

 dedalo
pixel
GUITAR SYNTH

Monophonic guitar synthesizer

5 waveforms

4 octaves

Freeze mode

Release and attack

Hard sync, slew rate and phase filters

LFO with 3 modes

Extreme aliasing effect

Control button switch

Saveable parameters per waveform

Sensitivity calibration

3 preset memories

8-bit digital brain

Analog dry thru

Internal mids filter

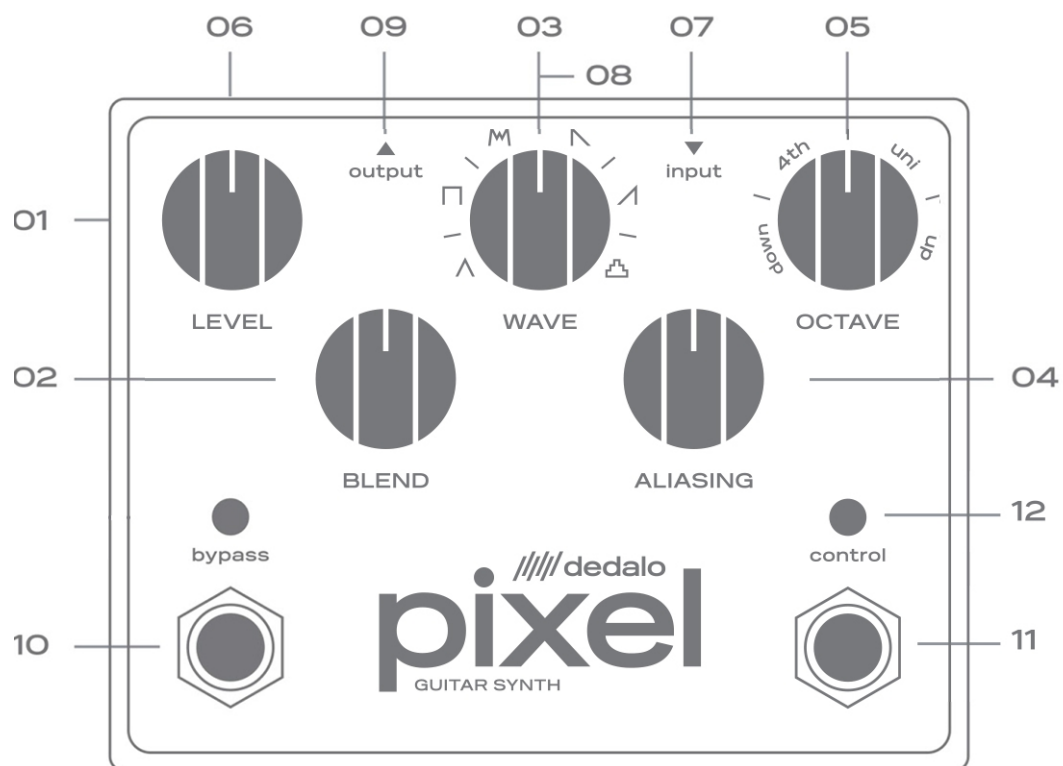
True Bypass

USER MANUAL

PIX 3 - 21/11/2022

Congratulations, you got the Pixel!

The Pixel turns your guitar into an 8-bit monophonic synthesizer. Get out of the basic box of sounds, changing your guitar tone at its core and turning it into interesting waveforms, which you can filter and modulate to your liking. Thanks to Freeze modes and Blend control, the pedal can play along with you, generating drones or following your notes. Save all the parameters of the obtained sounds in the presets memory, for easy access at the moment of playing.



Controls

01 - LEVEL Volume of the synthesized signal.

02 - BLEND Volume of the clean signal that is added in parallel with the effect.

03 - WAVE Select one of the five synthesized waveforms, or the Digital Input: *Triangle*, *Square*, *M shape*, *Sawtooth*, *Inverted Sawtooth*.

Each waveform contains a series of filters and LFO (Low Frequency Oscillator) parameters that can be modified and saved in PROG mode..

- *Digital Input*: in this position the synth is disabled and the 8-bit digitized input signal sounds.

