Prodyssey Model for Dino Park

User Manual V1.0

1. General

1.1 Welcome

Thank you for choosing DinoPark and joining the MakeProAudio Community.

CreamWare set the standard for analog modelling and emulation in the late 90s with pristine sound quality and meticulous sound replication of the most revered analog classic synths.

The DinoPark 'Prodyssey" presents the original CreamWare "faithful" modelling emulation with all its unparalleled quality in a new exciting and accessible form.

Please don't hesitate to provide us with feedback and share your Dino Park music making experience.

ENJOY!

The MakeProAudio Team

1.2 Document Version

Software Version: 1.0

Document Version	Date	Changes
1.0	12.08.2019	Initial Version

1.3 Product Overview

The Prodyssey is a one-to-one reproduction of a genuine analog synth from the seventies and one of the true classics in the history of synthesizers. The ARP Odyssey synthesizer.
It can be seen as a transportable version of the ARP 2600 or as ARP's answer to the Minimoog. But this synthesizer is more than either of those. Although it is based upon the standard analog synth structure consisting of oscillator, filter and amplifier, it also includes interesting extensions which make it unique and special. Above all, the abundance of modulation options and – naturally – the sample-and-hold section make the Odyssey so interesting. However, the outward appearance and feature list of the Odyssey reveal little about the power and appeal of its sounds. Thus, it's all the more exciting to discover that this synthesizer readily manages everything from powerful basses through cutting lead voices to convincing effects sounds. With this kind of sonic flexibility, the Odyssey continues to score well even today and has lost none of its attractiveness.

In order to retain the character of this instrument and completely reproduce its full spectrum of sounds, the CreamWare Team designed it with maximally faithful sound and aliasing-free algorithms.

Rather than merely modeling various parts of an instrument, the instrument as a whole is emulated. This even includes precise emulation of control setting and the behavior of the original controls. So, pull out your old patch sheets and call for the sounds of the past – or make use of the extended possibilities. Let your imagination run wild!

We have also extended the sonic creative possibilities of the original Prodyssey with additional effects routing capabilities. Additionally – the Original had only one beautiful paraphonic voice, desperately waiting for others to join. Now it's all in your hands – you can choose between playing monophonic or polyphonic with 10 voices – it's up to you.

1.4 Key Features

- Ten voice virtual analog subtractive Synthesizer modeled after a vintage classic
- Two oscillators with 2 waveforms, sync, PWM and extensive modulation capabilities per voice
- 24 dB resonant low pass filter with switchable characteristic and additional fixed high pass filter
- Sample & Hold section for crazy modulations
- Two Envelopes with retriggering and repeat functionality
- LFO with the ability to sync to MIDI
- Extensive modulation routing section for maximum control of timbre
- Chorus/Flanger & Dual Channel Delay Effects with extensive controls including phase & feedback

2. Plugin Functionality

2.1 How to install

Installing the VST Plugin for your DinoPark Synth Model is super easy. Just copy the plugin files to your VST plugin folder. You may have to rescan the plugins folder with your DAW to make the plugin appear in the list.

Standard VST Folder location on Mac OSX
To unhide the "Library" folder on OSX just open finder and select the "Go To" menu while holding the option key. This will make the link to the folder visible. From here on find the subfolder "Audio/Plug-Ins/VST" and copy the *.vst files.

Standard VST Folder location on Windows
There is no fixed standard folder for VST plugins under Windows, so depending on the Software that you use there are certain potential paths where you could place the files. Please use the one that's common to your system and gets scanned by your DAW and copy the *.dll files to the location.

Potential plugin folder locations:

- C:\Program Files\Common Files\VST
- C:\Program Files(x86)\Common Files\VST
- C:\Program Files\VST
- C:\Program Files\Steinberg\VstPlugins
- C:\Program Files(x86)\Steinberg\VstPlugins

2.2 Main Menu

Main
Click the button to show the main panel with the synthesizer controls.

Add
Click the button to show the add panel with effects and additional synthesizer controls.

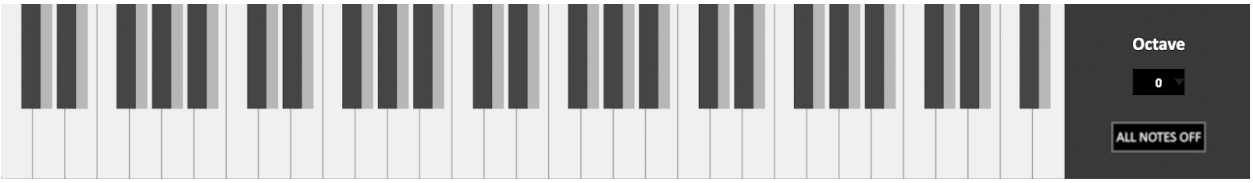
Plugin Active
This field displays the connection status of your DinoPark hardware. If the model on your DinoBoard matches with the VSTi editor the field lights up in green. If the field is not illuminated check your USB connection or recall a preset to load the corresponding synth model on your DinoBoard.

Keyboard
Click this button to show the internal MIDI keyboard in the bottom of the user interface.

Mixer
Click this button to show the mixer controls in the bottom of the user interface.

Presets
Click this button to show the preset management section and the MIDI monitor in the user interface.

2.3 Keyboard



Keyboard
The keyboard is directly wired up to the currently loaded synth model.

Octave
Use the dropdown to change the octave of the keyboard by +/- 3 Octaves.

All Notes Off
Click this button to send an all notes off command to the synth model.

