wave*), a speed and a delay, the time before it fades in after a note starts. It drives the oscillators' pitch, the filter and the level through the Pmod, Fmod and Amod depths.
- **LFO 2** has only a speed: a second LFO for the modulations that choose it as their source.
- **LFO Reset**, in the COMMON row of the panel's edit matrix, decides whether the LFO restarts with each key.

The lanes at the bottom left draw the PEG and both LFOs over the same time.

Keys, bends and glides

Poly Mode

POLY, MONO or LEGATO. In Legato a note played while another is held glides or slurs without restarting the envelopes.

Port Time, Port Mode

The portamento's time, and whether it always glides (FULL TIME) or only between notes played legato (FINGERED).

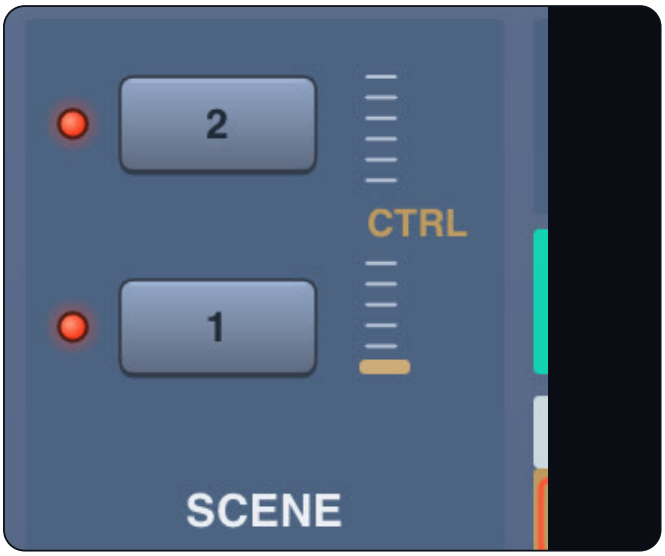
PB Up, PB Down

The pitch bend wheel's range, up and down, in semitones.

CHAPTER 10

SCENES AND THE MORPH

A voice's two scenes are two complete sounds. The voice remembers which one plays: scene 1, scene 2 or **Scene Ctrl**, where the SCENE controller blends them. 31 factory voices start in Scene Ctrl; they are marked `M` in appendix A.



The SCENE box in Scene Ctrl, the morph at scene 1.

On the panel

- Press `1` or `2` to play that scene; its LED lights.
- Press both together for Scene Ctrl: both LEDs light and the display reads `Scene Ctrl`. Clicking the **CTRL** scale does the same, with one click.
- In Scene Ctrl the CTRL scale shows the morph as the firmware has it, scene 1 at the bottom, scene 2 at the top. Drag it to move the morph.

What moves the morph

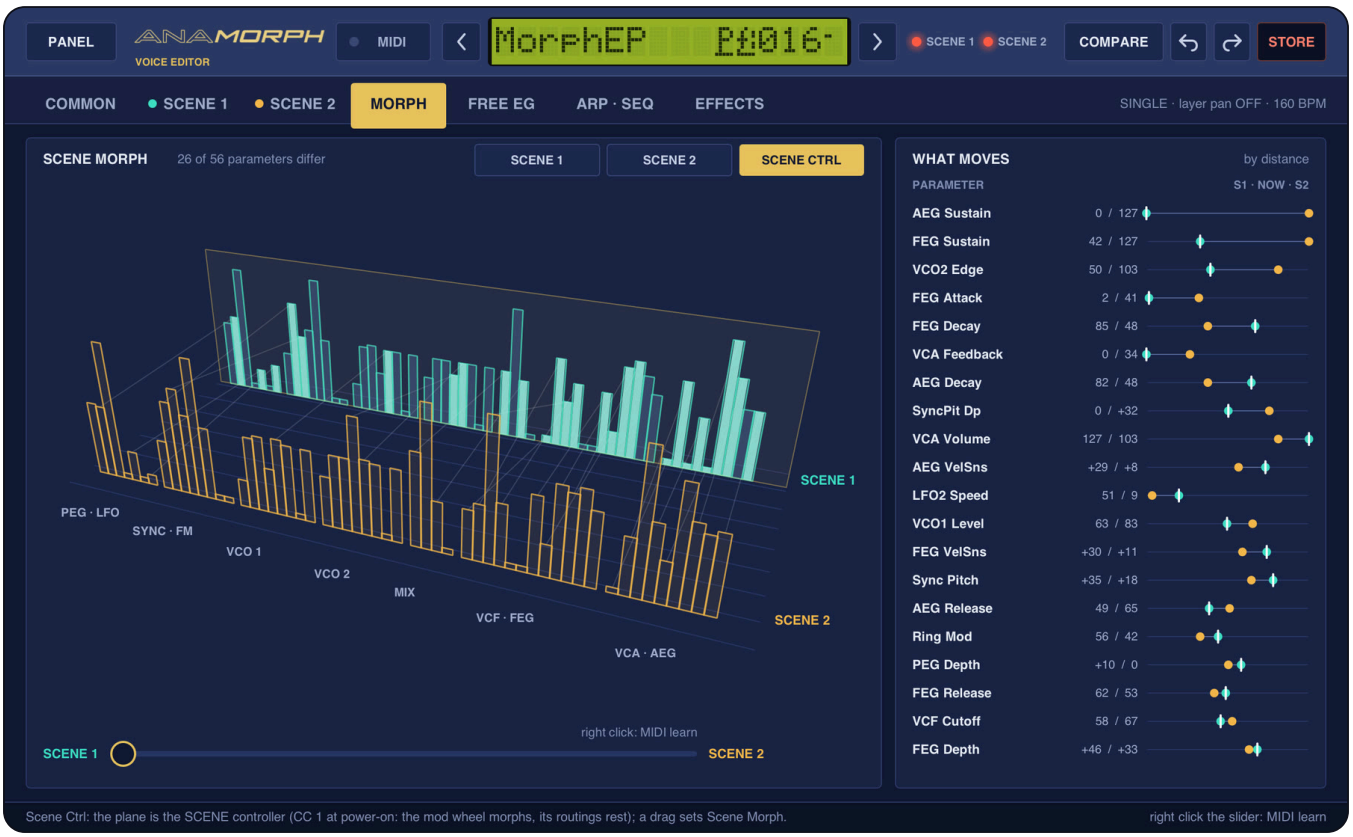
The morph follows the SCENE controller, which at power-on shares control change 1 with the mod wheel. So in Scene Ctrl the **mod wheel morphs**, and while it does, the routings of the mod wheel (A.MW) in the control matrix rest. In scene 1 or scene 2 the same wheel is the ordinary mod wheel again, working through those routings.