From here you can enter the PROG mode (for sound programming), by tapping on the CONTROL button.

For optimal operation, position the knob to the center of the desired position.

04 - ALIASING Reduction of the sampling frequency of the digital/analog conversion. It causes ghost frequencies to appear in the sound, creating weird harmonics and subharmonics of digital destruction.

05 - OCTAVE Select the octave of the synthesized signal from these four options:

- *Down*: Suboctave. One octave below the note.

- *4th*: Fourth (5 semitones below the note). Alternatively, this position selects the combination of octaves.

- *Uni*: Unison (same octave as the original sound)

- *Up*: One octave up

This control is active only when one of the synthesized waveforms is selected. For optimal operation, position the knob to the center of the desired mode.

06 - RELEASE *-side trimpot-* that controls the release time of the synth. It will continue to sound at a descending volume with the last detected note, for the indicated time.

07 - INPUT Effect input, connect your instrument here.

08 - DC 9V Power supply input, connect your dc adapter here

09 - OUTPUT Effect output, connect your amplifier here.

10 - TRUE BYPASS Turns the effect on and off. The True Bypass switch allows your sound to remain intact when the effect is off. The LED lights up when the effect is engaged.

11 - CONTROL multifunction optical switch, which allows you to control the filters and modulations, and access the different modes. It has two forms of action:

- *TAP* (a quick press-and-release button action) enters the synth's FREEZE mode, or enters PROG mode.

- *PRESS* (keeping the button pressed) modulates the filter or LFO that corresponds to the selected waveform. In PROG mode, enables alternate functions on the knobs.

12 - LED bicolor indicator of functions, whose meaning varies depending on the context.

FREEZE Mode

The Pixel 3 has the ability of "freezing" tones by a command of the player on the CONTROL button. Whatever sound the synth is generating, will keep playing until a new freeze action is commanded. Several modes of Freeze can be selected in the PROG mode.

SOUND PROGRAMMING

The Pixel 3 has the possibility of changing the parameters of the sounds, independently for each waveform. So you can set, for example, a tremolo effect for the Square wave, and a soft attack with no modulation for the Triangle wave.

All the sound alterations are made on the *PROG* mode, and get saved into the pedal memory. At the moment of playing your guitar, you can just select the waveform you want and add expressivity with the CONTROL button.

The PROG mode is divided in two parts, which are called the *RED* and the *GREEN* mode, as it is indicated by a blink of the respective color on the indicator LED.

The RED mode deals with the waveform sound, and the GREEN mode with the LFO modulation.

The only exceptions are the ATTACK setting, which can be set in any of the modes, and the RELEASE setting, which is not saved, as it is a real-time control.

To enter modes:

Tap CONTROL when WAVEFORM is set to DIGITAL INPUT. Enters into RED mode..

With a SYNTH waveform selected:

Tap CONTROL to toggle between RED/GREEN Modes

To leave modes and SAVE the sound:

Tap CONTROL when waveform is set to DIGITAL INPUT

RED Mode "SOUND"

DIGITAL INPUT position: these parameters are set for all the waveforms

ALIASING knob:

Sensitivity how loud must be the note played, to be detected by the pedal. Less sensitivity means also less sustain, as the guitar note decays below the threshold, but may help to avoid artifacts at the end of the notes and enhance the start of the synthesized tones.

** Alternate function with CONTROL button pressed:*

Frequency limit the lower frequency that the detector will try to detect. May help with the detection of bass or baritone guitars, but also allow more artifacts in the sound.

Perilla OCTAVE:

Freeze mode select which Freeze mode is used by the pedal:

- *Disabled:* no Freeze is done. When playing, a Tap on the CONTROL switch, instead activates a direction reversal of the filter.
- *Freeze0:* the frozen note is played until a new, single note is detected. For the detection to occur, a small interval of silence must precede the new note.
- *Freeze1:* the frozen note is played until a new detection is commanded by the user, by tapping again on the CONTROL switch.
- *Freeze2:* similar to Freeze0, but the note is played only the amount of time set by RELEASE

In any SYNTH waveform, the following independent parameters can be set:

ALIASING knob:

Filter1 base setting for the filter1. This is a kind of "hard sync" filter that enhances the harmonic content of the waveform.

