

USER MANUAL

_ASTROLAB

ARTURIA

_The sound explorers

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In memory of our late colleague Markus Bollinger, for his decisive role in the first stages of development of AstroLab, and above all his unfailing kindness.

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Foreword

Dear Sound Explorer,

In front of you is an instrument that represents many things.

An instrument that is the culmination of over 20 years of passion, innovation, and commitment to the pursuit of unhindered musical exploration. AstroLab encapsulates everything we've ever wanted to achieve; the seamless fusion of software and hardware, the magic of finding the perfect sound, the feeling of absolute creative freedom.

An instrument that is a manifestation of everything we feel is missing from performance-oriented keyboards. More than the sum of its parts, AstroLab embraces technologies that are fundamental to the betterment of our daily lives, but haven't yet been fully utilized to creative advantages; mobile app integration, workflow-focused software, the power of thoughtful & simple design.

An instrument that finally offers freedom for performers and producers to command their sound in ways they've always wanted to. AstroLab answers the need for an authentic, spontaneous, experiential tool that creates a fluid continuum between stage and studio - like the humble compass, a simple and powerful tool you can always rely on.

So, fellow Sound Explorer, we couldn't be more proud and grateful that you've chosen AstroLab to help you navigate your creative journey. May it inspire you for many years to come.

Frédéric Brun - *Founder and CEO*

Thank you for purchasing the AstroLab!

This manual covers the features and operation of Arturia's AstroLab, another powerful and user friendly instrument from your favorite synthesizer manufacturer.

Be sure to register your product as soon as possible!

When you purchased AstroLab you were sent a serial number and an unlock code by e-mail. These are required during the online registration process.

Special Messages

Specifications Subject to Change

The information contained in this manual is believed to be correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications without notice or obligation to update the hardware that has been purchased.

IMPORTANT!

The synthesizer, when used in combination with an amplifier, headphones, or speakers, may be able to produce sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high level or at a level that is uncomfortable.

If you encounter any hearing loss or ringing in the ears, you should consult an audiologist.

EPILEPSY WARNING – Please Read Before Using AstroLab

Some people are susceptible to epileptic seizures or loss of consciousness when exposed to certain flashing lights or light patterns in everyday life. This may happen even if the person has no medical history of epilepsy or has never had any epileptic seizures. If you, or anyone in your family, has ever had symptoms related to epilepsy (seizures or loss of consciousness) when exposed to flashing lights, consult your doctor prior to using this AstroLab.

Discontinue use and consult your doctor immediately if you experience any of the following symptoms while using this software: dizziness, blurred vision, eye or muscle twitches, loss of consciousness, disorientation, or any involuntary movement or convulsion.

Precautions to Take During Use

- Do not stand too close to the screen.
- Sit a good distance away from the screen.
- Avoid using if you are tired or have not had much sleep.
- Make sure that the room is well lit.
- Rest for at least 10 to 15 minutes per hour of use.

Important Safety Instructions and Recommendations

PRECAUTIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. Read and understand all the instructions.
2. Always follow the instructions on the device.
3. Before cleaning the device, always remove the USB and DC cable. When cleaning, use a soft and dry cloth. Do not use gasoline, alcohol, acetone, turpentine or any other organic solutions; do not use a liquid cleaner, spray or cloth that's too wet.
4. Do not use the device near water or moisture, such as a bathtub, sink, swimming pool or similar place.
5. Do not place the device in an unstable position where it might accidentally fall over.
6. Do not place heavy objects on the device. Do not block openings or vents of the device; these locations are used for air circulation to prevent the device from overheating. Do not place the device near a heat vent at any location with poor air circulation.
7. Do not open or insert anything into the device that may cause a fire or electrical shock.
8. Do not spill any kind of liquid onto the device.
9. Always take the device to a qualified service center. You will invalidate your warranty if you open and remove the cover, and improper assembly may cause electrical shock or other malfunctions.
10. Do not use the device with thunder and lightning present; it may cause electrical shock.
11. Do not expose the device to hot sunlight.
12. Do not use the device when there is a gas leak nearby.
13. Arturia is not responsible for any damage or data loss caused by improper operation of the device.
14. Under the environment with electrostatic discharge, the sample may malfunction and need user reset to recover.

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Important: The product and its software, when used in combination with an amplifier, headphones or speakers, may be able to produce sound levels that could cause permanent hearing loss.

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1. WELCOME TO ASTROLAB

AstroLab is one of the most transformative musical instruments Arturia has ever created. The dream of combining the flexibility of software instruments with the reliability of hardware is finally a reality.



Since virtual instruments were first introduced, a Holy Grail for keyboardists, producers, and synthesizer enthusiasts has been a hardware synth that can play them without the need for a computer, thus harnessing their diversity, sound quality, and power. This is exactly what AstroLab does.

1.1. What Is AstroLab?

In a nutshell, AstroLab is a hardware version of our [Analog Lab](#) software, which in turn gathers a plethora of Presets from all of the more than 30 instruments across our renowned [V Collection](#) anthology of the most desirable vintage synthesizers and keyboards in the world. You can do almost anything on AstroLab that you can in Analog Lab – which, by the way, is included.

AstroLab stands alone as a flexible and powerful keyboard instrument, letting you split or layer two instruments, add effects, and more. Analog synths, digital synths, samplers, classic organs, and electric pianos are all present and running on powerful DSP optimized to ensure the best performance possible. Like Analog Lab, AstroLab doesn't settle for one-size-fits-all technology but instead uses the best synthesis method for the type of sound being played, such as our True Analog Emulation for analog synths, physical modeling for acoustic and electric pianos, and more.



A manual dedicated to the integration between AstroLab and Analog Lab is available on our [website](#). Please check it out !

1.1.1. AstroLab Instruments

The sounds of AstroLab were taken from these essential V Collection instruments:

- ARP 2600 V3
- Augmented Piano
- Augmented Strings
- Augmented Voices
- B-3 V2
- Buchla Easel V
- Clavinet V
- CMI V
- CS-80 V4
- CZ V
- DX7 V
- Emulator II V
- Farfisa V
- Jun-6 V
- Jup-8 V4
- Korg MS-20 V
- Matrix-12 V2
- Mellotron V
- Mini V3
- Modular V3
- OP-Xa V
- Piano V3
- Pigments
- Prophet-5 V
- Prophet-VS V
- SEM V2
- Solina V2
- SQ80 V
- Stage-73 V2
- Synclavier V
- Synthi V
- Vocoder V
- Vox Continental V2
- Wurli V2

AstroLab thus embodies the infinite soundscape of V Collection in a single, portable, and affordable keyboard. It is therefore ideal as the heart of a studio or live gig rig, or as a powerhouse addition to the setup you already have.


1.2. Use Cases for AstroLab

We designed AstroLab for a wide variety of musicians and use cases. Here are some examples of its benefits for both live performance and recording.

1.2.1. On Stage

Mac and PC laptops have become far more reliable than they were at the dawn of software instruments, but a live gig can still be a challenging place for one. There's the audio interface and associated power supplies to think about. And the extra cables. And so on.

With AstroLab, you can use the included Analog Lab software to set up sounds, effects, controller assignments, and set lists for your gigs from the comfort of your studio computer. Then, easily sync everything into AstroLab via its USB-C or Wi-Fi connection and leave the computer at home.

 If you own full versions of any V-Collection instruments, you may know that you can open them up and assign parameters within them to Macros in Analog Lab. Settings like these transfer to AstroLab seamlessly.

If you'd rather explore sounds right from the hardware, the unique Screen Encoder – a circular high-resolution display surrounded by a control ring – plus the Preset Type buttons, make it quick and intuitive to do so.

1.2.2. In the Studio

Since AstroLab can mirror what's going on in Analog Lab, it offers true zero-latency monitoring for recording sessions. Here's how it works. The keyboard player monitors the output of AstroLab while overdubbing. Meanwhile, AstroLab sends MIDI to an identical Preset in Analog Lab, which lives on a virtual instrument track in the DAW. This way, the project's sample buffer size can be set as high as needed for the session to run smoothly while the keyboardist hears and plays in perfect sync with the DAW playback.

Monitoring without latency could also be achieved using a hardware synth, but once it's recorded as audio, any changes would need to be *re-recorded* as audio. Here, what's getting recorded in the DAW is MIDI data for Analog Lab, which can then be freely edited and transposed. You enjoy the zero latency of hardware plus the editability a soft synth – the best of both worlds.

1.2.3. Both Stage and Studio

AstroLab's method of selecting Presets, effects, and individual instruments makes it easy to come up with sounds on the fly. For example, if you spontaneously want to hear a chorus on a vintage electric piano, a phaser on an analog string machine, or a trippy delay on a synth lead, the result is only seconds away.

In other words, AstroLab provides seamless transition between three stages of music production: preparing sounds and creating original presets on the computer, performing or recording on the hardware, then fine-tuning and editing back on the computer.

1.3. Some Historical Context

We believe AstroLab is the first instrument that truly delivers on the promise of software instruments embedded in hardware. However, there have been many synths that were created in the same spirit. Here are just four examples, including one of our own.

1.3.1. PPG Realizer [1986]



Wolfgang Palm's PPG Realizer

German innovator Wolfgang Palm's company PPG lay claim to the first hardware synth meant to run emulations of other synths, complete with graphics and multiple synthesis methods including analog modeling, FM, wavetables, and sampling. An image of a synth such as a "Mini" appeared in the central screen, with the surrounding hardware knobs controlling the onscreen knobs. Its cost of \$65,000 prevented it from being a market success.

1.3.2. Open Labs NeKo [2003]



Open Labs NeKo 64

One way to take all the benefits of software onstage was to simply build a keyboard instrument around the computer! The NeKo had a powerful Windows PC at its core and featured an integrated touchscreen, knobs and sliders, drum pads, sequencer controls, QWERTY keyboard, and audio interface. It even had its own host software to stack and split virtual instruments, called Karsyn. At the peak of its popularity, Morris Hayes played one in Prince's band.