You can also move the morph with:

- **Scene Morph**, a parameter your DAW can automate, 0 for scene 1 to 127 for scene 2;
- a controller of your own, by MIDI learn on the SCENE box or on the Morph page's slider;
- the CTRL scale or the Morph page's slider, with the mouse.

> **NOTE**
> In SINGLE and UNISON, changing what plays reloads the voices, and the firmware stops the notes you hold. In DUAL and SPLIT both scenes already sound, as the two layers.

The Morph page



Morph on 016 MorphEP: 26 of its 56 scene parameters differ.

- The two **skylines** are the 56 sound parameters of each scene, grouped as PEG · LFO, Sync · FM, VCO 1, VCO 2, Mix, VCF · FEG and VCA · AEG. The plane between them is where the morph is now.
- SCENE 1, SCENE 2 and SCENE CTRL set what plays, as the panel's keys do.
- The **slider** moves the morph. On a voice that plays one scene, the first drag puts it in Scene Ctrl, starting from that scene. Right-click the slider for its MIDI learn.
- **What moves** lists the parameters that differ, the farthest apart first, with their values in scene 1, now, and in scene 2.

> **TIP**
> A quick way to make a morphing voice: start from a voice you like, make scene 2 a copy of the idea pushed somewhere else (a closed filter, a slower attack, another wave), then put the voice in Scene Ctrl and play with the mod wheel. The Morph page shows exactly what the wheel will move.

CHAPTER 11

COMMON: LAYERS AND THE CONTROL MATRIX

The COMMON page, shown in chapter 2, holds what belongs to the voice as a whole: how its scenes are layered and what modulates what.

The voice field

The ten voices of the instrument, five on each sound chip, drawn on two arcs from left to right where the layer pan places them in the stereo field, each as tall as its amp envelope while it sounds. Play a chord and you see which voices the firmware gives your notes.

Layer

LAYER MODE	WHAT PLAYS	NOTES AT ONCE
SINGLE	One scene, or the morph between them in Scene Ctrl.	10
UNISON	As SINGLE, each note doubled and detuned by *Unison Detune*.	5
DUAL	Scene 1 and scene 2 together, as two layers.	5
DUAL UNISON	DUAL, with unison.	5
SPLIT	One scene on each side of the *Split Point*.	5 on each side
SPLIT UNISON	SPLIT, with unison.	5 on each side

Layer Pan

OFF, ALT or RANDOM: whether the voices keep their places, alternate between left and right, or land at random.

Separation

0...32: how far apart the layers, or the unison voices, sit.

Unison Detune

1...32: the detuning between unison voices.

Split Point

The note where SPLIT's two sides meet.

Tempo

40...240 BPM, the tempo of the arpeggio, the sequence, the Free EG's length in bars and the tempo delay. Below 40 it reads MIDI: the voice then follows MIDI clock. With Arp Sync on, Anamorph sets that for you and follows your DAW.

The control matrix

Each scene has sixteen **sets**, and the common two more. A set connects a source to a destination with a depth. Choose the scene with the SCENE 1 and SCENE 2 buttons; the common's sets, C1 and C2, are always under them.

- **Click a source or a destination** to step to the next one, with shift to the one before; turn the mouse wheel over it to run through the list. The wheel also reaches the plain control changes CC 1 to CC 95.
- **Drag the depth**, from −64 to +63. A set whose depth reads DIRCT lets the source set the parameter directly, without an offset.
- A set marked DUP repeats the source and destination of an earlier set; one marked N/A sends a source the destination does not take. The hardware's display blinks dashes over both.

SOURCE	IS
AT, PB	Aftertouch, pitch bend.
Vel, KyTrk, KyRnd	The note's velocity, its key, and a random value for each key.
A.MW, A.FV, A.FC, A.FS, A.RbX, A.RbZ	The mod wheel, foot volume, foot controller, foot switch, the ribbon's position and pressure: the controllers of the SYSTEM row, whatever control change numbers they are set to.
Knob1 … Knob8	The eight knobs in the Assign group, and what you have learned for them.
CC 1 … CC 95	Any control change.

A scene's destinations are its continuous sound parameters, 45 of them, from Scene Tune and pitch to the envelopes, the levels, the filter and the Variation's dry/wet balance. Waves, types and switches are not among them. The common's two sets reach the voice's volume and pan, a Variation parameter, and the delay's and reverb's returns.

CHAPTER 12

THE FREE EG

The Free EG is an envelope you draw. It has four **tracks** of 192 points; each track moves one sound parameter of the voice over a length you choose, once or in a loop, in time with the tempo or in seconds. A filter that pulses in rhythm, a wave that changes on every beat, a slow evolution over sixteen seconds: all of these are Free EG tracks.



Free EG on 106 FreeEGRthm: two tracks, the cutoff and the resonance, over one bar.

Drawing a track

1. **Choose the track.**
   Click 1 to 4 beside DRAW ON IT.

2. **Give it a parameter.**
   In the list, click the track's parameter to step through the 57 a track can drive, with shift to step back, or turn the mouse wheel over it. PARAM OFF leaves the track flat.

3. **Choose its scenes.**
   Click the scene switch beside it: OFF, SCENE 1, SCENE 2 or BOTH.

4. **Draw.**
   Draw on the track in the lower drawing with the mouse. The points go into the voice as you draw and you hear them at once. Undo, redo and Compare take a stroke back.

The **four tracks** at the top are drawn in 3D as ribbons, with the point the firmware is reading moving across them while a track drives a parameter. If two tracks drive the same parameter, the firmware switches the earlier one off; the list then marks it OFF: A LATER TRACK HAS IT.