2.4 Memory Section

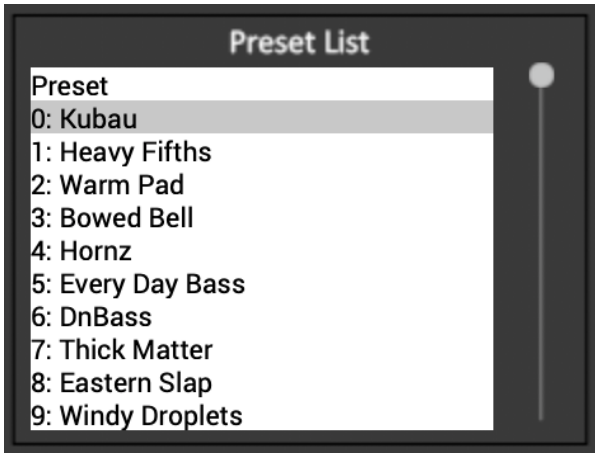
Use the memory section to control your patch data.

Save Preset to Disk
Clicking this button will open a save dialog from your operating system. Choose the destination on your disk the preset file will be saved to.

Load Preset from Disk
Clicking this button will open a loading dialog from your operating system. Choose a file (please use files with the extension *.mpapreset) from your disk to be loaded to the selected slot in your preset list.

Bank Panel
Displays the name of the bank currently visible in the preset list

Patch Panel
Displays the number of the currently selected patch. Use the +/- buttons to switch to other patches.



Preset List
Displays the patches that are in the current bank.

Recall
Loads the currently selected patch to the UI and any connected DinoPark units.

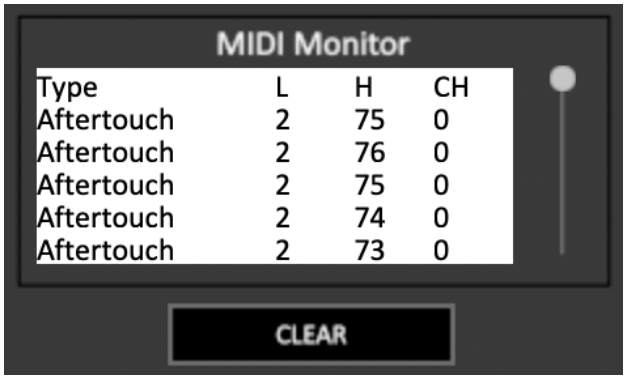
Overwrite
Overwrites the currently selected patch with the values set in the UI or on your DinoPark unit.

2.5 MIDI Monitor

Displays the MIDI data generated by the plugin that is sent to your device. Use this section for debugging purposes.

Type - Type of MIDI message
L - Controller number
H - Controller value
CH - MIDI Channel

Clear
Clears the display of the MIDI Monitor.



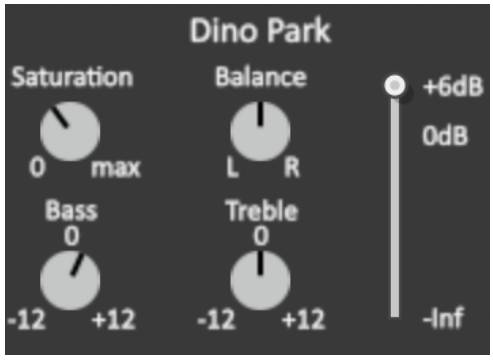
2.6 Mixer Section

In the Mixer section you can control levels, frequencies and drive for the singlas running inside of your DinoPark system.

2.6.1 Synthesis Model

In the Synthesis Model section you will control whatever Synth Model you have selected.

Saturation
With the drive knob you can add harmonic distortion to your signals. The algorithm will give your signals some gentle accentuation when used with a low setting. With a high preset volume and boosted to its full strength it can heavily distort your signal.. Please mind that distortion effects increase the signal level. Use the gain knob to avoid digital clipping.



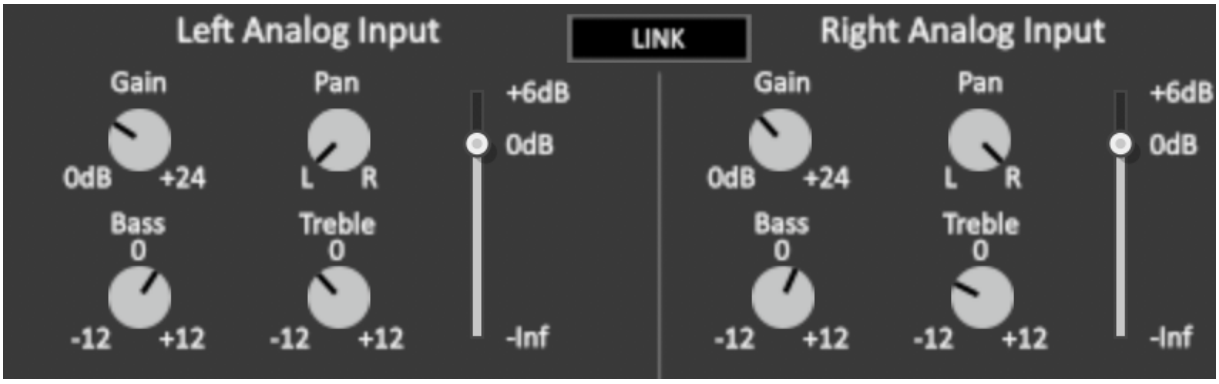
Balance
With the balance control you can position your signal in the stereo field.

EQ
The EQ section comes with a two channel equalizer. With the knobs you can attenuate or boost the shelving bands by 12 dB.

Channel Fader
The Fader can be used similar to a channel fader on a mixing desk. Boosting to the max will yield in a 6dB gain. The attenuation of the signal goes down to complete silence.

2.6.2 Analog Input Channels

The analog input comes with two equal channels that can be linked for convenience.



Gain
With the gain knob you can boost the signals coming into DinoPark by max. 24 dB.

Pan
With the pan control you can position your signal in the stereo field.

Bass/Treble
The EQ section comes with a two channel equalizer. With the knobs you can attenuate or boost the shelving bands by 12 dB.

Channel Fader
The Fader can be used similar to a channel fader on a mixing desk. Boosting to the max will yield in a 6dB gain. The attenuation of the signal goes down to complete silence.

Link
Engage the link function to couple the Pan controls of the two input channels. The channels will work in stereo configuration with hard left/right pan but retain individual control over EQ and level.