1.3.3. Use Audio Plugiator [2008]



Use Audio Plugiator

This affordable (\$500) DSP box provided authentic keyboard emulations while taking some load off the computer's CPU; the plug-in interfaces appeared onscreen while Plugiator did the heavy lifting. It inherited its plug-in DNA from a company called Creamware, whose Pulsar and Scope computer cards earned a cult following in the late 1990s. Analog synths, tonewheel organs, and wavetable synths were among the plug-ins it offered. It could only run one plug-in at a time, but the sound quality was excellent.

1.3.4. Arturia Origin (2009)



Arturia Origin

Available in desktop and keyboard versions, our own Origin cast our TAE technology in hardware using plug-in-like templates. You could mix and match modules from different templates, like a Mini oscillator with a Jupiter filter or vice versa. It also had its own synthesizer personality, an edit rack for virtual modular synthesis, a sequencer/arpeggiator, and many more features. The keyboard version featured a ribbon controller. Origins are still in use and sought after today.

1.4. AstroLab Features

The main features of AstroLab are:

- Over 1,000 built-in sounds across all types of synths and keyboards (pianos, electric pianos, organs, synths, string machines, samplers, and more).
- Over 7,000 free sounds available through Analog Lab and the Arturia Sound Store.
- Semi-weighted keys with velocity and aftertouch.
- Instrument section with two selectable parts, allowing you to split or layer different instruments (or two instances of the same one) across the keyboard.
- Two insert effects with 12 effect choices each.
- Dedicated Delays and Reverbs on sends.
- Stereo XLR combo jacks lets you process external audio (mic, line, or instrument level signals) through applicable AstroLab instruments, such as Vocoder V.
- Unique Color Screen Encoder to make browsing Presets, Instruments, and Effects quick and easy.
- Eight 360-degree encoder knobs with LED position rings.
- Macros (Brightness, Timbre, Time, and Movement) let you control multiple parameters with a single knob twist.
- Quick-access Type buttons to store, recall, and navigate sounds.
- Smooth Preset transition ensures that sustained notes are not cut off when switching sounds.
- Arpeggiator and Looper with chord mode and scale quantizer.
- Playlists and Songs let you organize Presets in any order, then step through them in sequence.
- Multi-color LEDs above the keys indicate split points and notes played on the keyboard and by the Arpeggiator.
- Powered USB-A port for external storage or playing AstroLab from a MIDI controller.
- USB-C port for connecting a computer, smartphone, or tablet.
- 5-pin MIDI in and out.
- Wi-Fi and Bluetooth connectivity.
- Four control pedal inputs: Expression, Sustain, Aux 1, and Aux 2.
- Balanced 1/4" TRS outputs.

1.5. Register your AstroLab Hardware

Registering your AstroLab unit will ensure you are first in line for things like firmware updates, new banks of Presets, and more.

To do so, simply follow the steps displayed on the AstroLab screen when turning it on for the first time. You'll be able to register it using the dedicated mobile app: AstroLab Connect.

You can also register it through our website:

- Log in to your [My Arturia account](#).
- Click on "+ Register New Product".
- Enter the Serial Number and Unlock Code found on the registration card included with your instrument, and/or a sticker on the underside of the unit.
- Click 'Register' and enter the information as prompted.

Your AstroLab is now registered !

2. HARDWARE OVERVIEW

This chapter describes the physical hardware and I/O of AstroLab and gives brief descriptions of what each control does. We will learn how to use them to get musical results in upcoming chapters.

2.1. Specifications


2.1.1. Physical specifications

Product measurements	
Dimensions	935x327x99mm
Weight	10kg

2.1.2. Electrical specifications

Power source	
Type of power supply	Switching Mode Power Supply

INPUT: 100V-240V~50/60Hz 1A

OUTPUT: 12.0V  3.0A 36.0W Max

2.2. Front Panel, Left Side



Many front panel controls have an alternate function if pressed while you hold the **Shift** button, as described in the tables below.

Number	Control	Main Function	Shift Function
1	Pitch-Bend Wheel	Bends pitch up or down, spring-loaded	N/A
2	Modulation Wheel	Adds modulation to a sound with LED strip to show current position	N/A
3	Octave Shift buttons	Shifts the overall octave up or down	Transposes the keyboard up or down in semitones
4	Arpeggiator button	Turns the Arpeggiator [p.50] on and off	Toggles Hold mode
5	Chord button	Turns Chord mode [p.51] on and off	Toggles Scale Mode [p.52]
6	Looper Play button	Plays and stops the MIDI Looper [p.49]	Opens the Tempo menu or enters tap tempo if pressed repeatedly
7	Looper Record button	Starts/stops recording of a MIDI loop	Toggles Metronome on/off
8	Screen encoder [p.14]	Displays and navigates Presets, Instruments, Effects, and all settings	Edits Presets or shows sound sub-categories

Number	Control	Main Function	Shift Function
9	Back button	Returns to the previous screen	Goes to the Home Screen
10	Previous/Next buttons	Loads the previous or next preset in the current list	N/A
11	Shift button	Hold to access alternate functions labeled in gray on the panel	N/A

2.3. Front Panel, Right Side



Number	Control	Main Function	Shift Function
12	Part Select buttons	Select a part to control on a Multi [p.27] Preset or add a Part to a Single preset	Change one part while keeping the other
13	Split button	Turns keyboard split on and off	Access Part settings
14	Macro knobs (4)	Edit multiple aspects of the instrument's sound in 4 categories L to R: Brightness, Timbre, Time, Movement	L to R: Part Volume, Bass, Mid, Treble EQ
15	FX A and B knobs	Adjust dry/wet mix of the selected Insert FX [p.35]	Adjust Intensity (parameter varies with FX type)

Number	Control	Main Function	Shift Function
16	Delay and Reverb knobs	Adjust the send level of the Send Effects [p.34]	Adjust Delay time and Reverb decay or size
17	Preset Type buttons (9)	Quickly access Presets by instrument type	N/A
18	Playlist button	Loads the current Playlist	Save the current Preset
19	FX buttons	Toggle Insert Effects on or off	Edit the effect
20	Delay and Reverb button	Toggle Delay on or off	Edit the Delay or Reverb
21	Master Volume	Sets the volume of AstroLab's main outputs	N/A

2.3.1. Screen Encoder Operation

AstroLab's powerful Screen Encoder is a button, knob, and display all in one. It provides intuitive browsing and editing of Presets, Instruments, Effects, and most other settings in the instrument.

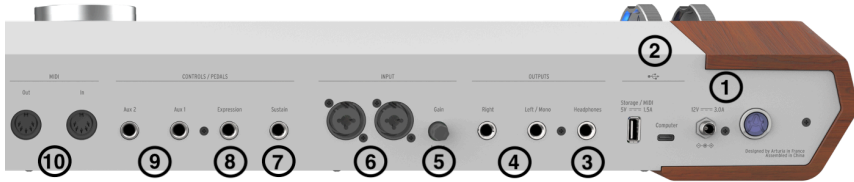


Operating the Screen Encoder is simple.

- **Turn** the collar around the display to scroll through the available options.
- **Press** down on the encoder to select an option.
- **Shift + press** or **long-press** the encoder to [edit a Preset \[p.27\]](#).

2.4. Rear Panel

AstroLab offers a professional-grade complement of I/O as follows.



Number	Jack	What It Does
1	Power switch and connector	Turns AstroLab on and off (long-press for off); accepts the included international power adaptor.
2	USB connectors	USB-A port for connecting storage; USB-C for computer connection.
3	Headphone output	Connects to stereo headphones; responds to Master Volume knob.
4	Main outputs	Provides balanced output at line-level.
5	Input gain knob	Adjusts gain for the audio inputs.
6	Audio inputs	Balanced inputs receive external audio for mic, line, or instrument-level signals.
7	Sustain Pedal input	Accepts sustain pedal with TS connector.
8	Expression Pedal input	Accepts continuous pedal to control Preset volume or other assigned parameter.
9	Aux Pedal inputs	Accepts switch or continuous pedals to control assignable parameters.
10	MIDI In/Out	Connects to other devices via standard 5-pin MIDI cables.

Some helpful features of the rear panel are:

2.4.1. Force Shutdown

You can force a shutdown by holding the power button for at least five seconds.

2.4.2. Powered USB

The USB-A port provides 5-volt power at a maximum current of 1.5 amps. This is more than enough to power devices such as portable hard drives or SSDs or USB-powered MIDI controllers.

2.4.3. Mono Summing

If no audio cable is plugged into the Right Main output, the Left output will sum the entire signal to monaural.

2.4.4. Flexible Pedals

All the pedal inputs accept either switch pedals with TS connectors, or continuous pedals with TRS connectors.

2.5. The Keyboard



Last but not least, AstroLab's keyboard features piano-shaped, semi-weighted keys that sense both velocity and channel aftertouch. We designed it to hit a sweet spot between pianists who expect some resistance and synth/organ players who want to be able to move fast.

2.5.1. Keyboard LEDs

AstroLab has a multi-color LED for every note on the keyboard. These LEDs can display keyboard split points in a Multi Preset, or the notes played on the keyboard, or by the Arpeggiator/Looper.

You can choose in the Utility Settings whether to see the LEDs all the time, only when a split is active, or not at all.

AstroLab's keyboard can have 1 or 2 zones. The LEDs change color to indicate Parts:

- Green: Part 1
- Orange: Part 2

We cover this in more detail in the sections on [splitting the keyboard \[p.30\]](#) in upcoming chapters.

2.5.2. Panel LEDs

As you explore AstroLab's many sounds and features, you will find the panel LEDs have certain consistent behaviors. We summarize those here for reference.

- Fully lit: Active and in focus.
- Dim: Active but not in focus.
- On/Off Blink: Call to action, i.e., AstroLab is waiting for you to do something.
- Tempo Blink: Blinks every eighth-note for anything tempo-related (arpeggiator, real-time recorder, etc.).
- Faded blink: Shows what is in focus when editing.

3. BASIC OPERATIONS

3.1. Screen Navigation



There are 3 main screens in AstroLab. The easiest way to skip through them is by pressing the **Back** button repeatedly. This will take you through Preset Screen -> Filter Screen -> Home Screen -> Preset Screen -> Filter Screen, and so on.

3.1.1. Preset Screen

When you first power AstroLab on, the round screen encoder will display the last Preset selected before shutdown. Here, the name of the current preset is shown plus a descriptive illustration.