** Alternate function with CONTROL button pressed:*

Filter0 base setting for the filter0. This is a "slew rate" filter, essentially a Treble filter, that makes waveforms closer to a Triangular shape, and thus reducing the harmonic content.

OCTAVE knob:

Octave octave being played (same as outside the PROG mode, this is a real-time parameter)

** Alternate function with CONTROL button pressed:*

COMBO mode the behavior when the OCTAVE knob is set at the 4th position. Besides the 4th down interval, you can select a number of octave combinations:

- *Octave Down + Unison*
- *4th Down*

- *Unison + Unison* (only makes sense when LFO is set to Phase)
- *Octave Up + Unison*

ATTACK time is set in any of the modes, by keeping the CONTROL pressed and adjusting the side trimpot.

GREEN Mode "MODULACIÓN"

ALIASING knob:

LFO Speed easy - the speed of the modulating Low Frequency Oscillator

** Alternate function with CONTROL button pressed:*

LFO Depth intensity of the modulation. This setting also affects the base LFO Speed: lower depths increase the range to faster speeds.

Perilla OCTAVE knob:

LFO Function select which of the sound parameters are affected by the modulation

- *Filter1*: the Hard Sync filter
- *Filter0*: the Slew Rate filter
- *Volume*: for tremolo kind of sounds
- *Phase*: *Experimental!* this can be used for quirky vibrato effects or nice sweeps when Octave is set to COMBO

** Alternate function with CONTROL button pressed:*

LFO Mode select between several ways the LFO can operate

- *Disabled*: no modulation is applied, the sound is the plain, static waveform.
- *Continuous*: normal modulation with the LFO
- *Just on Release/Freeze*: the LFO activates itself anytime the synth enters a release phase, or in FREEZE mode
- *One Shot*: *Experimental!* the modulation makes a half-cycle and stops, doing effect at the start of the notes. Also, when LFO function is set to Filter0 or Volume, can be used to produce staccato sounds. Direction is set with the LFO Depth parameter. From the center, clockwise it increases depth in an upwards direction. Counterclockwise, it increases the depth but in a downwards direction.

Presets

The Pixel 3 comes with 3 slots of preset memory where the sounds and pedal settings are stored. Preset0 and Preset1 are read-only, and correspond to the Factory and Reset sounds. So you are free to make any changes in the waveforms, knowing that the initial settings can be easily restored.

In preset2 the user can save its own sounds.

The pedal has separate memory where the current sounds -that is, the sounds that will actually play when using the pedal- are stored. You can load this memory with the sounds saved on preset0, 1 and 2.

Any modification made in the PROG mode only affects the current sounds, which in turn can be saved to preset2, so you can continue modifying but have a backup of the sounds you created..

All the preset-related actions are made in the special PRESET mode. To Enter, you must keep CONTROL pressed for 5 seconds while powering up the pedal. It will be indicated by the LED turning to a steady Green.

The desired action is the selected with the OCTAVE knob, and done by pressing and holding CONTROL for 5 seconds:

- **DOWN** Save Memory to Preset2. This action is only valid BEFORE a Load action. If a Load was executed, the pedal leaves Presets mode
- **4th** Load Memory from Preset2 (the User created sounds). Comes from factory loaded with the same sounds as Preset0
- **UNI** Load Memory from Preset1 (Reset all sounds to the bare bones - no modulation or filter applied) Good for starting your sounds from scratch
- **UP** Load Memory from Preset0 (Factory sounds). A variety of cool sounds created by us, so you start getting tones right out of the box.

The indicator LED will blink to show the action is being executed. If you don't want any action done, just unplug the pedal.

Use and care of the pedal

- Use only regulated 9v dc adapter, with negative center polarity. In no way should be connected to 220V or adapters of other kinds.
- Avoid dropping, hitting or exposing the pedal to extremes of humidity or temperature.
- To clean the pedal, use a dry cloth.
- Do not remove the protective silicone legs, they protect the pedal from shocks and external pressures.