3. MAIN Page

This section describes the main synthesizer functionality and the controls you can find on the MAIN page.

3.1 Controllers

In this section, we will take into account common operations concerning this instrument.j

Transpose
Modifies the pitch of the entire instrument, transposing it two octaves upwards or downwards.

Portamento
Produces smoothly-flowing pitch transitions between consecutive notes. The fader adjusts the time it takes for each transition to occur. Setting it to Min disables portamento entirely.

3.2 Voltage Controlled Oscillator 1&2

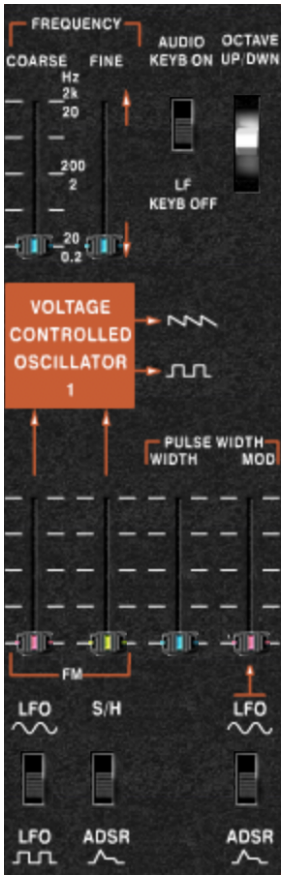
Oscillators 1 and 2 are almost identical in behavior. Selector switches in the audio mixer permit the choice between saw-tooth and pulse waveforms for each oscillator. Pulse width can be varied manually as well as via modulation. Each oscillator has two pitch modulation inputs, each with adjustable intensity. For use of Oscillator 1 as a modulation source, its pitch can be decoupled from keyboard control, thus converting it effectively into an LFO. Oscillator 2 can be synchronized to Oscillator 1.

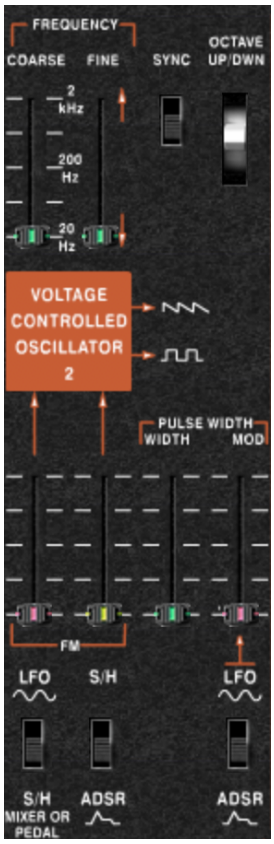
Coarse
Permits coarse adjustment of oscillator frequency over a range of six octaves. As in the original, this control provides a continuous, non-quantized adjustment. This control characteristic is especially important when the oscillator is used as a modulation source, as it avoids "stepping" of the modulation when frequency changes are made via the fader.

Fine
Use this control to detune the oscillators with respect to one another. Mixing of two detuned oscillators produces a chorus-like sweeping effect, making the sound livelier and "airier". The range of this control, which is likewise non-quantized, is roughly one octave.

Pulse Width
Adjusts oscillator pulse width over a range of 50% to 5% of cycle period. In order for this adjustment to have an audible effect, the pulse waveform output of the oscillator in question must be selected in the audio mixer.

Pulse Width Modulation
Permits modulation of oscillator pulse width. Available modulation sources include the sine LFO and ADSR envelope. The fader controls the modulation intensity.





FM (Frequency Modulation)
Each oscillator has two frequency modulation inputs. Possible modulation sources for Oscillator 1 include sine or square LFO via the first input and sample/ hold or the ADSR envelope via the second input.
Available modulation sources for Oscillator 2 include sine LFO or the S/H mixer output via the first input and sample/hold or the ADSR envelope via the second input. The faders adjust modulation intensity.

Keyboard On/Off
Via this switch you can decouple oscillator 1 from keyboard pitch control for use as an LFO. The oscillator runs at a much lower rate in this mode – the Coarse control now has a range of roughly 0.2 Hz to 20 Hz.

Sync On/Off
Activates hard-syncing of Oscillator 2 to Oscillator 1, thus causing its waveform to be restarted each time Oscillator 1 completes a cycle of its waveform. The frequency of Oscillator 1 is thus superimposed upon Oscillator 2. A variety of interesting effects results from the periodic restarting of the Oscillator 2 waveform in conjunction with coarse frequency settings and frequency modulation of both oscillators.

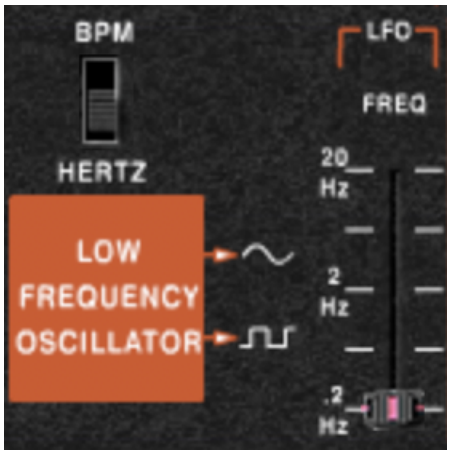
3.3 Noise Generator

The noise generator in the original Prodyssey is quite raw and distorted. Naturally, these characteristics have been faithfully modeled in the Prodyssey. Don't be surprised if white and pink noise sound somewhat different from what you're accustomed to.

Noise Type
Selects the type of noise (white or pink) which is available in the audio mixer.

