

NiftyKEYZ

User Manual

Updated April 18 2022

Introduction

Thank you for purchasing NiftyKEYZ! We hope you love it as much as we do. Reading this user manual, you will discover a quick start walkthrough followed by an in-depth look at what NiftyKEYZ has to offer.

We highly recommend that you also check our video tutorial! Have fun!

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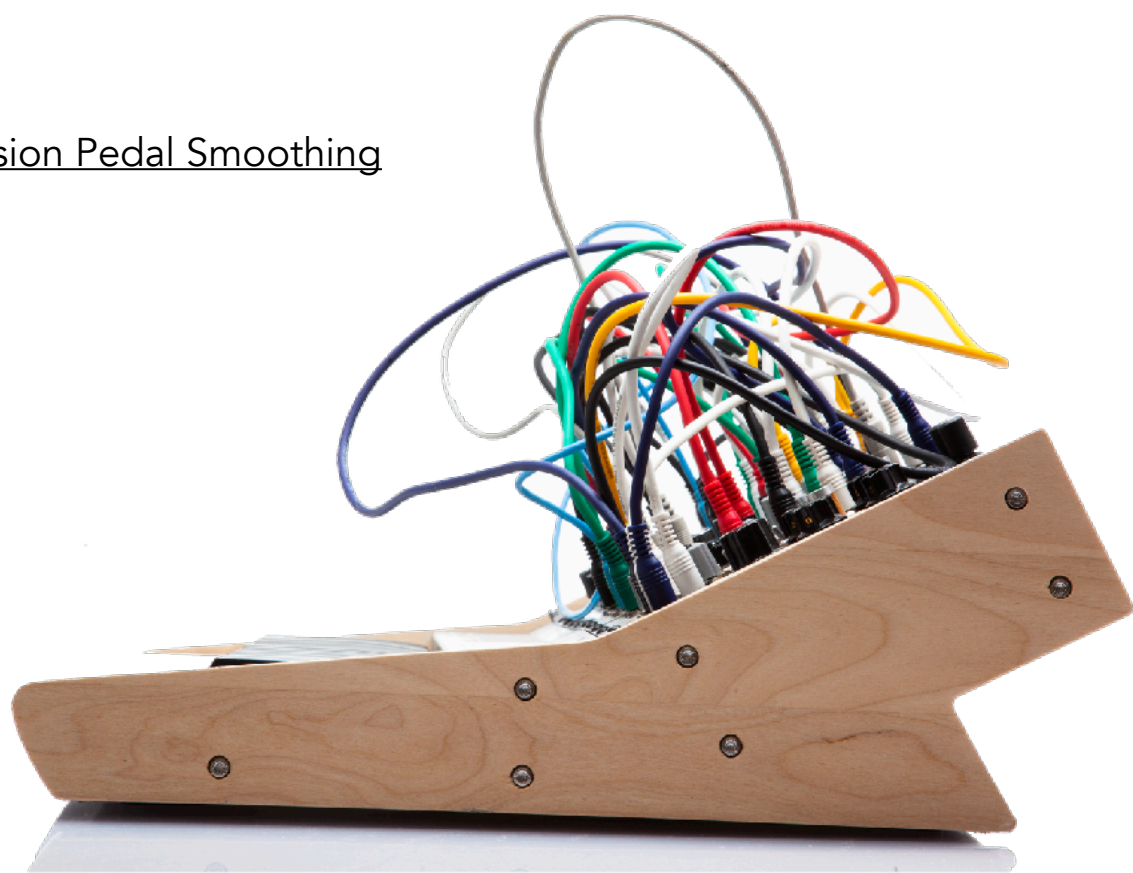
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Quick Start Guide

Watch the quick start video

In this quick start guide we'll use our NiftyKEYZ to play a single voltage controlled oscillator (VCO) module. We'll first patch it through a voltage controlled amplifier (VCA) and use an envelope to control its volume. Then we'll also patch it through a voltage controlled filter (VCF) to shape its sound in various ways. Finally we'll use the arpeggiator.