Problems and solutions

- *The LED lights up but there is only sound when the effect is in bypass:*

Make sure the instrument is properly connected to the INPUT jack, and the amplifier to the OUTPUT jack.

- *The indicator LED doesn't light up:*

The pedal is not connected to a working DC adapter.

- *The effect is too weak, or the sound is unduly saturated:*

Use an appropriate DC adapter. If the pedal is connected in a loop, check its send and return levels.

- *The pedal makes a low pitched hum:*

Feed the pedal with a regulated dc adapter of sufficient amperage

- *The sound cuts out intermittently:*

Check the correct condition of the cables.

Terms of warranty

- The warranty is only valid for the original owner for 2 years from the date of purchase.
- The warranty must be requested on the trade where the pedal was acquired.
- DEDALO ensures that the pedal is free from defects in materials and workmanship.
- DEDALO will choose to repair or replace any faulty piece on the pedal at its sole option.
- Failures due to accident or misuse are not covered in the warranty.
- DEDALO is not responsible for any loss or damage the user may suffer as a result of using the pedal.
- Power adapter not included in the warranty.
- In this pedal there is no piece that could be repaired by the user. The repair or modification by personnel not authorized by DEDALO will void the warranty.
- Shipping or other fees that may arise, are not covered by warranty.

PIXEL 3

Technical specifications

Model 2022 – PIX-3

True Bypass

Input impedance: 700Kohm

Power supply: DC 9v center negative (minimum 100mA)

Power consumption: 80mA at 9v DC

Dimensions: 12cm x 9.4cm x 5.4cm

Weight: 475gr

Trimpots:

RV2: Compressor bias – don't change

RV3: Mid frequencies filter



Buenos Aires, Argentina

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SOUND PROGRAMMING

PIXEL 3 Cheat Sheet

FUNCTION OF THE KNOBS AND CONTROL IN PROG MODE

Mode RED "SOUND" (*1)			
Waveform	Control	Aliasing	Octave
Input	Normal	Sensitivity	Freeze Mode
Input	Pressed	Freq. Limit	--
Synth	Normal	Filter1	Octave
Synth	Pressed	Filter0	Combo Mode

Octaves	Combo Modes
Octave Down	Octave Down + Unison
4th Down/Combo +	4th Down
Unison	Unison + Unison (*3)
Octave Up	Octave Up + Unison

Freeze Modes
Disabled
Freeze0
Freeze1
Freeze2

Mode GREEN "MODULATION"			
Waveform	Control	Aliasing	Octave
Input		NOT AVAILABLE	
Synth	Normal	LFO Speed	LFO Function
Synth	Pressed	LFO Depth	LFO Mode

LFO Functions
Filter1 "Hard sync"
Filter0 "Slew rate"
Volume
Phase

LFO Modes	LFO Depth (*2)	LFO Speed
Disabled	Full at Clockwise	Full at Clockwise
Continuous		
Just on Release/Freeze	Direction (Down/Up) and Depth	
One Shot		

To enter modes:

Tap Control when waveform is set to DIGITAL INPUT. Enters RED mode.

With a synth waveform selected:

Tap Control to toggle between RED/GREEN Modes

To leave modes and SAVE the sound:

Tap Control when waveform is set to DIGITAL INPUT

(*1) Sensitivity, Freq Limit and Freeze Mode parameters are the same for all waveforms

(*2) Increasing depth slows speed

(*3) Only makes sense when LFO is set to Phase

Attack time is set in any of the modes, by keeping the Control pressed and adjusting the side trimpot.

PRESETS MODE

To enter, keep Control pressed for 5 seconds while powering up the pedal

To do action, select with the Octave knob and keep Control pressed for 5 seconds

PRESETS ACTIONS

Octave	Function	Detail
Down	Save Memory to Preset12	Only valid BEFORE a Load
Down	Leave Presets Mode	AFTER a Load was executed
4th	Load Memory from Preset12	User preset
Uni	Load Memory from Preset1	Reset preset
Up	Load Memory from Preset0	Factory preset