3.4 LFO

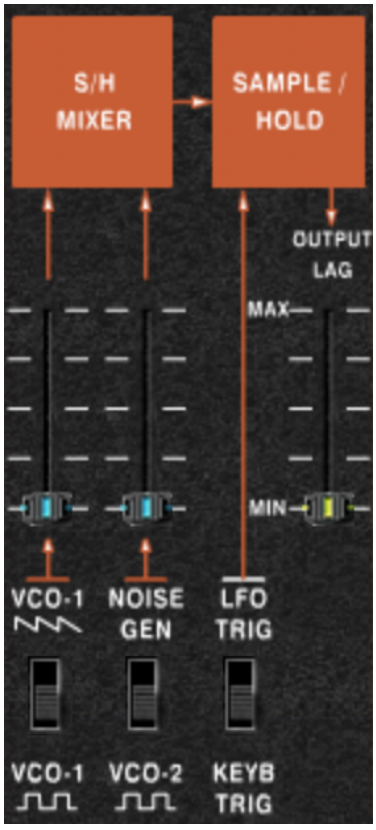
The Prodyssey's LFO produces both sine and square waves. Waveform selection is done at the modulation destination. The LFO also provides the timing signal for the sample/hold function and for the envelopes in repeat mode.



The LFO is polyphonic to ensure proper repeat mode operation and is restarted when a note is played (that is, for the voice assigned to that note). Sine and square waveforms are synchronized in phase, but with a 90° phase difference (the sine wave could more accurately be called a cosine wave). The square wave begins with a rising edge – thus, with a phase angle of zero.

LFO Freq
Sets LFO frequency. The adjustment range is 0.2 Hz to 20 Hz.

3.5 Sample/Hold Mixer



The signals which serve as sources for the sample/hold function are mixed here. The mixer output signal also serves directly as a modulation source in various places – for example, it can be used to modulate the noise generator or individual oscillators. Two of four possible sources can be mixed at any one time. These sources include the saw-tooth or pulse wave from Oscillator 1 and the white noise or pulse wave from Oscillator 2.

Mix
Controls the levels of the signals being mixed to the sample/hold function (or to a modulation destination). There are two channels, each with a fader for level adjustment and a source selector switch. Channel 1 can be fed by either the saw-tooth or pulse wave from Oscillator 1, while channel 2 is fed by either white noise or the pulse wave from Oscillator 2.

3.6 Sample/Hold

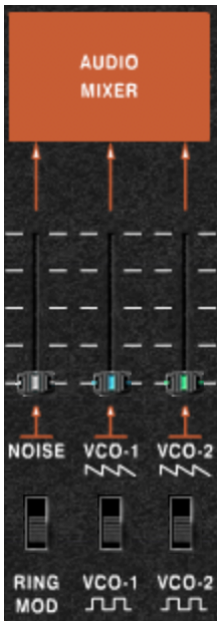
The sample/hold function generates a stepped signal from a continuous signal by periodically capturing its instantaneous value (sampling) and maintaining this value until the next sample is taken (hold). Sampling can be triggered either by the LFO or by notes played on the keyboard. Various effects result, depending upon the selected trigger mode and the input signals being used. For example, a rising saw-tooth wave can be converted to a rising "stairstep" wave, or the noise source can be converted to a random signal whose value changes in time with the LFO.

The Output Lag control provides adjustable "softening" of the steps in the output waveform via a low-pass filter. The output signal can be fed to various modulation destinations.

Trigger Mode
Sampling can be triggered periodically, by the LFO, or manually, whenever a note is played on the keyboard. If LFO Trig is selected, sampling occurs in time with the LFO as determined by the LFO frequency, once per LFO cycle. If Kybd Trig is selected, sampling occurs each time a new note is played.

Output Lag
The sudden jumps of the sample/hold output signal from one level to the next can be "softened" via an adjustable lowpass filter through which the signal passes. The higher the control setting, the more the steps are softened. This can be useful as an effect, or to suppress unwanted clicking sounds which can result from the "raw" steps, depending upon how the sample/hold output signal is used.

3.7 Audio Mixer



Oscillator and noise signals are mixed here before being passed to the filter. Up to three signals can be mixed via the three mixer channels: via channel 1, either the noise generator or the ring modulator output; via channels 2 and 3, either the saw-tooth or pulse waveform of each of the oscillators. The Add page includes an additional control for mixing an external signal.

Mix
Controls the levels of the audio signals being passed along to the filter. There are three channels, each with a fader for level adjustment and a source selector switch. Channel 1 can be fed by either the noise generator or the ring modulator output, channel 2 is fed by either the saw-tooth or pulse waveform of Oscillator 1, and channel 3 is fed by either the saw-tooth or pulse waveform of Oscillator 2. The control for external signals is located on the Add page. For this control to have an effect, the external input must be connected in the Routing window to an appropriate external signal source.