We'll be using two of our beloved modules:

Capt'n BIG-O provides the VCO. Mr Phil Ter will provides the VCA, VCF and envelope. If you don't have BIG-O or Phil ter (no judgement!) any combination of VCO, VCA, VCF and Envelope modules should work just fine.

-Patch a cable from the NiftyKEYZ **cv1** jack to the **tune** input of the VCO. This will allow NiftyKEYZ to control the the VCO's frequency

-Patch a cable from the VCO **saw** output to the **amp in** jack of Mr Phil Ter so we can use it's VCA to control the VCO's amplitude.

-Patch a cable from Mr Phil Ter **env fast** jack to the Mr Phil Ter **amplitude** jack so we can use Phil's envelope to modulate the VCA.

-Patch a cable from the NiftyKEYZ **gate1** to the **env gate input** of Mr Phil Ter so NiftyKEYZ can trigger the envelope when we press a key.

-Patch a cable from Mr Phil Ter **amp out** to the **to out1** jack of NiftyKEYZ so it can pass the signal to our mixer or interface.

-Finally Patch a mono 6.35mm Jack from the NiftyKEYZ **out1** output to the input jack of your audio interface or mixer or connect a pair of headphones to the phones output jack at the far right of NiftyKEYZ.

Tip: if your cables are too short to reach from one end of NiftyKEYZ to the other, you can use the multiples to bridge between 2 cables.

Set the Phil Ter **attack** and **sustain** knobs to minimum and the **release** knob to about ten-o'clock. Set the **amplitude** knob to about noon.

Now let's reset NiftyKEYZ to factory defaults to ensure that your unit is set up the same way as in this guide. Press function to enter function mode, then hold the **shift** key and press the second to last B key labelled **g** on the silkscreen. The function button will blink twice to confirm.

Play some keys and behold the sawtooth!

Let's now shape our sawtooth with a filter:

-Unplug the cable from the **amp out** jack of Mr Phil Ter and plug it into the **filter out** jack just above it.

-grab another cable and plug it between the **amp out** and **filter in** jacks of Mr Phil Ter.

Now plays some keys and notice how we can shape our sawtooth by moving the Mr Phil Ter **cutoff** knob.

Let's use NiftyKEYZ to adjust the filter cutoff:

-Patch a cable from NiftyKEYZ **vel** jack to the **frequency** jack of Mr Phil Ter.

Set the Mr Phil Ter **cutoff** knob to about 9-o'clock.

We can now open and close the filter by pressing harder or softer on the keys!

What if we want to adjust the filter continuously?

Raise the Mr Phil Ter **sustain** knob to make the notes last longer.

Now unplug the cable from the NiftyKEYZ **vel** jack and plug it into the **at** (aftertouch) jack. Now play some keys and notice how you can adjust the filter by applying more or less pressure on the keys!

Unplug the cable from the NiftyKEYZ **at** jack and plug it into the **mod** jack.

Now when we can move the mod wheel to adjust the filter frequency!

That's not all the mod output can do... Let's change it to an LFO:

-Press **function** to enter function mode.

-Press the second D# key labelled **lfo**.

Now the filter frequency is modulated on its own... Nifty!

Press function followed by the white keys labelled 7 to 11 to change the LFO waveform shape. Adjust the NiftyKEYZ **rate** knob to speed up or slow down the LFO. Use the Mod wheel to adjust the LFO's depth.

Let's play with the arpeggiator. By default the arpeggiator is assigned to all channels so we can simply press **arp** to activate the arpeggiator and play away!

Try some different arp modes by pressing **function** followed by any of the first 4 black keys.

Finally let's try the arp's sequencer mode:

- Press function to enter function mode
- Press the sequencer key to arm the sequencer
- Press some keys to record your sequence
- Press function when done.