The settings

Trigger

FREE runs on by itself; KBD starts again at each key and MIDI note; ALL also at each note of the arpeggio or sequence.

Loop

OFF plays once and holds the last point; FWD goes round and round; ALT goes forth and back. FWD HALF and ALT HALF play once through, then loop over the second half only.

Length

½, 1, 1½, 2, 3, 4, 6 or 8 bars at the voice's tempo, or 1.0 to 16.0 seconds. The page shows how long a pass takes.

Key Track

How much the key changes the speed, around C3: at +63, C4 runs 1.3 times faster and C5 twice as fast.

On the panel, the FREE EG row of the edit matrix has the original's own way to fill a track: REC records the movement of a knob as you play, COPY FROM copies a track, and UNDO is beside them.

> **NOTE**
> The original has no MIDI message for a single point of the Free EG. Anamorph writes the points you draw straight into the voice, where the firmware reads them as it plays. Store the voice to keep them.

CHAPTER 13

ARPEGGIO AND STEP SEQUENCER

Every voice has an arpeggiator and a 16-step sequencer, of which it uses one at a time. Turn it on with ARP/SEQ on the panel, or ON on the ARP · SEQ page, and choose ARPEGGIO or STEP SEQ. 41 factory voices come with one of them on, marked A or S in appendix A.



Arp · Seq on 038 Acid 1: an 8-step sequence of sixteenth notes.

The step ring

The ring draws the voice's sixteen steps in 3D, each as tall as its velocity and coloured by its pitch, with the gate as an arc on the floor. A beam goes round at the voice's tempo: it is a preview drawn by the editor, while the firmware itself plays the notes.

The step sequencer

Base Unit

The note value of a step, from 3/8 to 1/32, triplets included.

Step Length, Loop

How many of the sixteen steps play, and in which direction: FORWARD, BACKWARD, or back and forth in one of two ways, ALTERNATE A and ALTERNATE B.

The step editor

For each step a **note** (drag it up or down), a **velocity**, a **gate** time and a **knob** value, which the sequence plays as a controller; its control change number is set in the panel's SEQ row. Steps beyond the step length are dimmed.



`Arp · Seq on 001 Relaxx: the arpeggio type DAHouse, with Hold on.`

The arpeggiator

Thirty **types**: up, down, up and down (two ways) and random, each over one, two or four octaves, and fifteen rhythmic patterns, from *Techno-A* to *BassLineD*. **Arp Subdiv** sets the note value of each step. **Kbd Mode** decides what your keys do while it runs: an arpeggio offers CHORD and CHORD&NORM, a sequence NORM, SHIFT&NORM, SEL&NORM and SEL&SHIFT.

Play effects

Swing

50 to 83%: how late the off-beat steps come.

Velocity, Gate

Scale the steps' velocities and gate times, in percent.

Hold

With ON, the arpeggio or sequence goes on after you let go of the keys, until you play new ones. With a sequence in Sel&Norm or Sel&Shift, Hold reads OFF, MODE 1 or MODE 2 instead.

Scene Sw

Which scenes the arpeggio or sequence plays: scene 1, scene 2 or both.

Hold in the plugin

24 factory voices have Hold on: the arpeggios 001, 021, 125 and 126, and the sequences 002, 006, 007, 011, 012, 017, 018, 019, 023, 036, 037, 117, 119 to 124, 127 and 128. That is how they came on the original, but in a DAW a pattern that never ends can surprise you. HOLD IN THE PLUGIN, under the play effects, is Anamorph's *Arp Hold* parameter:

- AS THE VOICE: Hold works as the voice says.
- ALWAYS OFF: the pattern stops when you let go of the last key and the sustain pedal, as if Hold were off. The voice itself is not changed, so storing it keeps Hold as it was.

Tempo

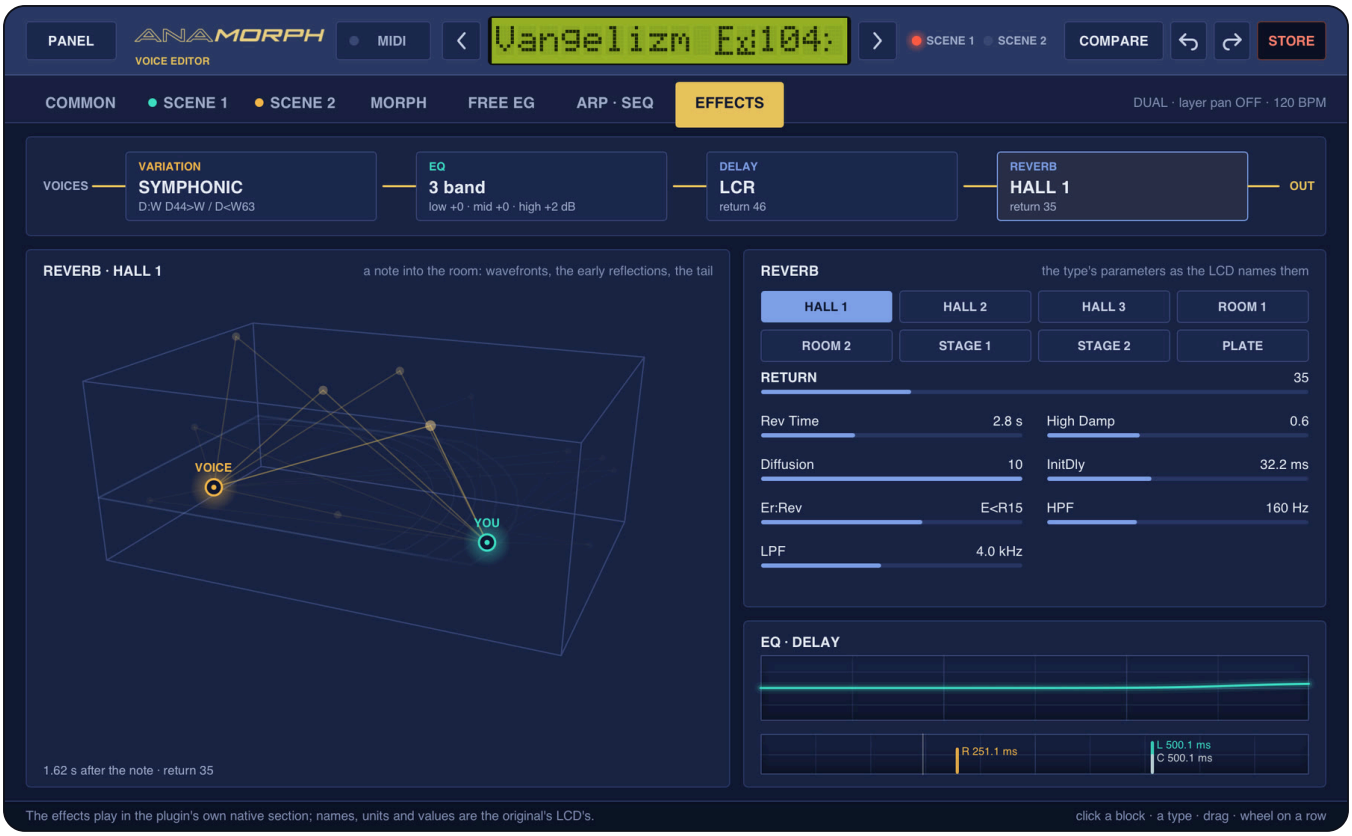
The arpeggio and the sequence play at the voice's tempo, on the Common page. With Arp Sync on, the default, they follow your DAW's tempo and beats instead, and the page shows the tempo as HOST.