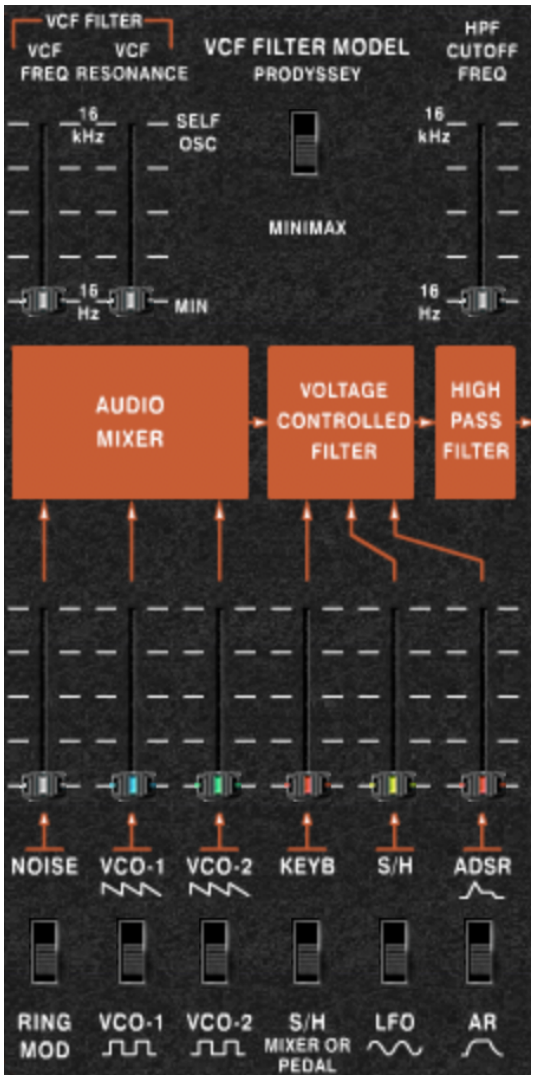
3.8 Filter Section

The filter section consists of a modulatable, resonant, 24 dB/octave low-pass filter followed by an adjustable non resonant high-pass filter. In conjunction with the envelope and other modulations, the low-pass filter determines the progression of the sound's timbre or tone over time. Frequencies below its cutoff frequency are unaffected – hence the name low-pass – while frequencies above the cutoff are attenuated at a rate of 24 dB/octave. Resonance is achieved via coupling of the filter output back to its input and produces an emphasis of frequencies around the cutoff frequency.

This filter has all of the properties of the original filter, thanks to the Circuit Modeling Process. The cutoff adjustment and resonance behavior display the typical ARP character. The high-pass filter which follows the low pass filter operates without modulation and resonance and has a more gradual roll off of 6 dB/octave. Frequencies above its cutoff point are unaffected – hence the name high-pass – while frequencies below the cutoff are attenuated at a rate of 6 dB/octave.

Voltage Controlled Filter

This is the 24 dB/octave low-pass filter with adjustable cutoff frequency and resonance. Up to three modulation sources can be selected for this filter from a total of six possible sources.



VCF Frequency

Manual adjustment for the cutoff frequency of the low-pass filter. Signals above this frequency are attenuated – overtones are deemphasized.

VCF Resonance

Resonance is achieved via coupling of the filter output back to its input and produces an emphasis of frequencies around the cutoff frequency. At the maximum setting, the filter goes into self-oscillation, generating a sine wave at the frequency determined by the cutoff setting.

VCF Modulation

Filter cutoff is modulated by three adjustable sources. For each source there is a fader for level adjustment and a source selector switch. Source 1 can be either key follow or the output of the sample/hold mixer, source 2 can be either the sample/ hold generator or the sine LFO, and source 3 can be either the AR envelope or the ADSR envelope.

Key follow causes the cutoff frequency to "track" the notes played on the keyboard to a varying degree. The maximum fader setting produces 100% tracking i.e., playing one octave higher on the keyboard causes the cutoff frequency to double.
Selecting the sample/hold mixer output permits filter modulation by the noise generator or one of the oscillators. Filter FM in the audio frequency range is thus possible. This can produce especially interesting sounds. Furthermore, Oscillator 1 can be used as an additional LFO by setting the Kybd On/Off switch to "Off/LF".

The sample/hold generator delivers a stair step or random modulation signal which produces fascinating sonic effects with appropriate cutoff and resonance settings. Experiment with the parameters of the sample/hold mixer and generator to make the filter cutoff execute random jumps or sequence through a small repeating pattern. The sine LFO modulates the filter periodically with a flowing up-and-down motion. Change the LFO frequency setting to alter the rate of the modulation.

Envelope-driven modulation can be done using either the AR or the ADSR envelope. The cutoff frequency follows the course of the envelope to a degree determined by the associated modulation fader setting. The envelope generators are discussed in detail in a later section.

HPF Cutoff Frequency
Manual adjustment for the cutoff frequency of the high-pass filter. Signals below this frequency are attenuated – fundamental tones are deemphasized. The high-pass filter is non-resonant and cannot be modulated. Use it for special effects – for example, to generate hi-hats or other sounds in which the bass component is absent.

3.9 Voltage Controlled Amplifier

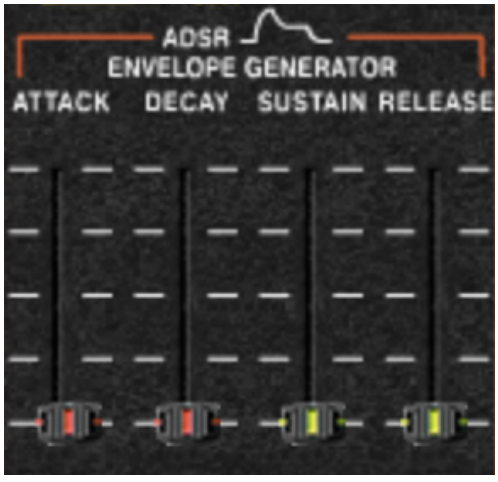
In conjunction with an envelope, the amplifier determines the progression of the sound's level over time. Either the AR or ADSR envelope can be used. The volume control is also located in this section.

VCA Gain
Adjusts the overall volume of the synthesizer. This control affects the signal before it is passed along to the effects and can therefore also be used to correct the level of the signal being fed to the effects – for example, to avoid overloading and distortion when using the flanger with a high feedback setting. Turning VCA Gain up max causes droning as the VCA never fully closes. The lower fader can be treated as the preset level.

AR/ADSR
This switch determines if the volume is controlled by the AR or the ADSR envelope generator. Use the fader to attenuate the values and get a flatter curve.

3.10 Envelope Generators

Two envelope generators are available for various modulation uses. The AR envelope is quite simple – it has only attack and release phases, with sustain effectively fixed at maximum. The ADSR envelope is more complex, with attack, decay, sustain and release. Choices between the two envelopes are possible at various locations in the synth. The ADSR envelope can be used to modulate oscillator pitch, oscillator pulse width, filter cutoff and volume. The AR envelope can be used to modulate filter cutoff and volume. As an extension to the features of the original synth, the envelopes provide adjustable velocity response.

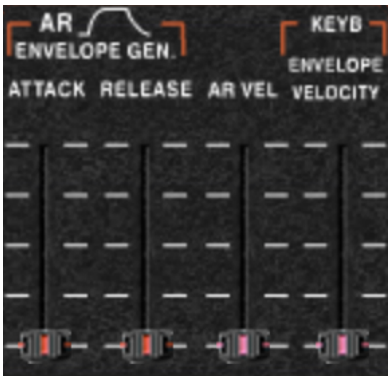


Attack
Duration of the first envelope segment. In the attack phase, the envelope signal "ramps up" to maximum over the specified amount of time.