Now press and hold keys to play back your awesome sequence!

Have fun!

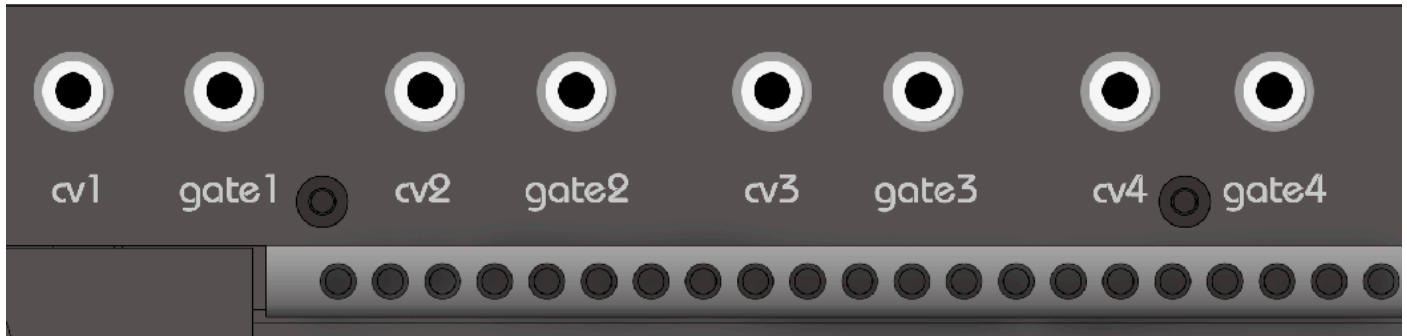
Cheat Sheet

Included with your NiftyKEYZ you'll find a handy cheat sheet that you can position on your keys for a quick reference to the functions. Feel free to download a new cheat sheet from our web page should you need to print a new one. <https://www.cre8audio.com/niftykeyz>

NiftyKEYZ Function Keys	
SHIFT	SHIFT
EXP/VEL/AT/MOD 0-10V	PANIC
EXP/VEL/AT/MOD 0-5V	AUTOCHORD ON
AUTOCHORD OFF	AUTOCHORD ON
GATE RET TRIGGERING = ON/OFF	EXP/VEL/AT/MOD 0-5V
RESET = CLOCK	AUTOCHORD OFF
TRANSPOSE UP	RESET = CLOCK
TRANSPOSE DOWN	TRANSPOSE UP
SPLIT ZONE3	TRANSPOSE DOWN
MIDI OUTPUT CHANNEL SELECT	SPLIT ZONE3
SPLITTING ON/OFF	MIDI OUTPUT CHANNEL SELECT
MIDI INPUT CHANNEL ZONE2	SPLITTING ON/OFF
MIDI INPUT CHANNEL ZONE1	MIDI INPUT CHANNEL ZONE2
VOICING = 3 VOICE	VOICING = 4 VOICE
MIDI INPUT CHANNEL CV/GATE4	MIDI INPUT CHANNEL ZONE1
MIDI INPUT CHANNEL CV/GATE3	VOICING = 3 VOICE
VOICING = 2 VOICE	MIDI INPUT CHANNEL CV/GATE4
MIDI INPUT CHANNEL CV/GATE2	MIDI INPUT CHANNEL CV/GATE3
VOICING = 1 VOICE	VOICING = 2 VOICE
SPLIT ZONE2	MIDI INPUT CHANNEL CV/GATE2
MIDI INPUT CHANNEL CV/GATE1	VOICING = 1 VOICE
CLOCK DIVISION 6	SPLIT ZONE2
LFO SHAPE = RANDOM	MIDI INPUT CHANNEL CV/GATE1
LFO SHAPE = SQUARE	CLOCK DIVISION 6
CLOCK DIVISION 16	LFO SHAPE = RANDOM
LFO SHAPE = SAWTOOTH	LFO SHAPE = SQUARE
LFO SHAPE = RAMP	CLOCK DIVISION 16
LFO SHAPE = TRIANGLE	LFO SHAPE = SAWTOOTH
MOD WHEEL, MANUAL	LFO SHAPE = RAMP
SPLIT ZONE1	LFO SHAPE = TRIANGLE
GLIDE MODE = LEGATO	MOD WHEEL, MANUAL
ARP SEQUENCER	GLIDE MODE = LEGATO
GLIDE MODE = GLIDE	ARP SEQUENCER
ARP RANDOM	GLIDE MODE = GLIDE
CV4 - ARP ON/OFF	ARP RANDOM
CV3 - ARP ON/OFF	CV4 - ARP ON/OFF
CV2 - ARP ON/OFF	CV3 - ARP ON/OFF
CV1 - ARP ON/OFF	CV2 - ARP ON/OFF
ARP UP	CV1 - ARP ON/OFF
LOCAL ON/OFF	ARP UP