3.1.2. Filter Screen

On the Filter screen, all Presets are listed by Type. This categorization differs from the way Presets are sorted by the 12 Preset type buttons on the front panel.

In the Filter screen, the number of types is greater than on the front panel:

- Bass
- Keys
- Lead
- Pad
- Piano
- Electric Piano
- Organ

- Strings
- Brass & Winds
- Drums
- Sequence
- Vocal
- Sound Effects

3.1.3. Home Screen

When using AstroLab, you will most likely find yourself working from the Home screen. This is where you will be able to access the important operating modes and locate Presets in various ways.

3.2. Presets in AstroLab

The most obvious method to get familiar with the vast array of sounds in AstroLab, is to use the Preset Type buttons. Start by pressing a Type button, e.g. Strings. Turning the Screen Encoder will take you through the many presets within this group. You can also use the Previous/Next buttons to step through the presets.

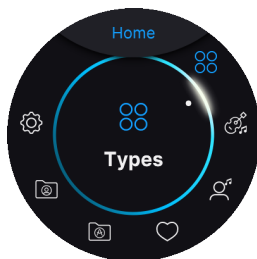
However, there are a number of different ways to browse sub-categories of Presets and get to the sounds you're looking for more quickly.

i A parameter called *Click To Load* in AstroLab's Settings menu affects how the Screen Encoder behaves here. If disabled, simply turning the Screen Encoder loads the next or previous Preset. If enabled, turning the Screen Encoder will show the next Preset in the display and you will then need to press the Encoder to load it. This is useful if you want to preview a Preset name before you commit to playing it. If you want to get back to standard behavior (where turning the knob immediately selects the next Preset), turn off *Click To Load*.

The Screen Encoder works much the same way for lists of other objects in AstroLab, such as settings, [Preset Types \[p.19\]](#), and anything else: turn to highlight, click inward to make active.

3.3. The Home Screen

The Home screen is the main menu of AstroLab. Here, you can access all of its operating modes. Hold **Shift** and press the **Back** button to bring it up.



Turn the Screen Encoder to highlight an item, then press the encoder to select it. Going clockwise, the icons are:

- **Types:** Displays a list of Preset [Types \[p.19\]](#) (Bass, Keys, etc.).
- **Instruments:** Displays a list of the Instrument models in AstroLab (and Analog Lab).
- **Artists:** Presets designed, curated, or inspired by specific artists.
- **Liked Presets:** Presets you have liked using the heart icon.
- **Sound Banks:** Lets you browse within banks of Presets you have created, imported or purchased as Collections from the Arturia Sound Store (from within Analog Lab).
- **Playlists:** Your Playlists can be found here.
- **Settings:** Global AstroLab settings, including Wi-Fi, Bluetooth, MIDI, Pedals, and Metronome.

3.4. Filtering Presets

From the Home screen, every selection except **Settings** is used to filter Presets, that is, narrow the list of choices according to criteria you're looking for.

3.4.1. Types

Types are categories of musical instruments, and may be browsed by selecting Types from the Home Screen as described above. Using the Screen Encoder, you can then browse and choose Presets within that Type.



The Types in AstroLab correspond to those in Analog Lab. Clockwise from 12 o'clock, they are:

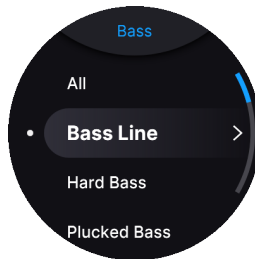
- Bass
- Keys
- Lead
- Pad
- Piano
- Electric Piano
- Organ
- Strings
- Brass & Winds
- Drums
- Sequence

- Vocal
- Sound Effects
- Custom

3.4.1.1. Subtypes

To help narrow your search for the perfect sound, Presets can be further divided into Subtypes. These cover further subdivisions of musical instruments like acoustic, electric, or synth bass.

Rotate the encoder to select a Type. Then, instead of pressing the encoder to select, *long-press* the Screen Encoder to display the Subtypes.



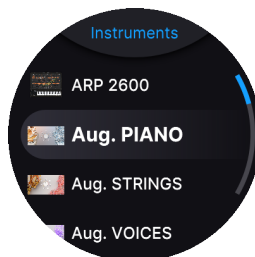
To select a Subtype, scroll the list and select by pressing the encoder.

By turning the encoder, you can scroll through all Presets that have been filtered by **Type** and **Subtype**.

3.4.2. Instruments

Instruments in AstroLab correspond to the software Instruments in Analog Lab. A Preset can consist of one or two Instruments plus effects. A **Single** is a Preset that contains one Instrument; a **Multi** is a Preset that contains two Instruments.

To browse Presets by Instrument, go to the Home screen. Turn the Screen Encoder and select the Instrument icon to bring up the menu of instruments:



Then, select an Instrument to display a list of Presets that use that Instrument.

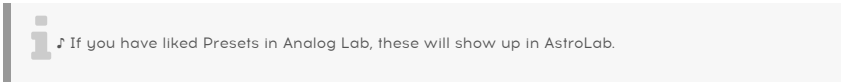
3.4.3. Artists

To filter Presets by the artists who originally created those sounds, go to the Home screen and select Artists.

These presets pay tribute to iconic recordings. The sounds here have been recreated to sound as closely as possible to well-known original songs. This allows you to do covers of those songs and/or get inspiration from the greats.

3.4.4. Liked Presets

Presets you have [liked \[p.29\]](#) using the heart icon can be found here.



3.4.5. Sound Banks

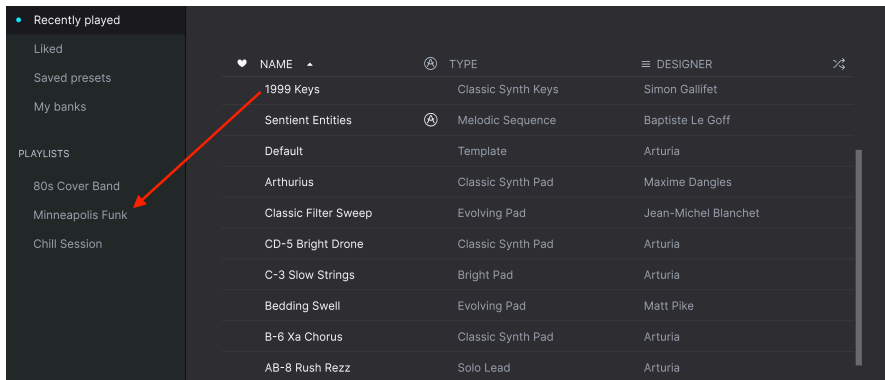
This menu lets you browse presets from within banks you have created, imported, or purchased from the Arturia Sound Store. They are further divided into subtypes:

- **Factory:** These are the original Presets that came with AstroLab.
- **User:** Presets created by you, the User.

3.4.6. Playlists

Playlists are a powerful tool for organizing Presets, especially into set lists for live performance.

You may recall dragging Presets from a list of search results into a Playlist in Analog Lab, like so:



Playlists are then further organized into Songs, which in turn have Presets for each song. You can then send them into AstroLab, where they show up as Playlists with the same Songs and Presets. We cover this in detail in the chapter devoted to [Playlists \[p.45\]](#).

3.5. Filtering Shortcuts

You can browse Presets by category (Type, Instrument, My Library, or Sound Banks) without always going to the Home Screen. When in Preset Mode, simply press the Screen Encoder to see a list of Presets filtered by the currently selected category.

Also, If you're browsing by something other than Types, you can press one of the Preset Type buttons to add its filter to the results. For example, you could be looking all Presets that use the SEM V Instrument. Press **Strings** and you'll now see only SEM V Presets tagged Strings.

Long-pressing the button will let you select and add a Subtype.

3.6. Saving Presets

To save any changes you've made to a Preset (e.g., by turning the Macro or FX knobs), quickly press the **Shift** plus **Playlist** buttons. This will bring up a menu:

- **Save:** Use the same Preset name, thus over-writing the original Preset.
- **Save As:** Give your edited Preset a new name and keep the original Preset.



3.6.1. Quick Save

To save a Preset without changing the Type/Subtype, simply hold **Shift** plus **Playlist** until the screen displays "Saving Preset."

3.7. Entering and Editing Text

When editing the name of a Preset, Song, Playlist, or any object, a text editor appears on the Screen Encoder.



The cursor starts on the last character.

1. To move the cursor to another character, press the Arrow keys.
2. Now turn the Encoder to scroll through the characters for that position.
3. When you see the character you want, press the Arrow keys to go to another position.
4. To insert a space, long-press the Encoder.
5. To clear a character, turn the Encoder. Space is before **A** and after **'**.
6. Hold **Shift** and press **Save** to accept the text. From the next screen, choose **Save** or **Save As**.

 ! Pressing **Back** while in character selection mode will cancel editing and return to the previous screen.

Lowercase and uppercase alpha-numeric characters are all available for names, as well as parentheses, braces, brackets, the hyphen, the underscore, and the period. For entering a [WiFi password \[p.55\]](#) to connect to a local network, the following characters are also available:

~ ` ! @ # \$ % ^ & * () _ - + = [] { } / \ | ' " < > ? , .

3.7.1. The Settings page



Most of the general settings for AstroLab can be found under the Settings tab. Hold **Shift** and press **Back** to get to the Home page, where you will find the Settings tab.

3.7.1.1. General

- **Master Tune:** Click here to enter tuning mode. By rotating the encoder, you will be able to adjust to any tuning between 400 and 480 Hertz.
- **Transpose:** The range here is +/- 11 semitones. If you need to transpose further than that, please use the **Oct+ / Oct-** buttons.
- **Tempo (Internal):** The **MIDI Looper**, **Arpeggiator**, and **Delay** can be set to sync to the internal clock. Range is 30-240 BPM.
- **Tempo Sync Source:**
 - **Internal:** AstroLab uses its own master clock.
 - **USB:** AstroLab syncs to incoming MIDI clock over USB.
 - **MIDI:** AstroLab syncs to incoming MIDI clock over the 5-pin MIDI input.
 - **Auto:** If an incoming clock is detected, it takes priority over the internal clock. If multiple clocks are detected, they are prioritized in this order: USB > MIDI > Ableton Link.
- **LCD Contrast** Depending on light conditions, you may want to adjust the contrast of the LCD display.