Decay
Duration of the second envelope segment. In the decay phase, the envelope signal drops over the specified amount of time from maximum down to the level determined by the current sustain setting.

Sustain
Third envelope segment. This control sets the level to which the envelope signal falls during the decay phase and at which it remains as long as the played key is held.

Release
Duration of the fourth envelope segment. In the release phase, the envelope signal drops back to minimum over the specified amount of time.



AR Velocity / Envelope Velocity
Adjusts the amount of modulation of all envelope levels in response to note velocity. Envelope levels are varied between minimum and maximum to an extent which depends upon the settings used here.

3.11 Keyb Repeat / Auto Repeat

The Prodyssey's envelopes can be triggered either manually by playing notes (Keyb Gate) or automatically by the LFO (LFO Repeat). This is selectable separately for each envelope.
With Keyb Gate selected, the keyboard responds normally – the envelope is triggered when a key is played and goes into release phase when it is released.

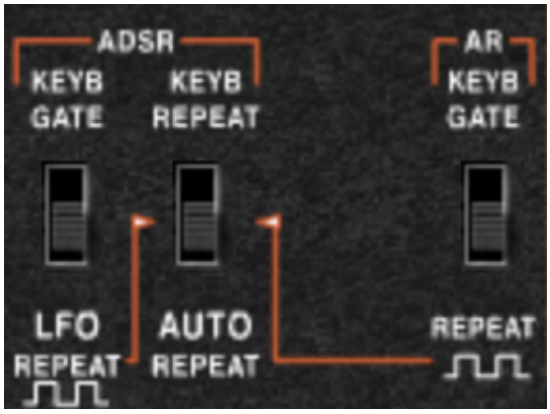
With LFO Repeat selected, the envelope is retriggered periodically at the current LFO rate. Triggering occurs on the rising edge of the square wave LFO and release begins on the falling edge. Thus, depending upon LFO frequency and the envelope time settings, various envelope shapes are obtained.
With Kybd Repeat selected, sound is generated only when keys are played. Auto Repeat causes continuous retriggering of the envelopes, even after keys are released, permitting simulated echo effects.

Because the Prodyssey (unlike the original) is polyphonic, the Auto Repeat function has been tailored to ensure correct operation of the internal voice management functions. Thus, Auto Repeat works only when filter and amplifier are not both being driven by the same envelope, and when the envelope driving the amplifier is set for normal (Kybd Gate) operation. With this configuration, the release time setting of the amp envelope determines how long the auto-repeating filter envelope continues to be heard after a key is released. With any other combination of these settings, Auto Repeat has no effect.

ADSR Kybd Gate / LFO Repeat
Selects the trigger mode for the ADSR envelope.

AR Kybd Gate / LFO Repeat
Selects the trigger mode for the AR envelope.

Kybd Repeat / Auto Repeat
With LFO Repeat selected and Kybd Repeat activated, envelope retriggering continues only as long as a key is held. Selecting Kybd Repeat instead of Auto Repeat produces infinite envelope retriggering which continues even after a key is released.



4. ADD Page

The ADD Page is built into all DinoPark Synth Models and features pristine audio effects and access to performance control settings and additional synthesizer controls.

4.1 Controllers

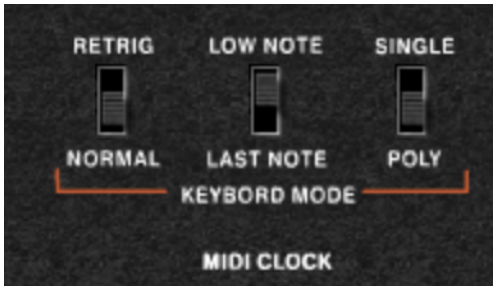
Bend Range
Sets the maximum pitch change produced via the pitch bender. The available range is 0–24 semitones.

Modulation Wheel
Actuating the modulation wheel causes the pitch of both oscillators to be modulated via the sine LFO. This modulation is applied to the filter as well if KYBD CV (i.e., key follow) is activated in the filter section.

Modulation Intensity
Sets the maximum intensity of the switchable modulation of oscillators and filters controlled via the modulation wheel.

4.2 Keyboard Mode

Low Note On
Switches the keyboard to "classic" low-note-priority mode, in which a note can be cut off by a note played lower down on the keyboard, but is not affected by notes played higher up on the keyboard (the higher notes produce no sound). When not activated, the keyboard operates in last-note-priority mode – the most recent note has highest priority and always produces a sound.

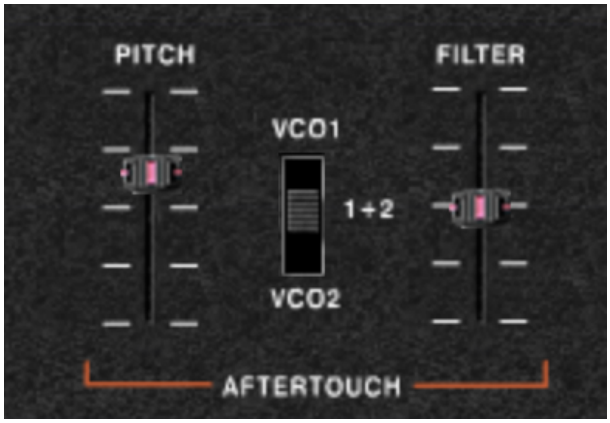


Retrig On
Switches envelope trigger mode from Legato to Retrigger: playing a new note always causes envelope restart, even with overlapping notes. With Retrig off, overlapping notes are played without restarting the envelopes.

Single On
Forces the instrument into single- voice mode, regardless of the number of voices actually loaded. This guarantees the expected behavior of solo sounds when played with portamento.