Anatomy of a NiftyKEYZ

Top Jacks - CVs/GATEs



Cv1 to Cv4

The CV outputs are used to control the frequency of VCO (voltage controlled oscillators) modules. They output a voltage that changes as you press keys on the keyboard or send MIDI notes to the device according to the 1V/octave standard commonly used in the euro rack world. The CV outputs range from 0 to +10V allowing a total span of 10 octaves.

Gate1 to Gate4

The gate outputs are triggered on each note and are useful for opening or closing envelopes.

NiftyKEYZ has a flexible voicing system and can control up to 4 voices. Please refer to the voicing chapter for in-depth specification of the available voicing modes.

Top Jacks - Modulation & Clock



Vel (velocity)

This jack outputs a voltage corresponding to the velocity of the latest keyboard key press or the latest received MIDI note. There are two voltage ranges available: 0V to +5V or 0V to +10V. Please refer to the functions chapter to learn how to change this setting.

At (aftertouch)

This jack outputs a voltage corresponding to the pressure exerted on the keyboard. It will also respond to MIDI aftertouch/pressure control change messages. There are two voltage ranges available: 0V to +5V or 0V to +10V. Please refer to the functions chapter to learn how to change this setting. The output voltage can be smoothed. Turn the glide knob in function mode to adjust the smoothing. Turning the glide knob clockwise increases the smoothing (slower rise or fall times).

Mod (modulation) / LFO (low frequency oscillator)

This jack outputs a voltage related to the position of the modulation wheel (item 7 of the control panel illustrated here).

The mod wheel has 2 modes of operation: manual and LFO (low frequency oscillator). In manual mode the jack outputs a constant voltage relative to the position of the mod wheel. It also responds to MIDI modulation control change messages. In LFO mode the jack outputs a waveform of variable wave shape and frequency. Please refer to the functions section to learn how to change the wave shape and speed. In this mode the mod wheel sets the amplitude of the LFO waveform. There are two voltage ranges available: 0V to +5V or 0V to +10V. Please refer to the functions chapter to learn how to change this setting.

Clock

When NiftyKEYZ is in master clock mode the **clock** jack outputs a +5V pulse in sync with the arpeggiator (on every step). In this mode the rate of the pulse can be changed by turning the arp rate knob (item 2 illustrated here).

When NiftyKEYZ is in MIDI clock slave mode the jack will output +5V pulses in sync with the incoming MIDI clock at 3 available rates. Please refer to the functions chapter to learn how to change the rate.

Reset

NiftyKEYZ has 2 reset modes: Clock and Key.

In Clock mode this jack transmits a +5V pulse when MIDI clock stop message is received, useful to synchronise sequencers. In key mode this jack transmits a +5V pulse when the first key of the keyboard is depressed after all keys have been released. This is useful if you wish to trigger an envelope on the first of a series of legato notes. Please refer to the functions section to learn how to change modes.