CHAPTER 14

EFFECTS

The voices go through four effect stages in a row: **Variation**, **EQ**, **Delay** and **Reverb**. Their settings belong to the voice.

VOICES → VARIATION → EQ → DELAY → REVERB → OUT

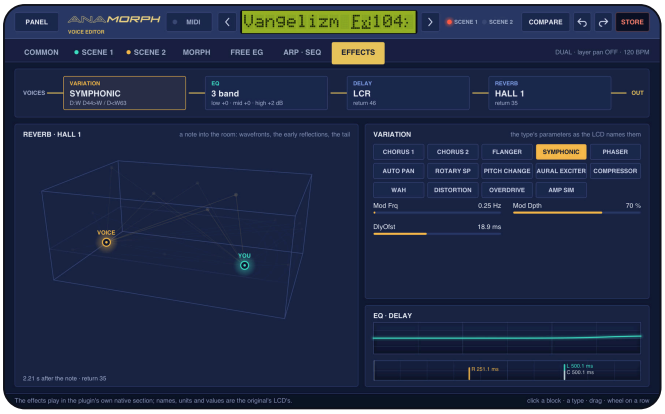


Effects on 104 Vangelizm, with the reverb chosen.

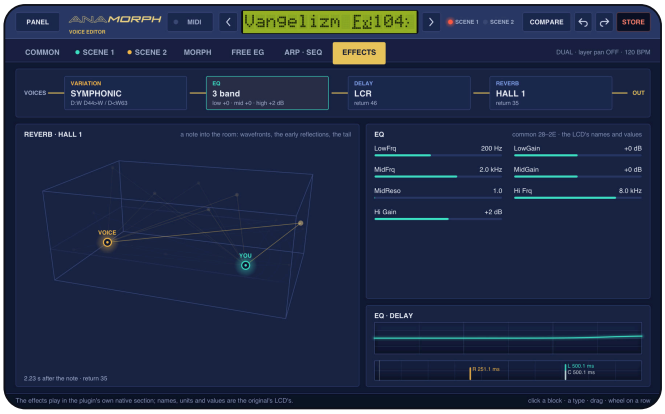
The chain across the top shows each stage with its type and level. **Click a block** for its parameters on the right; click a type to choose it; drag a value or turn the mouse wheel over it. Every parameter is named, in its unit and with its values, as the hardware's display shows it.

Variation

Fourteen types: *Chorus 1*, *Chorus 2*, *Flanger*, *Symphonic*, *Phaser*, *Auto Pan*, *Rotary Sp*, *Pitch Change*, *Aural Exciter*, *Compressor*, *Wah*, *Distortion*, *Overdrive* and *Amp Sim*. Its balance between dry and effect, **VarEf D:W**, belongs to each scene: the block shows both scenes' values, and the morph, or a matrix set, moves it like any other scene parameter.



The Variation, here Symphonic.



The EQ.



The Delay, here LCR.

EQ

Three bands: a low and a high band with their frequency and gain, and a middle band with its frequency, gain and resonance. The curve under the parameters shows the result.

Delay

Five types: *LCR* (left, centre and right taps), *LR*, *Echo*, *Cross* and *Tempo*, whose time is a note value at the voice's tempo. **Return** sets its level; the taps are drawn under the EQ curve.

Reverb

Eight types: *Hall 1–3*, *Room 1–2*, *Stage 1–2* and *Plate*, with the reverb time, the damping of the highs, the diffusion, the initial delay, the balance of early reflections and reverb, and two filters. **Return** sets its level. The room in 3D draws a note going into it: the wavefronts, the twelve early reflections and the tail.

On the panel

The EFFECT row of the edit matrix holds the same parameters, plus two of its own: **Connection**, whether the delay and the reverb work in series or in parallel, and the **effect bypass**. Most factory voices give knobs 7 and 8 of the Assign group to the delay's and the reverb's returns.

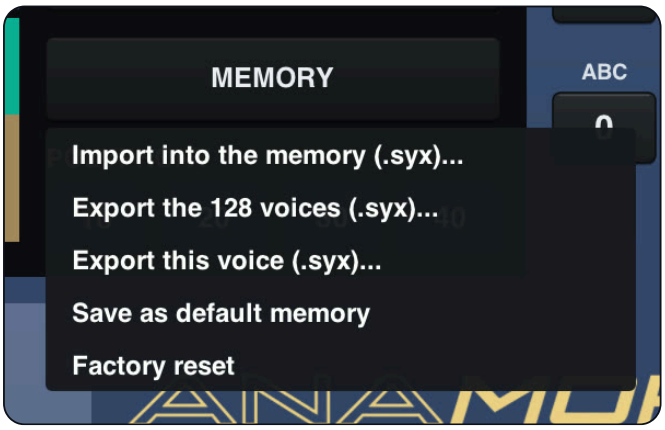
> **NOTE**
> The original computed its effects in a dedicated chip whose program is not known. Anamorph rebuilds them in its own code from their parameters, so they can differ in detail from the hardware.