4.3 Aftertouch

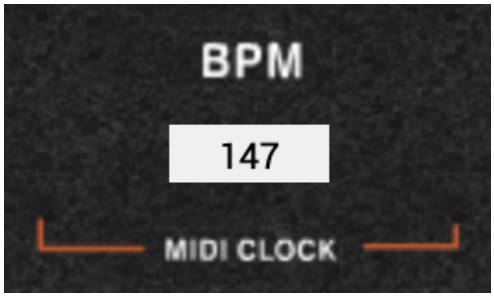
The original synth provided an input for additional control of oscillator pitch and filter cutoff using a foot pedal. In the Prodyssey, these modulation options are actuated by aftertouch, with adjustable intensity per modulation destination.



Pitch VCO1/2
Controls intensity and direction of oscillator pitch modulation. Permits oscillator pitch bending via aftertouch. Via the selector switch, modulation can be made to affect Oscillator 1, Oscillator 2, or both oscillators.

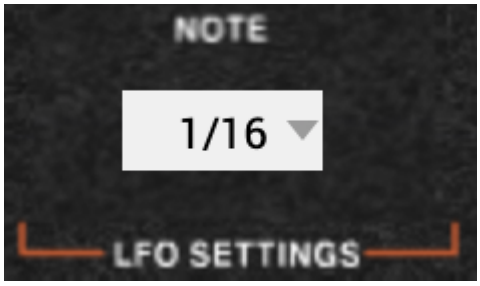
Filter
Controls intensity and direction of filter cutoff modulation. Permits filter sweeps via aftertouch.

4.4 MIDI Clock



BPM
Is a textural input and displays the tempo of the PRO-12 internal MIDI clock in BPM.

4.5 LFO Settings

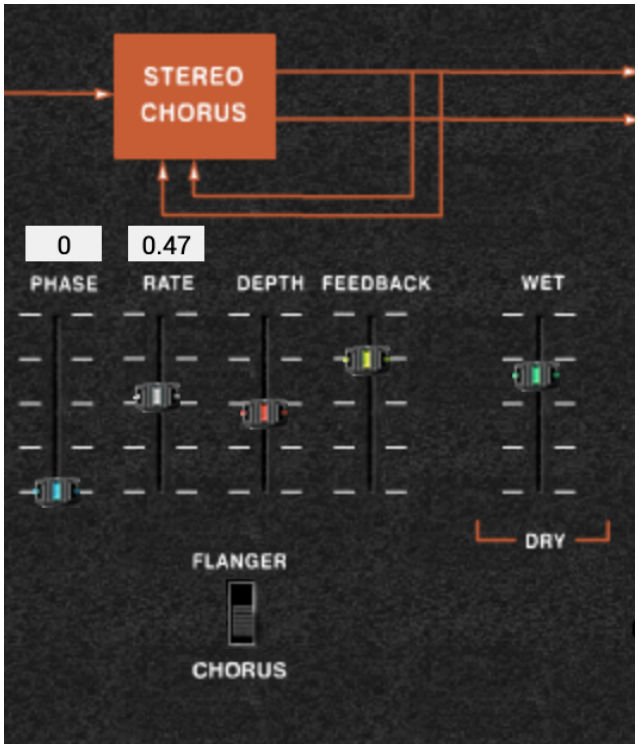


Note
If BPM is selected in the LFO section of the main page, the LFO period corresponds to the specified note length.

4.6 Chorus / Flanger

As its name indicates, the chorus effect thickens and broadens the sound, producing the sonic illusion of multiple similar instruments playing in unison. The chorus employs a delay whose length is modulated over time, resulting in continual small pitch variations. Mixing of the delayed and original signals produces the chorus effect.

The flanger works in much the same way as the chorus, but employs a somewhat different type of delay time modulation and – more importantly – substantially shorter delay times, combined with feedback. To obtain a full-impact flanger effect, some amount of feedback should be used. The flanger then not only thickens the sound, but also adds a noticeable tonal coloration, as the feedback significantly intensifies comb-filter effect of the flanger.



Chorus/Flanger
Selects the type of effect to be used (either chorus or flanger).

Rate
Adjusts the rate of delay time modulation of the chorus or flanger.

Depth
Sets the intensity of the delay time modulation.

Phase
Permits introduction of an offset between left and right delay modulation signals, resulting in a broadening of the stereo image.

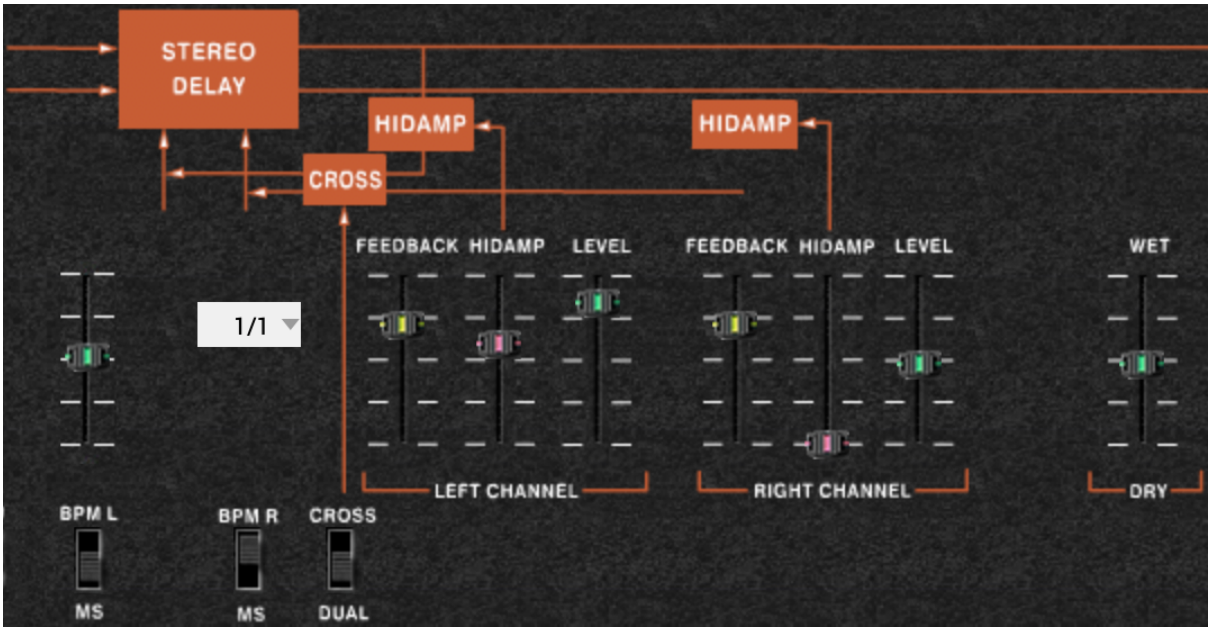
Feedback
This control adjusts the intensity of the comb-filter effect which is responsible for the typical flanger sound. Negative feedback settings invert the phase of the feedback signal and produce a modified comb filter effect.