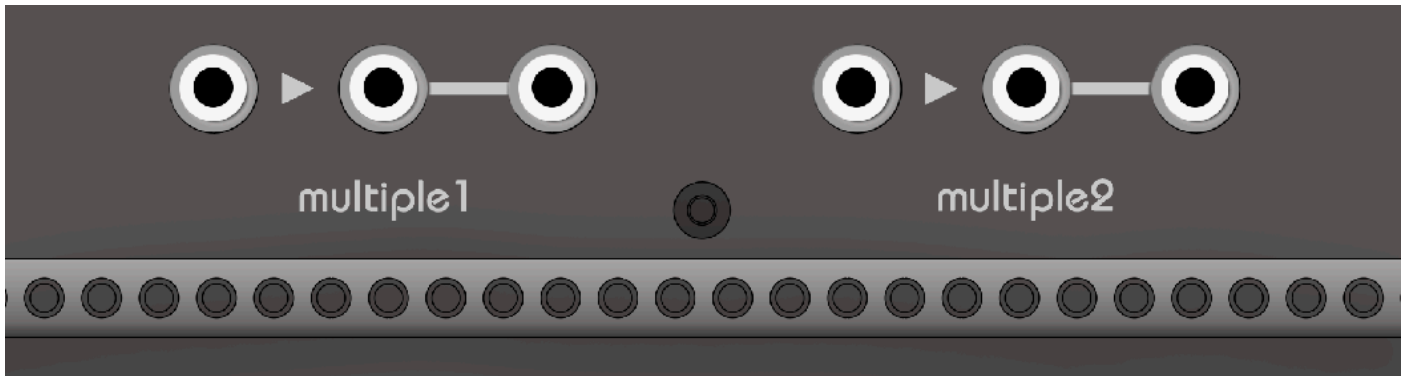
Exp (expression)

This jack outputs a voltage corresponding to the position of an expression pedal connected to the expression jack at back of NiftyKEYZ

There are two voltage ranges available: 0V to +5V or 0V to +10V.

Please refer to the functions chapter to learn how to change this setting.

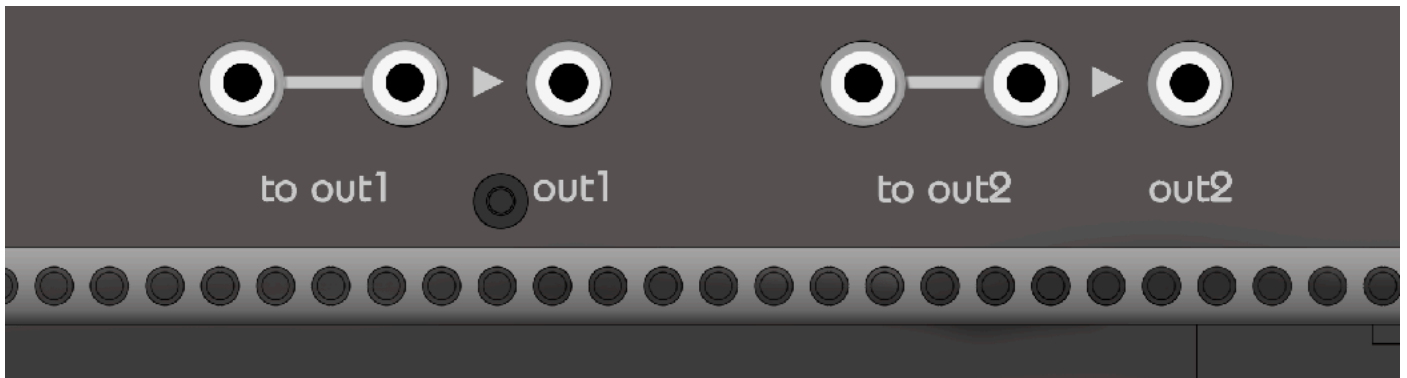
Top Jacks - Multiples



NiftyKEZ has 2 Multiples named multiple1 and multiple2. Both have identical functionality. Multiples take an input signal (jack1) and replicate the same signal at the 2 outputs (jacks 2 and 3). A multiple is useful for sending the same signal to several modules.