CHAPTER 15

MEMORY AND THE LIBRARY

The original keeps its 128 voices, its system settings and the edit buffer in a memory that a battery kept alive. Anamorph keeps that memory whole: in your project, in a default memory if you save one, and in its library of banks.

The Memory menu



The `Memory` menu.

Import into the memory (.syx)...
Loads a file of voices into the memory.

Export the 128 voices (.syx)...
Saves the memory's voices as a bank in the instrument's own format.

Export this voice (.syx)...
Saves the voice that plays, with its edits.

Save as default memory
New instances start with this memory.

Factory reset
Back to the factory voices. Click twice to confirm.

Anamorph's files are the instrument's own bulk dumps, so they go both ways: from the hardware, from an editor or from another musician, and back.

- **A bank**, the 128 user voices as the hardware sends them with its Bulk function (`1-64 vce` and `65-128 vce`), goes into the memory at their numbers. The firmware restarts with it, about a second of silence, and the voice that played is selected again from the new bank.
- **A single voice**, as the hardware sends its edit buffer (`1 vce`), goes into the edit buffer and plays at once; store it to keep it.
- System settings and step sequencer patterns in a file are left out. Damaged messages are skipped and counted.

What a command did shows for a few seconds in gold under MEMORY.

The default memory

SAVE AS DEFAULT MEMORY keeps the memory as it is now: the voices, the system settings and the voice that plays with its edits. Every new instance then starts from it. While there is a default memory, the menu adds NEW INSTANCES: FACTORY VOICES, which removes it. A project you open always brings its own memory.

The library

The library at the left of the voice list keeps your banks of voices inside Anamorph, so that any of them is one click away.



Renaming a bank.

- **Factory** is the original's 128 voices, read from your firmware. It is always there and cannot be renamed or deleted.
- IMPORT... copies a `.syx` file into the library under its own name and selects it. A file that holds no voices for the instrument is refused.
- **Click a bank** to see its voices in the grid. **Click a voice** in it to load the whole bank into the memory and play that voice: a bank goes in no slower than a voice change. Numbers the file lacks keep the factory voices, shown dimmed.
- PLAYING marks the bank the memory holds.

- RENAME lets you type a new name in the row: ENTER or OK renames, ESC keeps the old one. The characters `/ \ : * ? " < > |` are not allowed.
- DELETE asks for a second click within four seconds, then moves the file to the library's `Deleted` folder, from where you can get it back.
- SHOW IN FINDER (in Explorer on Windows, OPEN FOLDER on Linux) shows the file.

A file of single voices rather than a bank lists its voices from 001 on. Clicking one sends it into the edit buffer to try, leaving the memory as it is.

When the memory has changed

Once you store a voice, import into the memory, or receive a bank, the memory no longer matches any bank of the library. It then gets a row of its own at the top, with the bank's name and IN THE MEMORY, N CHANGED, and a gold dot marks each changed voice in the grid. Before another bank goes over it, the first click only asks: click again within four seconds to load it.

> **TIP**
> To keep a memory you have changed as a bank: MEMORY › EXPORT THE 128 VOICES (.SYX)..., then IMPORT... the file into the library.

The library is shared by every instance of Anamorph on your computer. A project keeps the memory it played, whatever happens to the library later, and opens the same on a computer without that bank.

CHAPTER 16

ANAMORPH IN YOUR STUDIO

Parameters

Anamorph offers eight parameters to your DAW:

PARAMETER	VALUES	WHAT IT DOES
Voice	001 Relaxx ... 128 VirtlScene	The voice that plays. See chapter 4.
Volume	0 to full; full	The level after the instrument, the panel's Volume.
Output	−12...+24 dB; 0 dB	A gain after Volume. With AUTO on, the voice's own correction.
Arp Sync	Off, On; On	The arpeggio and the sequence follow the DAW's tempo.
Scene Morph	0...127; 0	The morph, in Scene Ctrl. In scene 1 or 2 it acts as the mod wheel.
Arp Hold	Voice, Off; Voice	Hold in the plugin.
Polyphony	10, 20, 30, 40; 10	The voices Anamorph plays. Not automatable.
Auto Level	Off, On; On	AUTO level.

In VST3 hosts, MIDI controllers also reach a plugin as parameters, and some DAWs list them all for automation, 16 channels of them. Anamorph names them after the instrument's controllers, *CC 1 Mod Wheel / Scene*, *CC 12 Ribbon Z*, *CC 41 Knob 1* and so on, and after MIDI's own names for the others. Its own eight parameters come after them in the list.

Arp Sync

With Arp Sync on, the default, a voice whose arpeggio or sequence is on follows your DAW: Anamorph sets the voice's tempo to MIDI and gives the firmware 24 clocks to the quarter note at the DAW's tempo, lined up with its beats while the transport plays. The DAW's own MIDI clock is then ignored. Turn Arp Sync off and the voice's own tempo comes back.

> **NOTE**
> While Arp Sync drives a voice, its tempo reads MIDI, so the display shows it as edited. Turn Arp Sync off before you store the voice if you want to keep its own tempo.

When the transport stops

When your DAW's transport goes from play to stop, Anamorph sends the firmware *All Notes Off*, so that no held arpeggio, sequence or note goes on. A VST3 host would not send one by itself.

AUTO level



AUTO on: the voice gets +8.8 dB.

The original's factory voices are far from even: some are made quiet, others loud, more than 20 dB apart. With AUTO on, the default, Anamorph plays every voice at the same loudness, so that you can change voices live without reaching for the volume.