Dry / Wet
This controls the mix balance between the dry and effected signals - a maximum setting gives 100% chorused / flanged sound with no dry signal.

Bypass
Switches the effect on or off. When switched off, the effect is bypassed and is unloaded from the DSPs.

4.7 Delay Left / Right

The delay is positioned at the very end of the signal chain. This is a stereo delay which is capable of both dual-delay and cross-coupled delay effects. Delay times can be controlled in terms of time or note values.



Time
Continuous delay time setting.

Feedback
Sets the amount of delayed output signal which is fed back to the delay input and delayed anew. This can also be viewed as the "number of echoes" control.

Damp
Adjusts the amount of high frequency damping (reduction) applied to the signal going through the feedback loop.

Level
Controls delay volume.

BPM On
This mode switch permits the delay time to be specified in terms of BPM and note values instead of in milliseconds. The time parameter disappears from the surface and is replaced by a drop-down menu containing various note values.

Note L/R (BPM-Mode)
Adjusts delay time in terms of note values. The abbreviations dot and trpl stand for dotted notes and triplets. The minimum note length (i.e., delay time) corresponds to 1/32 trpl. The maximum note length depends upon the tempo setting – at lower tempi, the maximum possible note value becomes more limited. If a particular setting would result in a delay time greater than the maximum possible value of 5460ms, the next-largest possible note value is automatically used instead.

Tempo
Sets the tempo which is used as the basis for interpreting delay times specified as note values.

Cross
Activates the internal cross feedback signal routing. The left delay output is fed back to the right delay and vice versa.

Dry / Wet
This controls the mix balance between the dry and effected signals - a maximum setting gives 100% delay with no dry signal.

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5. MIDI Implementation

5.1 Change patches and synth models via MIDI

It is possible to change patches and even synth models remotely via the MIDI protocol.

Change Patch
Send a single program change message to select a patch in the current bank for the current synth model

Change Bank
Send a bank change message (with a set LSB) followed by a program change message to select a patch in the new bank for the current synth model

Change Synth Model
Send a bank change message (with a set MSB) to change the synth model. If you not attach a bank change LSB and a Program change the device will load the first patch in the factory bank.

Bank MSB	Bank LSB	Program Change	Comment
(Bn 00) hex	(Bn 20) hex	(Cn xx)	
Values:	Values:	Values:	
0	0	0 - 49	Factory Bank
0	1	0 - 49	User Bank

5.2 How to use NRPN

You can use MIDI NRPN controllers to manipulate device parameters. Our implementation does follow the MIDI 1.0 Standard.

Status Byte: Bn

Function	Databyte		Comment
	Dec	Hex	
Parameter Address MSB	99	63	For now, always 0 (We only use the first bank of NRPN commands)
Parameter Address LSB	98	62	Parameter address (please refer to MIDI-Implementation-Chart for mapping infos)
Value MSB	06	06	For now, always 0 (We currently not support high resolution controllers)
Value LSB	38	26	This command engages the value on the address

5.3 Magic Keys

We have implemented a way to control synth models and presets without any controller, just right from the connected Keyboard. Please mind that this only works on 3.5mm TRS MIDI and USB Host inputs. To deactivate the Magic Keys system you can set the first DIP switch on your DinoPark board to 0.

In any situation, just hold any block of black keys F#,G#,A# and use the following keys:

Note Key	**Plugin**	
C	Minimax	Select synth model with the white keys within the same octave (The preset 0 in bank 0 will be loaded)
D	Pro-12	
E	Prodyssey	
F	B4000	
C# (left side)	Next Preset	Change Banks with the black keys pair left of the ones you are holding
D# (left side)	Previous Preset	
C# (right side)	Next Bank	Change Presets with the black keys pair right of the ones you are holding
D# (right side)	Previous Bank	

5.4 Performance Control Mappings

Minimax has fixed mappings for the performance controls. The controls can also be triggered externally via MIDI commands (please refer MIDI Implementation chart).

Control	**Mapping**	**Comments**
Modwheel	LFO Sine to OSC Pitch Mod Intensity	Use ModWheel Intensity in the add panel to attenuate the wheel signals
Pitchwheel	Pitch of OSC 1 and 2	Use BendRange Fader in add panel to attenuate wheel signals
Sustain Pedal	Sustain	Holds notes played
Soft Pedal	Reserved	Reserved
Keyboard Aftertouch	Dynamic	Use the AFTER TOUCH panel in the add section to configure

6. Regulatory

6.1 Trademarks

All brand, product and company names and any other registered names or trademarks mentioned in this manual belong to their respective owners.

6.2 Disclaimer

MakeProAudio has taken all possible steps to ensure that the information given here is both correct and complete. In no event can MakeProAudio accept any liability or responsibility for any loss or damage to the owner of the equipment, any third party, or any equipment which may result from the use of this manual or the equipment which it describes. The information provided in this document may be modified at any time without prior warning. Specifications and appearance may differ from those listed and illustrated.

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