Top Jacks & knobs: Summing & out

The **to out1** jacks are used to send 1 or 2 signals out of NiftyKEYZ via the 1/4"



main out1 jack on the back of NiftyKEYZ after being attenuated by the **main volume knob** (1).

The **to out1** jacks can also be used as a summing circuit, since the **out1** 1/8" jack outputs the sum of the 2 signals patched to the **to out1** jacks.

The **to out1** and **to out2** have identical functionality. Signals patched into the to out1

The out1 and out2 signals are also present at the headphones output jack on the back of NiftyKEYZ after being attenuated by the **phones volume knob** (2).



Out1 is sent to the left side of the headphones and out2 is sent to the right side.

Control panel

1 - Arp Enable Button: turns arp on/off

2 - Arp Rate/Swing knob: sets the rate of the arp. Doubles as swing knob when function is lit

3 - arp range knob: sets the arp range in octaves (number of repeats with an octave added to each repeat). The range is 1 to 4 octaves.

4 - pitch bend range switch: switches between +/- 2 semitones and +/- 1 octave.

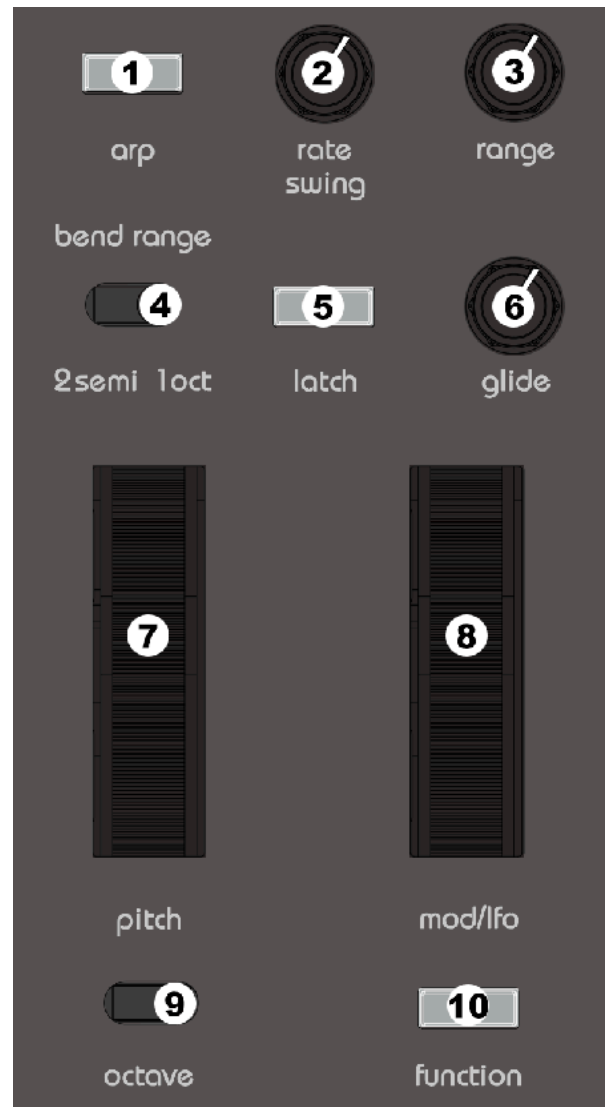
5 - Latch button, when lit, holds the gates open allowing to play the arp handsfree and sustain envelopes endlessly.

6 - Glide knob: adds glide/smoothing to the CV output. It has 2 possible behaviours: Legato and Constant glide (see functions below to change).