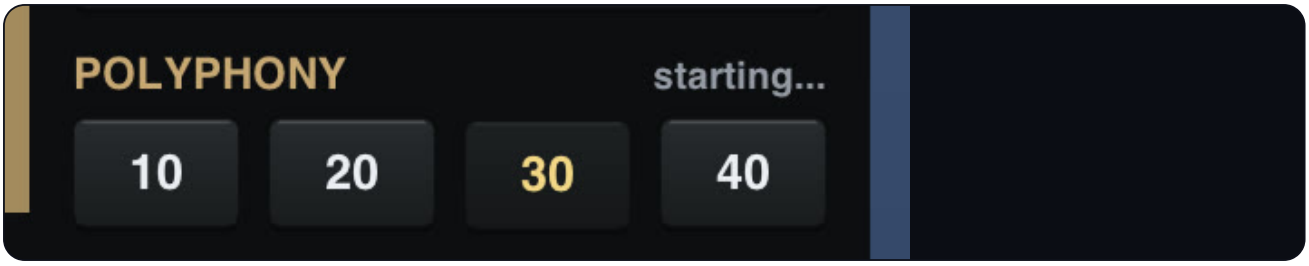
Each voice's level is measured on a reference chord, C4, E4 and G4 at velocity 100 held for two seconds, with its effects, the way a loudness meter does, and gets the gain that brings it to −18.2 LUFS. The gain shows under Output: AUTO +8.8.

- **The factory voices** are known in advance. Any other voice, from your banks, stored after editing or imported, is measured in the background the first time it plays, in about a second; meanwhile the gain before stays, and Output shows dots. A voice is recognised by its content, so a factory voice moved to another number or renamed keeps its level.
- **The gain is set when the voice changes** and stays while it plays. Anamorph does not ride the gain, and your edits while a voice plays do not change it.
- **Output becomes your correction** for the voice that plays: turn it up 2 dB and that voice is 2 dB louder every time you select it. Corrections are remembered and shared by every instance.
- **A limiter** at −1 dBFS, with no latency, guards the output while AUTO is on. It acts only on resonant voices and big chords at full velocity.
- **AUTO off** gives Output back the value it had without AUTO, and Anamorph sounds exactly as the firmware's levels make it.

> **NOTE**
> On the original, a voice's level can depend on the voice played before it: its LFOs run freely, and a voice change leaves traces in the sound chips. AUTO measures each voice in one such context, so a few voices can come out a decibel or more away from the target after another voice.

Polyphony

The original plays ten notes. With 20, 30 or 40 under **Polyphony**, Anamorph runs two, three or four whole instruments side by side, with the same memory and settings, as if you had linked several of them.



The machines added power on in about a second; the first one plays on.

- Each note goes to the instrument with the fewest notes held, so that releases ring on as long as they can.
- Knobs, controllers, voice changes, edits and the morph go to every instrument.
- **Voices with their arpeggio or sequence on, or with a scene in Mono or Legato, stay at ten voices**, since the arpeggiator, the sequencer and a mono line must see every key. That is 59 of the 128 factory voices.
- LFOs that run freely are not in step from one instrument to the next, and a layer pan of Alt alternates on each one by itself.
- Each instrument costs as much processor as the first one, whether it plays or not, and the added ones run on other cores: see below. The project keeps the setting.

Processor use

The emulated instrument runs all the time, as the hardware does, so an instance takes its share of a processor core whether notes play or not. On an Apple M4, at 48 kHz, one instance at ten voices takes about 6% of one core; at 20, 30 and 40 voices about 1.9, 2.8 and 3.8 times that.

At 20, 30 or 40 voices the added instruments run on other cores than your DAW's audio thread, so at 40 voices that thread has roughly half the work it would have alone. In all, the computer works a little more, since the cores wait for one another at each block. When the other cores are too busy with other work to keep up, Anamorph runs the added instruments in turn on the DAW's thread for a few seconds, as version 1.0 did, then tries again. The sound is the same either way, sample for sample.

A voice change costs more for a few milliseconds, while the firmware rewrites its sound programs. On a busy computer, with buffers of 128 samples or less, that can click at the moment of the change. Buffers of 256 or 512 samples avoid it.

What the project keeps

When you save your project, Anamorph saves the whole instrument with it: the 128 voices in memory, the system settings, the voice that plays with its edits, and also the parameters above, your MIDI learn and AUTO's levels and corrections for its voices. Reopening the project brings all of it back, whatever your default memory or your library hold.