3.7.1.2. Wi-Fi

AstroLab comes with Wi-Fi built in. This is the page where you can set Wi-Fi Mode and connect.

Using Wi-Fi, you can connect to your computer for direct interaction with Analog Lab. Of course, MIDI and Analog Lab communication also functions over USB (and MIDI over the 5-pin ports), but sometimes wireless communication is more convenient.

More details on how to use Wi-Fi can be found in the [Wireless Setup \[p.55\]](#) chapter.

3.7.1.3. Bluetooth

AstroLab also comes with Bluetooth built in. On this page you can turn Bluetooth on and off and pair with other devices.

Using Bluetooth, you can stream audio from such devices as smartphones, tablets, and computers through AstroLab.

More details on how to use Bluetooth can be found in the [Wireless Setup \[p.55\]](#) chapter.

3.7.1.4. MIDI In/Out

- **Part 1 Input Channel** After clicking the encoder, you can set the MIDI receive channel by rotating the wheel. Selecting **All** makes AstroLab listen to all MIDI channels.
- **Part 2 Input Channel** Same as above, but for Part 2. The two Parts in AstroLab can conveniently listen to separate channels, which is necessary when using Parts 1 and 2 as two separate presets.

- **MIDI Thru** Normally, AstroLab's MIDI Out sends MIDI information only from the instrument itself. However, with MIDI Thru activated, the MIDI notes received on the Input is also sent to the output (on the same channel), as well as notes played on AstroLab's keys. With MIDI Thru active, the MIDI Out connector acts as a combined MIDI Out/Thru port.
- **USB-MIDI** With this function active, MIDI information received via USB is transmitted to the MIDI Out connector.
- **MIDI Out Filter** These settings define what MIDI information is sent out from AstroLab's MIDI Out.
 - **Auto** If no MIDI clock is received in Auto mode, AstroLab uses its own clock. If a clock or MIDI transport command is received, it takes priority over the internal clock and tempo is calculated based on that external clock. If multiple clocks are detected, they are prioritized in this order: USB > MIDI > Ableton Link.
 - **Keyboard only** Only the notes played on the AstroLab keyboard are transmitted via MIDI Out.
 - **All Notes** Played notes, arpeggiated/sequenced notes, chords, and scale quantized notes (processed MIDI) are transmitted.



! If a microtonal scale is used, the MIDI notes are sent without the microtonal scaling.

3.7.1.5. Controls

- **Keyboard Velocity** Here you can set the overall velocity sensitivity of AstroLab's keyboard from Light to Medium to Heavy. Choose the setting that best suits your playing style.
- **Aftertouch Sensitivity** The desired amount of pressure needed to trigger aftertouch is highly individual. Adjust the level to best suit your playing style.
- **Keyboard LED's Mode** AstroLab has a multi-color LED for every note on the keyboard. These can display keyboard split points in a Multi Preset, or the notes played by the Arpeggiator/Looper. Here you can choose to see the LEDs all the time, only when a split is active, or not at all.

3.7.1.6. Pedals


- **Sustain** The most common use of the Sustain Pedal input is to connect a sustain pedal. However, that pedal can control anything else in the MIDI protocol with an on/off character, like Portamento (MIDI CC 65), Legato (MIDI CC 68) and many more.

This pedal can also perform other functions like Reverb/Delay/FX on/off, Tap Tempo, skip through presets etc.

To get back to standard operation of Sustain, set the value to MIDI CC 64.

- **Sustain Pedal Calibration** Sets the min and max value received from the pedal by pressing and depressing the pedal. This allows AstroLab to detect the polarity and the range of any type of on/off or continuous pedal.

- **Expression** When you connect a continuous controller pedal to the Expression Pedal input, you can decide what function it will perform. Expression (MIDI CC 11) is the default value, but you can set it to anything else, like Cutoff Frequency (MIDI CC 74), Modulation Wheel (MIDI CC 1) etc. or an AstroLab-specific function like Leslie Fast/Slow or Arpeggiator on/off, or anything else you find useful.
- **Expression Pedal Calibration** Sets the min and max value received from the pedal by pressing and depressing the pedal. This allows AstroLab to detect the polarity and the range of any type of on/off or continuous pedal.
- **Aux 1 and Aux 2** The two Aux sockets accept switch or continuous pedals. These two menus allow you to specify their specific functions, including MIDI CC and AstroLab jobs like Start Record or Play Song et cetera.
- **Aux 1 and 2 Pedal Calibration** Sets the min and max value received from the pedal by pressing and depressing the pedal. This allows AstroLab to detect the polarity and the range of any type of on/off or continuous pedal.
- **Metronome**
 - **Metronome** Use the Metronome to sync to a tempo when recording a Loop or an Arpeggio.
 - **Count Down** This is where you turn the Count Down to Loop Recording on and off.

 ! There's a nifty shortcut to Metronome On/Off. Simply press **Shift + Metronome** to turn on the Metronome. Press **Shift + Metronome** to turn it off again.

- **Update and Backup**
 - **Backup Playlist to USB Drive** You can select a Playlist and save it to a USB drive.
 - **Restore Backup from USB Drive** This function lets you import Playlists from a USB Drive.
- **Utility**
 - **Click To Load:** With Click To Load turned off (default setting), you simply turn the Screen Encoder to load the next or previous Preset. If enabled, turning the Screen Encoder will show the next Preset in the display and you will then need to press the Encoder to load it. This is useful if you want to preview a Preset before you commit to playing it.
 - **TickSound**
 - **Type Button Load**
 - **Show CPU:** With this function turned on, the current CPU load in AstroLab is shown at the bottom of the Encoder display.
 - **Show Polyphony:** All Instruments in AstroLab have their own specific maximum polyphony, based on their CPU requirements. With Show Polyphony turned on, the maximum number of notes *per part* is shown in the Preset display.
 - **Version:** The current version number of your AstroLab is shown here.

4. PRESET ARCHITECTURE AND EDITING

AstroLab comes packed with a minimum of 2,000 Presets curated from Analog Lab. If you've created your own or downloaded further Presets and Banks from the Arturia Sound store, that number can grow a lot larger.

An AstroLab Preset consists of:

- Either one or two [Parts \[p.28\]](#), each of which hosts an **Instrument**.
- Two **Insert Effects** per Preset.
- Send-based **Delay** per Preset.
- Send-based **Reverb** per Preset.
- Master EQ settings.

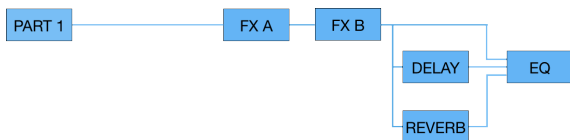
Settings for the following are also saved at the Preset level:

- Split points (if the Preset is a Multi and/or controls external zones).
- Scale
- Chord Mode
- Arpeggiator

The factory library includes classic sounds of each Instrument, must-have sounds for popular musical genres, Presets that layer or split two instruments, cinematic and moving soundscapes, and much more.

4.1. Single Presets

A Single Preset contains only one Instrument. Its signal flow looks like this:



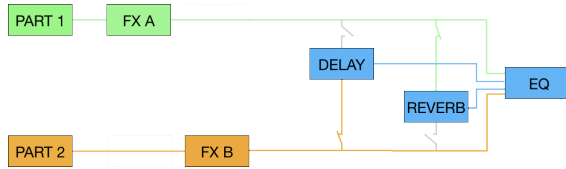
Part 1 hosts the Instrument, which feeds two insert Effects (FX-A and FX-B) routed in series. This means that the output of FX-A feeds the input of FX-B. The output of FX-B can then be sent independently to the Delay and Reverb effects. The outputs of FX-A and B, the Delay, and the Reverb then all feed the 3-band master EQ, the final output of which is controlled by AstroLab's master volume knob.



Note that even in a Single Preset, some AstroLab instruments have multi-timbral capabilities in their own right.

4.2. Multi Presets

A Multi Preset contains two Instruments, which may be split or layered. Its signal flow is as follows:



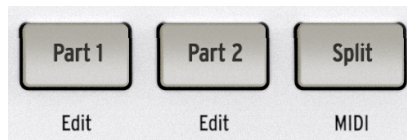
Parts 1 and 2 and their respective Instruments feed one insert effect or the other. The output of each insert effect can then be sent to the delay, reverb, or both. Four outputs are summed into the master EQ: Part 1 and its insert effect (pre delay and reverb), Part 2 and its insert effect (pre delay and reverb), Delay output, and Reverb output.

An important difference from a single Preset is that the parts have to share the two available insert effects.

- If Part 1 is using FX-A, then Part 2 only has FX-B available.
- If Part 1 is using FX-B, then Part 2 only has FX-A available.
- If either Part is using both FX-A and FX-B, then the remaining Part either gets none, or both can be routed through the same FX chain. See the [Effects \[p.34\]](#) chapter for more.


This limitation does not apply to the Delay and Reverb, as they are send-based, meaning you can send whatever amount (level) of either Part to both as you see fit.

4.2.1. The Part Buttons



The **Part 1** and **Part 2** buttons select which part in a Multi is affected when you perform other operations such as loading a Preset or turning the [Macro \[p.32\]](#) knobs. For now, it's most important to know how they affect loading a Preset.

- If neither Part 1 nor Part 2 is selected and you load a new Preset, the entire Preset is replaced. This means that a Single will override a Multi and Part 2's Instrument will disappear.
- If Part 1 or Part 2 is selected, only the Instrument for the selected Part will be replaced.
- Hold **Shift** and press the Part button to change only that part while keeping everything else about the Preset steady.

 The latter method is useful if, for example, you have a great synth bass locked down but are still searching for the right lead or pad to use with it in a Multi.

- You can **Remove** one Part in a Multi and turn the Preset into a Single Preset.
 - When in the Preset display mode, hold Shift while pressing one of the Part buttons.
 - Turning the encoder to Remove Part 1 (or 2) will remove that part and turn the Preset into a Single Preset.

4.2.2. Quickly Create a Multi

To keep Part 1 intact when a Single Preset is displayed, follow these steps:

- Hold **Shift** and press **Part 2**. Release Shift and press the **Encoder** to confirm selection of Part 2.
- Use the Screen Encoder to select and load a Preset. You may also press a Preset Type button and use the Screen Encoder to select Part 2. Press the encoder to confirm.