7 - Pitch Bend Wheel: used to bend the pitch of the CV outputs. Also transmits MIDI pitch bend messages.

8 - Modulation Wheel: controls the mod output or LFO depth. Also transmits MIDI modulation control change messages (CC#1)

9 - Octave 3 position switch: shifts the octave output by -1 , 0 or +1 octave



Rear Connections - Audio Outs

The out1 jack is a mono unbalanced TS (tip sleeve) jack. It outputs the signals patched into the **to out1** jacks on the top of NiftyKEYZ.



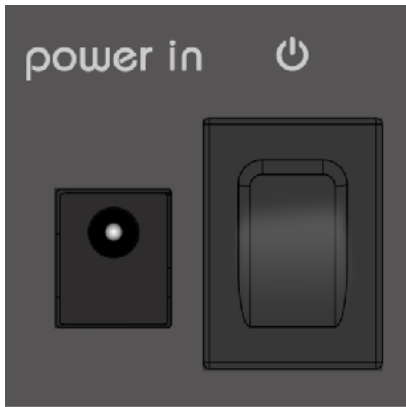
The out2 jack is also a mono unbalanced TS (tip sleeve) jack. It outputs the signals patched into the **to out2** jacks on the top of NiftyKEYZ.

Both **out1** and **out2** volumes are controlled by the main volume control knob on top of NiftyKEYZ [illustrated here](#).

The headphones 1/4" jack is a outputs both **out1** and **out2** signals in stereo. The **out1** signal is present on the left side of the headphones and the **out2** signal is present on the right.

The headphones volume is controlled by the phones knob on top of NiftyKEYZ [illustrated here](#).

Rear Connections - Power



Here is the DC power inlet and the switch to power NiftyKEYZ.

Please only use the included power supply to avoid damage to your unit.

Rear Connections - Sustain & Expression

Connect a sustain pedal to the sustain input jack to trigger the latch function by foot.

Connect an expression pedal to the expression jack to control the output voltage of the expression jack at the top of NiftyKEYZ illustrated [here](#)



MIDI Input, Output & Clock



MIDI input

There are 2 ways to send MIDI to your NiftyKEYZ:

- You can control NiftyKEYZ from a hardware MIDI controller or sequencer via the DIN5 **midi in** port
- You can also control NiftyKEYZ with your computer running MIDI capable software (DAW) via MIDI over **USB**. NiftyKEYZ is a plug and play class compliant device and does not require drivers.

NiftyKEYZ responds to the follow MIDI messages:

Note on/off messages

MIDI note on / off messages are used to trigger the 4 CV/Gate outputs.

NiftyKEYZ will respond to notes received on 6 different MIDI channels. The MIDI channel numbers can be redefined as explained in the [function section](#) of this manual.

Below are the factory default MIDI channel assignments:

- MIDI Channel 1: controls CV/GATE1
- MIDI Channel 2: controls CV/GATE2
- MIDI Channel 3: controls CV/GATE3
- MIDI Channel 4: controls CV/GATE4
- MIDI Channel 5: equivalent to playing keys in zone1 when splitting is on.
- MIDI Channel 6: equivalent to playing keys in zone2 when splitting is on.

MIDI velocity messages

The voltage of the **vel** (velocity) output jack updates when NiftyKEYZ receives MIDI notes. The higher the velocity, the higher the voltage.

The voltage range is selectable ([explained here](#)) and can be either 0-5V or 0-10V.

MIDI aftertouch messages a.k.a channel pressure

The voltage of the **at** (aftertouch) output jack updates when NiftyKEYZ receives MIDI aftertouch a.k.a pressure messages. The voltage increases as the pressure on the keyed increases. The voltage range is selectable ([explained here](#)) and can be either 0-5V or 0-10V.

MIDI modulation control change messages (CC#1)

When mod wheel is set to manual the voltage of the **mod** (expression) output jack updates when NiftyKEYZ receives MIDI modulation messages. The voltage increases as the modulation value increases. The voltage range is selectable ([explained here](#)) and can be either 0-5V or 0-10V.