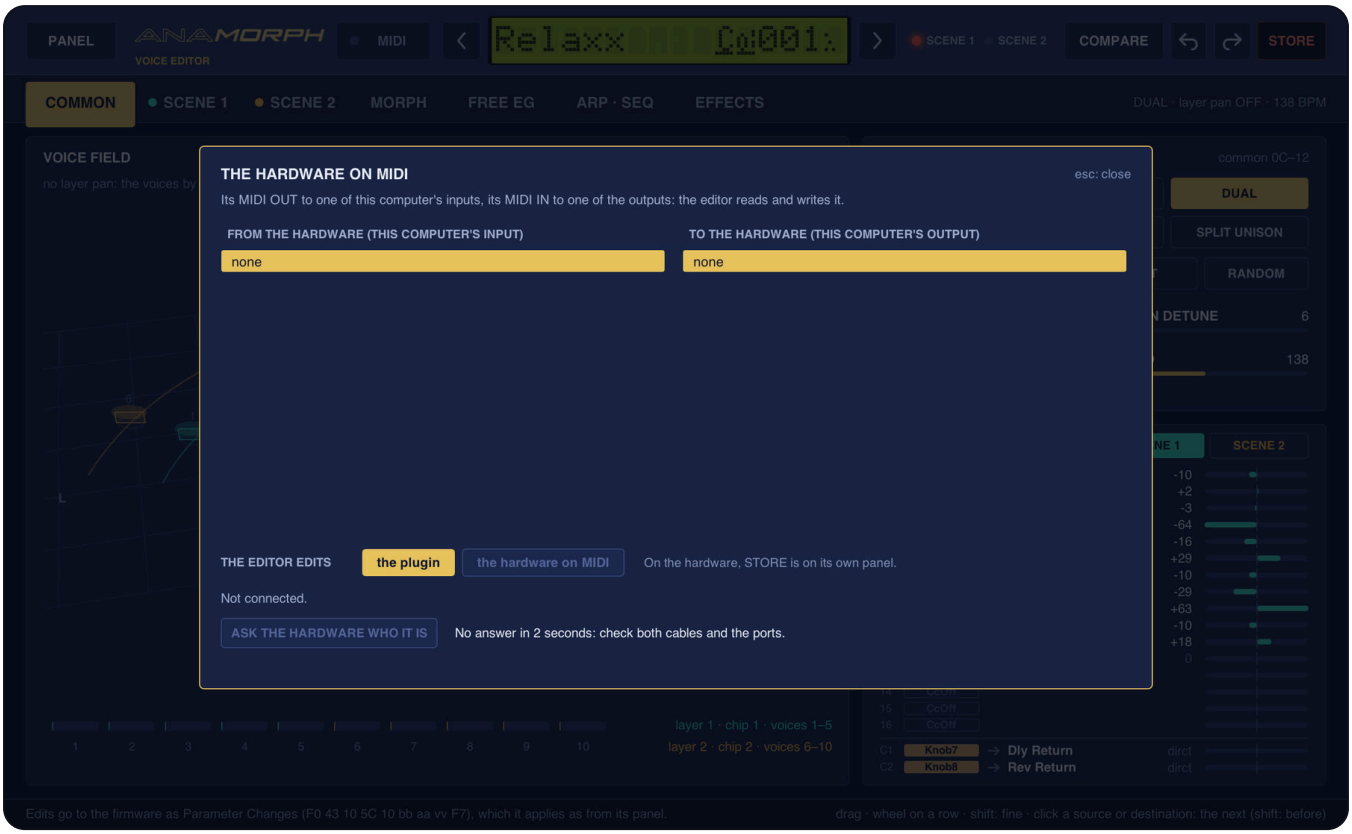
Some settings are yours rather than a project's, and live in the data folder (chapter 3): the panel size, the display colours and the MIDI ports of the hardware (`ui.settings`); the MIDI learn new instances start with (`midi.settings`); the default memory (`memory.nvram`); the library (`library` and `library.settings`); and AUTO's levels and corrections (`levels.settings`).

Editing the hardware

If you own a morphing analog, Anamorph's voice editor can edit it too. This works on macOS for now.

CAREFUL

This feature has so far been tried against an emulated instrument on the same computer, not yet with the hardware and a MIDI interface. If you try it with yours, please tell us how it goes.



The **MIDI** window. Your computer's MIDI ports are listed under the two headings.

1. **Connect it.**
   The instrument's MIDI OUT goes to one of your computer's MIDI inputs, its MIDI IN to one of the outputs. Its Device No. (SYSTEM row) must be `all` or 1.

2. **Choose the ports.**
   In the editor, click MIDI in the header. Click the input under FROM THE HARDWARE and the output under TO THE HARDWARE; the dot on the MIDI key lights when both are open. ASK THE HARDWARE WHO IT IS checks the connection and shows its answer.

3. **Switch the editor to it.**
   Under THE EDITOR EDITS, click the second choice, THE HARDWARE ON MIDI. The MIDI key turns gold and reads HARDWARE, and the header's display shows its voice; its number appears once a program change has said it.

4. **Edit.**
   Every change goes to the instrument. The editor reads its voice from the instrument's own dumps, in about 0.7 s, when you start, after a voice change and after your edits; what you change on its own panel comes back into the editor. < and > select voices on the instrument.

5. **Store on the hardware.**
   The editor does not write the instrument's memory: use its own STORE.

6 **Come back.**

Under THE EDITOR EDITS, click the first choice, THE PLUGIN: the editor edits Anamorph again, and Anamorph's own voice returns. The ports are remembered.

- Meanwhile Anamorph plays a copy of the instrument's voice, so your DAW can play the same sound.
- A drawn Free EG track goes to the instrument when you finish the stroke, as the whole common part of the voice: the instrument takes it as a new voice, stops held notes and shows `Received Bulk`.
- On the Morph page the slider sends the instrument's SCENE controller. MIDI learn is not offered there.
- Anamorph opens these ports itself, so your DAW does not need to pass SysEx.

APPENDIX A

THE FACTORY VOICES

The 128 voices of the original's factory set, which Anamorph starts with. **M** marks the voices that play in Scene Ctrl, **A** those with the arpeggio on, **S** those with the step sequence on.

001–016

001 Relaxx **A**
002 Terraform **MS**
003 Celluloid
004 MajorBrass
005 Soar **MA**
006 Hardcore **S**
007 Uni-Bass **S**
008 MegaDrone
009 SyncLead
010 Legato
011 Alan **MS**
012 Mini **S**
013 Chemical
014 SyncSweep **M**
015 Caner **M**
016 MorphEP **M**

017–032

017 Doves **MS**
018 BPF Morph **MS**
019 Seismic **S**
020 Earth **A**
021 Vinnie **A**
022 Detroit **A**
023 Plastik **S**
024 ChinaTech **S**
025 Silence
026 Dog Bass
027 Slum
028 Loud
029 MiniLow
030 Kickbass **M**
031 Sub Sub
032 Hardstep

033–048

033 Wonder
034 Duck Bass
035 Prophetic
036 Harmosync **S**
037 Kangaroo **S**
038 Acid 1 **S**
039 Acid 2 **S**
040 Acid 3 **S**
041 Soft Brass
042 Hard Brass
043 Bronze
044 Fatty
045 Quincy
046 CS80 Brass
047 Tangiers
048 Brassmorph **M**

049–064

049 Analog
050 Lush
051 Chocolate
052 Stringz
053 String Pad
054 Billy
055 Fetish **M**
056 P-5 Compy
057 Stakka
058 Dust
059 WarmPoly
060 Rhubarb
061 Susy
062 OB-8
063 Lucky
064 Earth Lead