If the Part 2 Preset has effects, they are not loaded. Instead, Part 2 is routed by default to the Delay and Reverb (you can change this later).

4.2.3. Other Part Actions

With the current Part displayed, press **Shift** plus the relevant **Part** button to enter a brief menu of utility functions for Parts: Like, Save, Move, Delete, Keyboard Settings, and Info.

4.2.3.1. Like/Unlike Preset

As in Analog Lab, you can “Like” Presets. In AstroLab, they become available in the *Liked* section of the Library.

If a Preset has been liked, the heart symbol in the center of the screen will be filled. If not, the heart will be outlined.

4.2.3.2. Save Preset

This duplicates the **Save** button functions described in the previous chapter. You are given the choice to save the preset with its current name or a new name.

4.2.3.3. Add to Playlist

Clicking here adds the current Preset to a Playlist.

4.2.3.4. Delete Preset

Deletes the current Preset; prompts for “Are You Sure?” confirmation.



! Any Presets you've deleted in AstroLab will also be deleted in Analog Lab when you sync the two. Factory Presets will not be deleted.

4.2.3.5. Keyboard Settings

If your current Preset only has 1 Part, only the **Part 1** tab will be seen.

- **Part 1:** Here you can set the Low Note and High Note limits, MIDI input channel, and Octave and Semitone Transpose. There are also switches that let you decide if Part 1 will be affected by Pitch Bend, Mod Wheel, Aftertouch, Sustain and Expression Pedal or not.
- **Part 2:** Same as above, but for Part 2.
- **Inverse Split:** This option swaps the positions of Parts 1 and 2. Any keyboard split settings will remain the same, i.e., Part 1 will now have Part 2's range and vice-versa.

4.2.3.6. Info

- **Name:** Here you can rename the current Preset.
- **Type:** The type of Instrument used for this Preset can be seen here. The Type can also be changed. Example: If you edit a piano to make it sound like an organ, you may want to refer to this Preset as an organ.
- **Comment:** Just like in Analog Lab, you will find some additional info about the Preset here, written by its creator.

4.2.4. Splitting the Keyboard

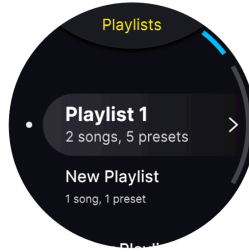
AstroLab handles splits in a very straightforward manner.

- If you're using a Multi Preset and the **Split** button is not engaged, Parts 1 and 2 in a Multi are layered across the entire range of AstroLab's keyboard.
- Press Split to split the keyboard, with Part 1 in the lower zone and Part 2 in the upper zone. The default split point is C3. This can be changed later (see next section).
- Hold **Shift** and press **Split** and select **Inverse Split** to swap the zones of Parts 1 and 2.

4.2.4.1. Setting the Split Point

To set or change the Split point, hold the **Split** button and strike a key. An LED above the key will indicate the upper limit of each zone: green for Part 1 and orange for Part 2.

4.2.4.2. Add to Playlist



Here, you can add the Preset to a [Playlist \[p.45\]](#).

4.2.4.3. Edit Info

- **Name:** Here you can rename the current Preset.
- **Type:** The type of Instrument used for this Preset can be seen here. The Type can also be changed. Example: If you edit a piano to make it sound like an organ, you may want to refer to this Preset as an organ.
- **Comment:** Just like in Analog Lab, you will find some additional info about the Preset here, written by its creator.

4.3. Presets and Polyphony

AstroLab manages polyphony to ensure that you will never hear audio dropouts, no matter what Instrument or combination of Instruments you load. Since different Instruments have different DSP needs, this can vary. In practice, you should be able to play as you wish, except maybe laying two forearms across the keyboard with the sustain pedal pressed.

Available voices are:

Voice Count	Instruments
1	Buchla Easel V, Synthi V
8	CZ V, DX7 V, Emulator V, Jun-6 V, Jupiter-8 V, Mellotron V, Modular V, OB-Xa V, Pigments, Vocoder V
12	Matrix 12 V
16	ARP 2600 V, CMI V, CS-80 V, Mini V, Prophet-5 V, Prophet-VS V, SEM V, Synclavier V
48	B-3 V, Clavinet V, Farfisa V, Plano V, Solina V, Stage 73 V, Vox V

These are voices *per part*, meaning that if you load, for example, a Multi consisting of a Mini V and Prophet-5 V, you can play 16 voices on each part.

For Instruments with Unison capability, the maximum is divided by the currently set unison voice count. The same goes for instruments that have their own multi-timbral slots for different sounds. Also, the 1-voice and 48-voice Instruments are loaded without their internal reverbs, saving DSP resources by using AstroLab's own reverb instead.

5. MACROS AND INSTRUMENT EDITING

Macros are one of AstroLab's most powerful features. They let you control multiple aspects of a Preset's sound with a single knob twist.

The four Macro knobs are Brightness, Timbre, Time, and Movement, which will be familiar names if you've worked with Analog Lab or any V-Collection Instrument. If not, don't worry. AstroLab's Presets are pre-programmed with musically useful control changes in each of these categories.



These four areas of sound transformation are non-technical and informal, but generally we use them to do the following:

- **Brightness:** Covers settings that tend to affect the treble or high harmonic content of the sound, such as the filter cutoff on a synth Instrument or higher drawbars on an organ.
- **Timbre:** Complementary to brightness, this can change the sound in a different way, or usually several at once. Examples include filter resonance, changing or blending oscillator waveforms, adding PWM or waveshaping, and much more.
- **Time:** Usually parameters related to the envelopes of a sound, such as attack, decay, and release.
- **Movement:** Adding modulation or evolving sequences – anything that makes the sound *move*.



♪ The MIDI Continuous Controller (CC) messages sent by the Macro knobs are, left to right: 74, 71, 76, and 77.

5.1. Macros in a Single Preset

Start getting familiar with the Macro knobs by selecting a single Preset and listening to how the sound changes as you turn the knobs. Your knob movement will appear in blue, and the display will show the value of the Macro knob you're turning.

5.2. Macros in a Multi Preset

With a Multi Preset, the Macro knobs can control Part 1, Part 2, or both – your choice.

- With neither Part button selected (or both), the Macro knobs control both Parts and their rings are lit in blue.
- With the **Part 1** button selected, the Macro knobs control Part 1 and their rings are lit in yellow.
- With the **Part 2** button selected, the Macro knobs control Part 2 and their rings are lit in green.

5.3. Part Volume and Panning

You can adjust each Part's volume and stereo pan position.



First, select a Part. Then, hold **Shift** and turn the **Brightness** knob to adjust the volume; turn the **Timbre** knob to adjust the panning.

6. EFFECTS



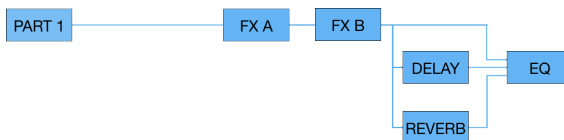
AstroLab offers two assignable insert effect slots (also called FX) plus dedicated Delay and Reverb. (To be clear, when we say “FX”, we are talking about the insert FX. When we say “effects,” we’re talking about those plus Delay and Reverb, i.e., the totality of effects in AstroLab.) By design, this mirrors the effects chain in Analog Lab.

6.1. Effect Buttons

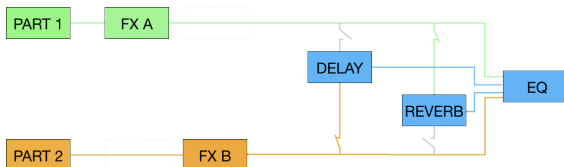
Use the **On/Off** button below each encoder to engage or bypass each effect independently.

6.2. Effects Routing

On a Single Preset, the insert FX are routed in series. From there, the output can be sent independently to the delay and reverb, which are in parallel, like so:



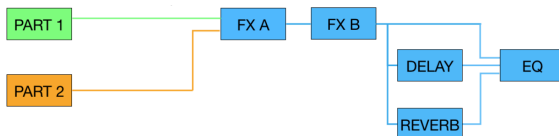
The routing is the same for a Multi, except that FX A and B must be shared between the two Parts – each Part can have one or one Part can hog both, as introduced in [Chapter 5 \[p.27\]](#).



There's another option – sending both Parts through the same FX. In any case, a master 3-band EQ sits just before the final output.

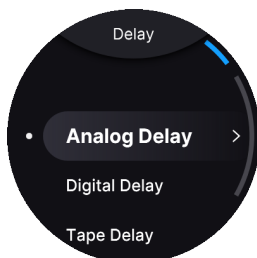
6.2.1. Grouping FX

If you're happy to have both Parts in a Multi use the same insert FX, you can group them so that the routing looks like this:



To do so, press **Part 1**, **Part 2**, and either Part's **On/Off** button at the same time.

6.3. Selecting Effects



To edit the Insert FX, Delay, and Reverb, long-press the corresponding the **On/Off** button.

6.4. Insert FX



The insert FX in AstroLab correspond to those in – you guessed it – Analog Lab. Again, the benefit is that you can easily tweak effects in the software, then transfer everything into AstroLab with all your edits intact. Of course, you can also edit the FX parameters directly on AstroLab. The FX combine the interfaces of classic “stompboxes” with the audio quality of studio-grade rack equipment.

You can reach the Insert FX by long-pressing the **Effects On/Off** button of the desired slot. You can then make your selection with the screen encoder. The Effects are:

- Multi Filter
- Parametric EQ
- Compressor
- Distortion
- Chorus
- Flanger
- Phaser
- Stereo Pan
- Analog Phaser
- Wah
- Twin Amp
- Rotary Speaker

For detailed information of all the parameters of these effects, please refer to the [Insert FX Parameters]

6.4.1. Controlling the FX

You select an FX by clicking the encoder. You can now audition the FX by playing the keyboard. This is a quick and easy method to home in on the type of sound you're after.

Click the encoder to edit the FX. Scroll through the parameters and select the one you want to edit by clicking again. Edit the FX by turning the encoder. Exit editing this parameter by hitting the Back button.



♪ To hear the any of the Effects you're tweaking, make sure the corresponding **Effects Intensity** knob is not at its zero position (mixed all the way down).

6.5. Editing Delay

One of the two send effects in AstroLab is a delay with three options:

- Analog: Old-school, warm, and good for pitch-shifting effects.
- Digital: Clean and modern, with stereo ping-pong capability.
- Tape: Vintage tape echo for vibey repeating effects.

Instead of adjusting the dry/wet mix, turning the **Delay** knob adjusts the send level, that is, the amount of signal downstream of the Insert FX that is sent through the delay. Pressing **Shift** and turning the knob adjusts the delay time. Each type of Delay has different parameters, which are listed at the end of this chapter.

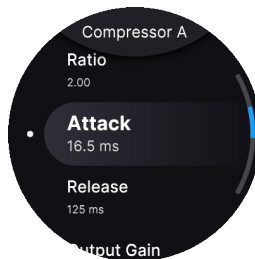
6.6. Editing Reverb

AstroLab comes with a whopping 14 options for its Reverb for different musical applications:

- Digital Reverb
- Small Piano Room
- Soft Room
- Small Studio
- Large Studio
- Jazz Club
- Small Concert Hall
- Large Concert Hall
- Bright Room
- Bright Space
- Factory Hall
- Small Plate
- Large Plate
- Spring

Again, this is a send-based effect and it runs in parallel with the Delay. Pressing **Shift** and turning the knob adjusts the reverb decay. Each type of Reverb has different parameters, which are listed at the end of this chapter.

6.7. Editing Effects




To edit the parameters of any effect, long-press the **On/Off** button of the desired slot. You can then use the Screen Encoder to edit parameters as follows:

- Turn until the desired parameter is in focus.
- Click to select it.
- Turn again to change the value.
- Click again to confirm the value.
- Press **Back** to exit to the previous menu.

6.7.1. Effects Presets

All effects in AstroLab have presets, not to be confused with AstroLab's individual sound Presets. These let you select a quick combination of settings to get "most wanted" sounds from the effects right away.

To audition these Effects Presets, long-press the On/Off button of the desired slot and use the Encoder wheel to browse the effects.

 Since reaching the Effects presets menu is only a button-press away, you can easily enhance a live performance by adding an unexpected Effect. Then add dimension to your solo by turning the Effects knob in the upper right of the panel.

6.8. Tempo Sync

Some time-based effects sync to AstroLab's tempo if their *Sync* parameter is engaged. Find out more about sync in the Settings chapter.

6.9. Master EQ

The final link in AstroLab's signal chain is a 3-band master EQ. (This is separate from the Equalizer option in the Insert FX.) It can be ideal for sculpting your tone to a particular room you're playing a gig in, not stepping on the bass player, *being* the bass player, and much more. Hold **Shift** and then turn one of these three Macro knobs to adjust the corresponding band:


- **Timbre:** Bass
- **Time:** Midrange
- **Movement:** Treble


The boost/cut range of each band is -10 to +10 dB.

6.10. Supplement: Tables

These tables list all parameters, and what they do, for all of AstroLab's Insert FX as well as Delay and Reverb types.

The best way to learn the pedal-style Insert Effects is simply to experiment and play with them. However, for reference, here is a complete list of the effects and their individual parameters.

 For each of the FX, the parameter changed when you turn the [Intensity \[p.13\]](#) knob is listed in **bold**.

 Each Effect menu starts with an **Enable On/Off** switch at the top.

6.10.1. MultiFilter

This is like having a multi-mode synth filter in pedal form.

Control	Description
Mode	Chooses the filter type
Cutoff	Sets cutoff or center frequency of filter
Q	Increases or decreases the amount of emphasis at the corner frequency / frequencies
Slope	Select the filter steepness (LP/HP/BP only)
	Dry/Wet

6.10.2. Parametric EQ

This is a 3-band parametric EQ with adjustable bandwidth for the mid band (Peak) and shelving curves for the high shelf (HS) and low shelf (LS) bands.

Control	Description
Gain (x3)	Boosts or cuts each band
Frequency (x3)	Adjusts the frequency of each band
Q	Adjusts the bandwidth of the mid band
Scale	Controls the gain of all EQ stages at the same time

6.10.3. Compressor

A compressor is generally used to maintain a consistent level of sound, though there are many other ways to use one. For example, it can keep the attack transients of a sound from overloading the input of the next effect. It can also help a sound which would normally decay quickly not to fade away as quickly.

Control	Description
Threshold	Sets the level where compression will begin
Ratio	The amount of compression to be applied once the threshold is reached
Attack	Adjusts the speed with which the compression will be applied once the threshold is reached
Release	Sets the release curve of the compressor
Output Gain	Compensate for reduction in volume if compression lowers the output level
Make Up	Enables automatic control of the output level
Dry/Wet	Balances the input signal and the compressed signal

6.10.4. Distortion

This versatile distortion pedal packs several sound-mangling techniques into one pedal, including analog overdrive and lo-fi digital bit crushing.

Control	Description
Type	Selects Overdrive, BitCrusher, Overdrive Legacy, Wavefolder, or Waveshaper
Drive	Sets the pre-gain of the distortion
Level	Adjusts the output level of the effect
WF Type	Adjusts the shape of wave folding in Wavefolder mode only
Bitdepth	Reduces the bit depth in BitCrusher mode only
Downsample	Reduces the sample rate in BitCrusher mode only
Dry/Wet	Balances the input signal and the distorted signal

6.10.5. Chorus

Stereo chorus is an essential effect in any rig.

Control	Description
LFO Freq	Adjusts the speed of the chorus
Depth	Controls the depth of the chorus
Feedback	Adjusts the amount of chorused signal that is fed back in to the effect
Delay	Sets the amount of delay applied to the input signal
Voices	Selects the number of delay lines the chorus uses, with a different starting phase for each voice
Stereo	Switches the chorus between mono and stereo output
Shape	Toggles modulation LFO between sine and square waveforms
Dry/Wet	Controls the balance between the input signal and the chorused signal

6.10.6. Flanger

Flanging works by mixing two identical signals together, with one signal delayed by a small and gradually changing period. This produces a swept “jet engine” effect.

Control	Description
LFO Freq	Controls the modulation rate for the flanger
Depth	Sets the flanging depth
Feedback	Adds feedback for a harsher or “ringing” sound. Maximum is 99% to avoid runaway feedback
Stereo	Will switch the flanger output between mono and stereo
Phase Invert	Inverts the phase of the flanged signal relative to the input
LP Filter	Use this to define the amount of high-frequency content that will enter the flanger effect
HP Filter	This determines the amount of low-frequency content that the flanger effect will receive
Dry/Wet	Controls the balance between the input signal and the flanged signal

6.10.7. Phaser

Phasers split the incoming signal, change the phase of one side, and recombine it with the unaffected signal. Modulation of this signal results in the familiar “whooshing” sound.

Control	Description
Frequency	Sets the harmonic center for the modulation effect
N Poles	Determines the steepness of the filter frequency response
Feedback	Controls the amount of phaser resonance
Stereo	Gradually changes the phaser from mono to stereo output
Sync	When on, the Rate becomes rhythmic divisions of the master tempo
Rate	Controls the speed of the phaser effect
LFO Amount	Determines the depth of the phaser effect
Dry/Wet	Controls the balance between the input signal and the phase-shifted signal

6.10.8. Stereo Pan

This simple effect bounces the signal between the left and right stereo channels.

Control	Description
Sync	When on, the Rate becomes rhythmic divisions of the master tempo
Rate	Sets the rate of panning
Shape	Chooses the wave shape of the panning to make the effect more gradual or abrupt
LP Mono	When on, exempts low frequencies from the panning effect for a more stable bass end
Dry/Wet	Controls the balance between the input signal and the panned signal

6.10.9. Analog Phaser

Control	Description
Rate	Sets the speed of phaser effect
N Poles	Sets the steepness of the filter frequency response
Feedback	Controls the amount of phaser resonance
Depth	Determines the depth of the phaser effect
Stereo	Toggles between stereo and mono output
Sync	When on, the Rate becomes rhythmic divisions of the master tempo
Dry/Wet	Controls the balance between the input signal and the phaser signal

6.10.10. Wah

The wah-wah was one of the first pedal effects that became available to musicians in the mid-sixties. The name implies the sound it creates.

Control	Description
Manual	Sets the tonal range of the effect; more wide range at lower values
Sensitivity	Sets the level that kicks the Wah effect into action
Rate	Sets the rate of the wah effect
Depth	Sets the wah-wah depth
Dry/Wet	Controls the balance between the input signal and the wah signal

6.10.11. Twin Amp

A classic guitar amplifier combo.

Control	Description
Drive	Simulates the input gain, where more drive equals more distortion
Bass	Controls the low frequencies
Treble	Controls the high frequencies
On Axis	The position of the microphone in front of the speaker alters the overall sound
Bright	For extra treble
Output Gain	Use this knob to compensate for louder volume caused by the Drive knob
Dry/Wet	Controls the balance between the input signal and the guitar amp signal

6.10.12. Rotary Speaker

Playing any instrument through a Leslie cabinet can create interesting and unexpected results. When all else fails, try this!

Control	Description
Model	A selection of classic Leslie models
Stereo	Gradually narrow or widen the stereo image
Balance	Adjust the balance between the bass speaker and treble driver in a cabinet
Fast	Activate the fast rotor speed of a Leslie cabinet
Brake	This simulates the rotary speaker rotors being stopped
Dry/Wet	Controls the balance between the input signal and the rotary signal

7. PLAYLISTS

Playlists are lists of Presets, which are further organized into Songs. They are ideal for organizing set lists for a gig.

You can then access them quickly

7.1. Accessing the Playlists

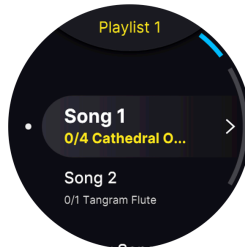


To quickly enter Playlists mode, press the **Playlist** button. In Playlist mode, AstroLab navigates Songs and Presets within them.

- To select from the first ten Presets in a Song, use the **Preset Type** buttons 0-9.
- To select Songs, use the **Previous/Next** buttons or the Screen Encoder.