065–080

065 HardSync
066 Chick
067 Stevie
068 Floyd75
069 Synchromes
070 High Sweep **M**
071 Ice Pad
072 Sprinkler **A**
073 GreatMorph **M**
074 Church Bel **A**
075 Deep Blue
076 Da Padd
077 Water Pad **M**
078 Night Sky **M**
079 Oberweich **M**
080 PolyTen **M**

081–096

081 PortPad
082 Sacred
083 Sweep&S/H **M**
084 Slip
085 Polyswell **M**
086 Padbells
087 DX E.Piano
088 Condenser
089 WhitneyEP
090 DrawbrOrgn
091 16+2.2/3 **M**
092 Garage
093 House
094 Pipes
095 Hi Q Reso **M**
096 Koan

097–112

097 Woob
098 WelcomBk **M**
099 Magic
100 Hypno **S**
101 Soundtrack
102 Morphyum **M**
103 WindString **A**
104 Vangelizm **A**
105 Chandelier **A**
106 FreeEGRthm **A**
107 Heaven **A**
108 Mars
109 Porpoise **M**
110 Jack
111 Microdot
112 Polaris

113–128

113 RhythmCity **A**
114 CyberBag
115 CyberClock **A**
116 Flutter **M**
117 Industrial **MS**
118 Moment
119 We All Die **S**
120 Cactus **S**
121 Overdrive **MS**
122 Omega **MS**
123 Csus4 **S**
124 TekkLine **S**
125 Highway **MA**
126 Saturn **MA**
127 Poptart **S**
128 VirtlScene **MS**

APPENDIX B

KNOWN LIMITS

- **The effects** are rebuilt from their parameters, not computed by the original's own effect chip, whose program is not known. They can differ in detail from the hardware.
- **Levels** are calibrated on the factory set, not measured on the hardware. The VCA feedback is set lower than the original's sound program says, since at full strength voices with much feedback burst at the attack. Voices 3, 4, 8 and 9 of the ten come out about 3 dB under the others.
- **Sync, FM, pulse width modulation and VCO 2** have not been compared with the hardware yet, so some factory voices may sound different from the original.
- Which side of the stereo field the **layer pan** starts on is a guess.
- **Polyphony** above ten does not apply to voices with their arpeggio or sequence on, or with a Mono or Legato scene.
- **Polyphony on several cores** has been measured on a Mac with a test host, not yet in a DAW, and has not run yet on Windows and Linux.
- Anamorph has **no MIDI output**: what the firmware sends goes nowhere.
- Your DAW shows the **factory names** for the Voice parameter and the programs, whatever bank the memory holds; the panel's list has the right ones.
- **Importing** leaves out system settings and step sequencer patterns; exports hold voices only.
- **Editing the hardware** works on macOS only and has not been tried with the hardware itself yet.
- **On a Mac** the AU passes Apple's validation (`auval`), also out of process and under Rosetta, but has not been tried in Logic Pro or GarageBand yet. In a sandboxed DAW, Anamorph reads its ROMs and library from your user folder when the DAW lets it; otherwise it looks in the DAW's own container.
- **Windows and Linux** are built and checked automatically, but not yet tried in a DAW with sound. The Intel side of the Mac version has run only under Rosetta on an Apple Silicon Mac, not on an Intel Mac.

APPENDIX C

TROUBLESHOOTING

No sound

- If the ROM panel shows, or the group block reads ROMS MISSING, give Anamorph the firmware and the mask ROM: see Loading your ROMs.
- Watch the MIDI LED by the display: if it does not flash when you play, your DAW is not sending to Anamorph's track.
- Check Volume and Output on the panel.

macOS says the plugin is damaged or cannot be opened

It was installed by hand from a browser download: remove the quarantine as shown in Installing by hand, or install with DDS Hub.

My DAW does not list Anamorph (Windows)

Your DAW may not look in the user folders. Add the folder in its settings, or install into the system folder.

Studio One lists Anamorph but does not load it (Windows)

Anamorph has changed folder, for example when DDS Hub moved it to the folder for all users, and Studio One still remembers the old one. In Studio One's Plug-In Manager, choose REMOVE PLUG-IN SETTINGS, confirm and restart Studio One; updating the plug-in list is not enough. Studio One then scans all your plugins again, which takes a few minutes; your favourites and folders stay. If another plugin stalls the scan, SKIP leaves that plugin out until the next full scan.

An arpeggio or sequence goes on after I let go

The voice has Hold on, as 24 factory voices do. Set HOLD IN THE PLUGIN to ALWAYS OFF (chapter 13), or stop the transport.

The arpeggio does not play at the voice's tempo

Arp Sync is on and follows your DAW. Turn it off for the voice's own tempo.

Fewer notes sound than I expect

UNISON, DUAL and the SPLIT modes use two voices per note; a scene in Mono or Legato plays one note. Polyphony above ten does not help voices with an arpeggio, a sequence or a mono scene.

Program changes do nothing

VST3 passes none to plugins. Use the Voice parameter, the panel or the voice list.

My edits are gone

Selecting another voice discards the edit buffer. Store voices you want to keep. A saved project keeps the edits of the voice that played.

The mod wheel does not do what it did

In Scene Ctrl the mod wheel morphs between the scenes, and its own routings rest. In scene 1 or 2 it is the mod wheel again.

Notes stop when I press a scene key

In SINGLE and UNISON a change of scene reloads the voices; the original does the same.

Clicks when I change voices

Raise your DAW's buffer to 256 or 512 samples, or use less polyphony.

A voice's level jumps a moment after I select it

AUTO is measuring a voice it does not know yet. It takes about a second, once.

The display's letters look different from the hardware's

The LCD character ROM is not loaded: right-click the display, choose ROMS... and add it.

The MIDI window lists no ports

Editing the hardware works on macOS only for now.

Anamorph is made by Digital Dream Synths. The instrument that inspired this plugin is not named in this manual: its name is a trademark of its owner. Digital Dream Synths is not affiliated with, endorsed or sponsored by any instrument maker.

This manual follows the order of the original's own owner's manual, but it is written for Anamorph, from Anamorph's own behaviour, and its pictures are Anamorph's own. Like the plugins, it was written with the help of AI. Anamorph 1.1, October 2026.