7.1.1. Playlist Hierarchy

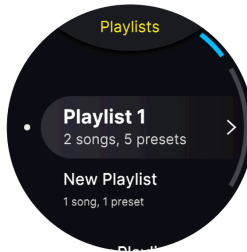
Playlists in AstroLab are divided into Songs, each of which in turn can contain up to 128 Presets.



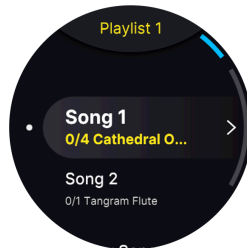
Think of Playlists, the top level of the hierarchy, as corresponding to different kinds of gigs. You might have one for your gig with a cover band, another for your solo electronica act, another for playing at a worship service, another for recording sessions, and so on. Then, Songs correspond to the songs in your set list. Finally Presets cover the different sounds you might need throughout playing a tune.

7.2. Loading Playlists

To load a Playlist, hold **Shift** and press the **Back** button to bring up the Home Screen. Use the Screen Encoder to navigate to *User*. Select it, and you will see a menu similar to this:

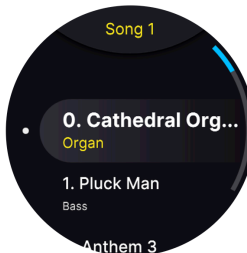


Navigate to the playlist you want, select it, and a list of Songs appears with the Playlist name at the top:



7.2.1. Loading Songs and Presets

In the menu above, select the desired Song using the Screen encoder, which will then change to a modified Preset view that also displays the Playlist and Song:



The first Preset in the Song is loaded by default. Again, you can directly access between the first ten presets in a Song by pressing the Preset Type buttons. If there is no Preset mapped to a button (because, for example, a Song uses fewer than ten Presets), that button's LED is unlit.

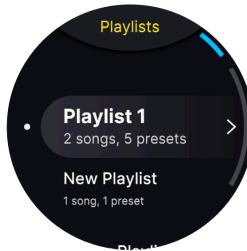
7.2.2. Exiting Playlist Mode

When in Playlist mode, press the **Playlist** button again to return to the regular Preset View. The last Preset that was used before you entered Playlist mode will be loaded.

The next time you enter Playlist mode, the most recently used Playlist, Song, and Preset are reloaded.

7.3. Creating and Populating a New Playlist

If Analog Lab is not at arm's reach for making Playlists, you can create Playlists directly on AstroLab. First, navigate again to the Playlists list from the Home Screen. If a Playlist is open, you can also simply press the **Back** button:



Turn the Screen Encoder clockwise until you see the “+ New Playlist” option. Choose it, and a new empty playlist is created. The display will prompt you to enter a name using the onscreen [text editor \[p.23\]](#). Once you’ve accepted the name, the display will read “Add Presets to this Playlist and organize them into Songs.”

7.3.1. Enter Preset/Song Edit Menu

Long-press or **Shift**-press the Screen Encoder to enter an edit menu with the following options:

- Move Preset
- Rename Preset
- Delete Preset
- Move Song
- Rename Song
- Delete Song
- New Song

7.3.1.1. Move a Preset

As the menu shows, you can move in an entire existing song, but if you’re starting from a “blank slate” you have two options: either create a new Song or move in the first Preset and think about Songs later. There’s no rule that says you must use Songs – it’s possible to create a Song-less Playlist consisting only of Presets – so it’s up to you.

8. TEMPO, MIDI LOOPER, AND ARPEGGIATOR

AstroLab includes a full-featured arpeggiator and MIDI loop player/recorder, as well as a metronome. This chapter covers these features, as well as settings that govern tempo and tempo sync throughout AstroLab.

8.1. Tempo Settings



Tempo affects the Arpeggiator, MIDI Looper, and any [effects \[p.34\]](#) that have a Sync option.

8.1.1. Tempo Sync

Since many of the Instruments in AstroLab (and Analog Lab) have their own tempo-generating clocks, AstroLab lets you decide whether to leave it up to the Preset to determine tempo, or use the master tempo source.

Press and hold **Shift** and then **Play**. After a second or two, you will see the Tempo Sync screen.

Tap here to

- *On*: Tempo follows AstroLab's global master clock or an external clock depending on the [Sync Source \[p.48\]](#) setting.
- *Off*: Tempo is determined Preset by Preset.

Press **Shift** plus **Back** to go to the Home screen (if you're not already there), then press Settings and General. Scroll down a bit to edit Tempo and Sync.

8.1.2. Adjusting the Tempo



Press **Shift** plus **Play**, then turn the Screen Encoder to adjust the master tempo manually. The display above persists for about two seconds after you're done making an adjustment.

Tempo range is 30 to 240 beats per minute.

8.1.2.1. Tap Tempo

The tap tempo function is ideal for matching tempo to a source that's not synced up electronically, such as a drummer or other musicians in a band. Simply hold **Shift** and tap the **Play** button to the beat at least four times. A pop-up tempo display will momentarily show the new tempo based on your taps.



♪ The above settings are all saved at the Preset level. So, one Preset might use its own tempo while the next uses AstroLab's master tempo.

8.1.3. Sync Source

AstroLab can use its internal clock for master tempo, or of course sync to an external source.

Hold **Shift** and press **Back** to get to the Home screen. Navigate to *Settings > Global > Utility*.

Then choose *TempoSync Source*_. The options are:

- *Internal*: AstroLab uses its own master clock.
- *USB*: AstroLab syncs to incoming MIDI clock over USB.
- *MIDI*: AstroLab syncs to incoming MIDI clock over the 5-pin MIDI input.
- *Auto*: AstroLab chooses a source automatically (see below).

8.1.3.1. Auto Sync

If *Auto* is selected, AstroLab makes a determination using the following roadmap.


- If external clock is not detected, internal tempo is used.
- If external clock is detected over any connection, AstroLab syncs to it.
- If multiple clocks are detected, AstroLab chooses USB above 5-pin MIDI.
- If a MIDI stop message or clock interruption is detected, the MIDI looper (if playing) pauses.
- If a MIDI start message is detected, playback resumes synced to the external clock.

8.2. MIDI Looper

AstroLab's MIDI Looper records any performance played on the keyboard. As the name implies, you can use it for creative looping, but also for recording a linear performance in real time.

The Looper records all MIDI notes with velocity as well as Continuous Controller (CC) messages – in other words, your knob twists will be recorded.

The MIDI Looper is upstream of the Arpeggiator, Chord, and Scale functions.


 The MIDI Looper can be a practical tool when setting up before a gig. You may want to make adjustments to the sound system or check the sound of your instrument from elsewhere in the room. Simply record a sequence into the Looper and let it play while you make adjustments.

8.2.1. Record a Loop

It's easy to get started making a loop. Simply press **Record** (the button with the red dot). If count-in is enabled, you will hear a metronome countdown before recording begins.

Play in your performance, then press **Record** again to stop recording. Pressing **Back** while recording is active cancels the recording. Press **Play** to play back your recording.

When your recording is finished, the display will read "Click To Edit." This opens a dialogue where you can [name \[p.23\]](#) and save your recording. AstroLab can store up to 127 MIDI recordings internally, and these can be exchanged with Analog Lab as *.mid* files.

 The simplest way to reach the Looper edit page is to long-press the **Play** or **Record** button.

8.2.2. Loop Record Settings

Long-press **Play** or **Record** to access the Record Settings menu. Alternatively, you can also press **Play** or **Record**, then the Screen Encoder.

- *File*: Opens the MIDI loop list where recordings can be loaded, named, and saved.
- *Loop*: If On, the performance is looped during playback. If Off, it plays through once.
- *Quantize*: Enables quantization to a rhythmic grid with values from half-notes to 64th-notes.
- *Swing*: Sets the rhythmic offset of upbeats from 50% to 75%.
- *Fixed Length*: When Off, recording stops when **Record** is pressed. When on, recording stops when a specified length is reached.
- *Length*: Specifies the Fixed Length: 1, 2, 3, 4, 8, 16, or 32 bars.
- *Arm Rec*: When active, recording starts when the first note is played.

From the *File* submenu (i.e., the loop list) in Record Settings, you can also select options to create a new recording file (this also happens when you finish a recording and are prompted to save it), load an existing recording, and delete recordings.

8.3. Arpeggiator



AstroLab includes a classic synth-style Arpeggiator. Turning it on is as simple as pressing the **Arp** button. Now, held chords will be arpeggiated according to the Arpeggiator settings.

8.3.1. Hold

Press **Shift** plus **Arp** to toggle Hold mode. When active, arpeggiation will continue after you remove your fingers from the keys.

8.3.2. Arpeggiator Settings

Long-press the Arpeggiator button to enter its settings menu.



Available settings are:

- *Arpeggio*: Turns the Arpeggiator on and off(duplicates the Arp)
- *Hold*: On, Off (duplicates Shift+Arp button press).
- *Type*: The order in which notes are played
 - Up
 - Down
 - Ordered (follows order in which you struck notes)
 - Reversed (reverse order in which notes were played)
 - Inc (up and down, top and bottom notes repeated)
 - Exc (up and down, top and bottom notes not repeated)
 - Random (random order)

- *Octave Range*
 - *Range:* 1-5 octaves.
- *Rate*
 - When **Synced**, playback rate is based on subdivision of a musical bar. The range goes from 1 Bar to 1/64th of a Bar.
 - When **Not Synced**, the rate of the arpeggio can be set between 0.01 and 50 Hertz (lower rate means slower speed).
- *Sync*
 - When synced, the Arpeggiator syncs to the MIDI clock or the Internal clock. Playback rate is based on subdivisions of a musical Bar.
 - When not synced, playback rate is set to the Hertz rate.
- *Part Selection:* Determines which Part is affected when Arpeggiator is used with a Multi Preset: All, Part 1, or Part 2.

8.4. Chord Mode

In Chord mode, pressing a single note plays an entire chord, determined either by the keyboard or Chord Settings. Press the **Chord** button to enter Chord mode.



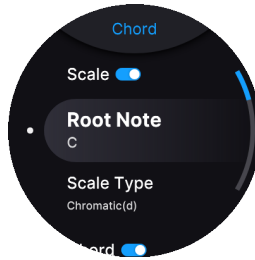
8.4.1. Record a Chord

To set up a chord for playing when Chord mode is active, hold **Chord** and play some notes. (The MIDI Looper and Arpeggiator will not be available at the same time.) If you want to play a big chord, just play the notes across the keyboard, on by one; they don't have to be played at once.

The lowest note played is considered the root. Now, your chord will be transposed with any single note you play as the root.

8.5. Scale Mode

To enter Scale edit mode, long-press the Chord button.



Scale mode constrains the notes played on the keyboard as well as by the MIDI Loooper and Arpeggiator. Specify a musical scale, and it becomes effectively impossible to hit a “wrong” note.

8.5.1. Setting Up a Scale

There are two components to a scale: the *root note*, and the *type of scale* it is. Both components are accessed in the Scale settings by long-pressing the Chord button. These are the options:

- *Scale*: Turn Scale mode on or off.
- *Root Note*: C (default), C#, D, D#, E, F, F#, G, G#, A, A#, B.
- *Scale Type*: Chromatic (default), Major, Minor, Harmonic Minor, Melodic Minor, Lydian, Mixolydian, Dorian, Phrygian, Locrian, Japanese, Gypsy, Arabic, Freygish, Pentatonic Major, Pentatonic Minor, Blues, Custom.

i It's important to understand, that both Root Note and Scale Type need to be set correctly. For example, if you're about to play a solo in a blues song in the key of E, Root Note should be E and Scale Type Blues. Or, if the song has more of a major tonality, you could use Root Note E and Scale Type Mixolydian. Explore!

8.5.1.1. Scale Indicator

You don't have to be a music theory expert to make use of these scales, because AstroLab shows you exactly what notes each one encompasses in the key of C with this handy diagram:



Select a scale, and the diagram appears with available notes in blue and unavailable notes greyed out.

8.5.2. Chord Settings

Long-press the Chord button to enter its settings menu. Here you will be able to gain deeper control over Chord mode.



- *Chord*: Turn Chord mode on or off.
- *Chord Type*: Octave, Fifth, Suspended, Minor, Minor 7, Minor 9, Minor 11, Major, Major 7, Major 9, Major 11, Custom.
- *Part Selection*: Determines which Part is affected when Chord is used with a Multi Preset: All, Part 1, or Part 2.

8.6. Metronome



Last but not least, AstroLab includes a metronome for practice, recording, and other applications. To turn it on and off, press **Shift** plus **Record**. Press the same buttons to turn the Metronome off again.

8.6.1. Metronome Settings



Hold **Shift** and long-press **Record** to get to the Metronome settings.

The parameters are simple:

- *On/Off*: Toggles the metronome on or off.
- *Count Down*: Toggles a count-in of one bar before performance.
- *Level*: Sets the volume of the Metronome beep.

The metronome time signature is the same as that set in the Record Settings of the MIDI Looper. To indicate the time signature, the first beat in the bar uses a different sound than the rest of the beats.

Metronome settings are global to AstroLab.

9. WIRELESS SETUP

AstroLab comes with Wi-Fi and Bluetooth built in. Using Bluetooth, you can stream audio from such devices as smartphones, tablets, and computers through AstroLab. Using Wi-Fi, you can connect to your computer for direct interaction with Analog Lab, and even to your phone with AstroLab Connect. Of course, MIDI and Analog Lab communication also function over USB (and MIDI over the 5-pin ports of course), but at times you may find wireless communication more convenient.

9.1. Bluetooth Pairing

Use the following steps to pair AstroLab with a Bluetooth-equipped device:

- Ensure Bluetooth is activated on the device you wish to pair.
- Hold **Shift** and press **Back** to bring up the Home Screen, then use the Screen Encoder to navigate to *Settings > Bluetooth*.
- Select this option to make AstroLab discoverable as a Bluetooth device.
- On your Bluetooth device, navigate to the Bluetooth settings. AstroLab should appear in the list of pairable devices.
- Select AstroLab on your device to complete the pairing process.
- When AstroLab's screen shows "Connected to YOUR DEVICE NAME," the pairing process is complete.

9.1.1. Bluetooth Audio Streaming

On computers, you may now need to select AstroLab as the audio output in your system preferences. On phones and tablets, this should happen automatically. You can now stream audio from the device to use AstroLab (plus whatever amplification or headphones it is connected to) as a listening system. This is great for playing along with your favorite songs or learning new songs that reside on your phone or computer. If you're an arranger, you will clearly see the benefits here.

The audio from your device is mixed with AstroLab's audio just before the Master Volume knob, which will control both together. Use your device's volume control to adjust its level separately.

Note that streamed audio does not go through AstroLab's sound engine, so you cannot use Bluetooth to process external audio through its synths and effects. However, you can certainly process external audio using AstroLab's hardware audio inputs.

AstroLab is compatible with audio files at 16, 32, 44.1, and 48 kHz in mono, dual-channel stereo, and joint stereo.

9.2. Wi-Fi Setup

AstroLab can connect to your existing Wi-Fi network, but also function as a Wi-Fi hotspot itself. For communicating with Analog Lab installed on a computer at home, you would likely use the former option - once AstroLab sees your computer on the same network, communication between the two is as automatic and seamless as USB.

However, using Wi-Fi AstroLab as a Wi-Fi hotspot has its advantages. For example, you may wish to connect AstroLab to your laptop at a live performance venue where you don't have access to a Wi-Fi network. A direct connection also means that heavy traffic on existing Wi-Fi networks will not interfere with communication between AstroLab and Analog Lab.

9.2.1. Connecting to a Wi-Fi Network

To connect to an existing Wi-Fi network, follow these steps. AstroLab works with both 2.4 GHz and 5 GHz networks.

- Use the Screen Encoder to navigate to *Settings > Utility > Enable Wi-Fi*.
- Select *Connect to local network*.
- The screen will display a list of local networks in range. Select the desired network.
- If your network requires a password, AstroLab will prompt you to enter and confirm it on a [text editor \[p.23\]](#) screen.
- Once the password is entered, AstroLab will connect to the chosen network.

The next time AstroLab is powered on within range, it will remember that network as its default and not require reconnection.

 ! Your router must be set to broadcast its network name (SSID) for initial connection to work. Most do by default, but some users hide their network names for security reasons. Once AstroLab has connected, you may re-hide your SSID.

9.2.2. Using AstroLab as a Wi-Fi Hotspot


To use AstroLab's own hotspot functionality, follow these steps.

- Use the Screen Encoder to navigate to *Settings > Utility > Enable Wi-Fi*.
- Select *Start Wi-Fi Hotspot*.
- Select the network "AstroLab WIFI" in your computer's network preferences.

By default, AstroLab as a hotspot does not require a password. However, you can specify one in the AstroLab Settings area of Analog Lab.

9.2.2.1. Wi-Fi Applications

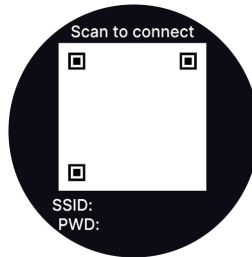
At this time, Wi-Fi allows for syncing with Analog Lab to manage Presets, Instruments, and Playlists just as if AstroLab were connected to the computer via USB. By design, notes are not transmitted between AstroLab and Analog Lab over Wi-Fi because MIDI over Wi-Fi is still unreliable. However, one can still use AstroLab as a MIDI controller for a connected instance of Analog Lab via a wired USB, 5-pin, or Bluetooth connection. This allows for the key benefit of recording Analog Lab into a DAW project while listening with zero latency to the mirrored sounds in AstroLab itself.

 ! For similar reasons, while a Wi-Fi-connected AstroLab may appear as a MIDI port in a DAW or the Audio MIDI Setup utility on Mac computers, we do not recommend use as a MIDI controller over Wi-Fi at this time.

9.2.3. Sync to AstroLab Connect

AstroLab Connect is the phone and tablet companion for your AstroLab. It lets you browse and edit its sounds, and allows you to get new sounds from the Sound store.

Simply scan the QR code displayed on the screen, and you'll be able to download AstroLab Connect and get started with the app.



9.2.4. Reset WiFi

The *Enable Wi-Fi* menu includes a Reset option. This turns AstroLab's own Wi-Fi off and forgets all networks to which it had been connected.

10. DECLARATION OF CONFORMITY

10.1. FCC

WARNING: DO NOT MODIFY THE UNIT!

Any modifications or other changes to this unit not approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. 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.

Responsible Party in USA: Zedra, 185 Alewife Brook Parkway, #210, Cambridge, MA 02138, United States T: +1 857 285 5953

Trade Name: ARTURIA, Model Number: AstroLab

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

10.2. CANADA

This class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada

10.3. CE

This device has been tested and found to comply with the limits of the European Council Directive on the approximation of the laws of the member states relating to Radio Equipment Directive 2014/53/UE.

10.4. UKCA

This device has been tested and complies with the essential requirements of the Radio Equipment Regulations 2017 (S.I. 2017/1206).

10.5. ROHS

This device has been produced with lead free solder and fulfills the requirements of the ROHS directive 2011/65/EU.

10.6. WEEE



This symbol indicates that the electrical and electronic equipment should not be disposed of as general household waste at its end-of-life. Instead, the products should be handed over to the applicable collection points for the recycling of electrical and electronic equipment for proper treatment, recovery, and recycling in accordance with your national legislation and the Directive 2012/19/EU (WEEE - Directive on Waste Electrical and Electronic Equipment). For more information about collection points and recycling of these products, please contact your local municipal office, your household waste disposal service, or the shop where you purchased the product.

10.7. CHINA

本设备包含型号核准代码为：CMIIT ID:2020AJ8307(M) 的无线电发射模块。

11. APPENDIX

The mains plug is used to disconnect the device.

The socket-outlet shall be installed near the equipment and shall be easily accessible.



RECYCLING

This product bears the selective sorting symbol for Waste electrical and electronic equipment (WEEE). This means that this product must be handled pursuant to European directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment. User has the choice to give his product to a competent recycling organization or to the retailer when he buys a new electrical or electronic equipment.



The symbol indicates class II equipment



The symbol indicates AC voltage



The symbol indicates DC voltage



For indoor use only



The symbol indicates energy efficiency marking



The symbol indicates polarity of d.c. power connector