When mod wheel is set to LFO the LFO depth changes when NiftyKEYZ receives MIDI modulation messages. The LFO depth increases as the modulation value increases.

MIDI expression control change messages (CC#11)

The voltage of the **exp** (expression) output jack updates when NiftyKEYZ receives MIDI expression pedal messages. The voltage increases as the received value increases. The voltage range is selectable ([explained here](#)) and can be either 0-5V or 0-10V.

MIDI output

NiftyKEYZ can be used as a powerful MIDI keyboard controller and sequencer to play other MIDI capable instruments. NiftyKEYZ will send MIDI out of the midi out/thru port allowing you to control external MIDI instruments.

NiftyKEYZ also transmits MIDI over USB so you can play virtual instruments in your DAW. NiftyKEYZ can transmit on different channels. Please refer to the [functions chapter](#) to learn how to change the output channel.

If you wish to use the keyboard exclusively to send MIDI to other devices without affecting the CV/GATE portion of NiftyKEYZ you can [turn local off](#).

When local is off you have a MIDI controller keyboard, and a multichannel MIDI to CV convertor at your disposal!

Midi clock

NiftyKEYZ has two clock modes, internal and external. Changing clock modes is [explained here](#).

Internal clock mode

This is the factory default mode. In this mode NiftyKEYZ is the MIDI clock master and generates its own clock. You can adjust the clock speed with the arp rate knob, this will affect the speed of the **clock** output jack pulse, and the transmitted MIDI clock. You can start and stop the clock by holding **function** and pressing **arp** at the same time.

External clock mode

This mode allows you to slave the NiftyKEYZ to other MIDI master devices like sequencers or DAWs. NiftyKEYZ will synchronise its **clock** output jack and arpeggiator to the incoming MIDI clock.

Function Mode

When NiftyKEYZ is in function mode every key of the keyboard becomes a function key. Function keys are used to change various settings as detailed below.

Press the function button to enter or exit function mode.

When function mode is enabled the function button LED is lit solid.

Setting a function

Most function keys will set a function then automatically exit function mode. In this case the function button LED will blink twice before exiting function mode.

Toggling a function

Some functions are toggled ON or OFF by pressing the same function key multiple times. In this case the function button LED will blink **once** for **ON** and **twice** for **OFF**.

Please refer to the included printout of the function keys. You can also download it from our website should you need to print a new one.

Number Keys

Number keys have numbers 0 to 16 printed above them and are used for functions that require a number (like setting MIDI channel numbers).

Function Keys Explained

In this chapter the function keys are explained.

C1 Local On/OFF

Press the local ON/OFF key to toggle local mode ON or OFF.

Local On is the normal operation of NiftyKEYZ.

In this mode you can use the keyboard and control panel to operate the CV/GATE and modulation outputs of NiftyKEYZ.

When Local is set to off, MIDI is used to control the NiftyKEYZ hardware.

In this mode the NiftyKEYZ keyboard and control panel have no effect on NiftyKEYZ. But they can be used to transmit MIDI to other MIDI capable devices.

C#1 Arp mode Up

Sets the arpeggiator mode to UP.

D1 CV/Gate1 - ARP On/Off

activates/deactivates the arp for CV/GATE1. This function toggles ON or OFF. The function button LED will blink once for ON and twice for OFF

D#1 Arp mode Down

Sets the arpeggiator mode to DOWN.

E1 CV/Gate2 - ARP On/Off

activates/deactivates the arp for CV/GATE2. This function toggles ON or OFF. The function button LED will blink once for ON and twice for OFF

F1 CV/Gate3 - ARP On/Off

activates/deactivates the arp for CV/GATE3. This function function toggles ON or OFF. The function button LED will blink once for ON and twice for OFF

F#1 Arp mode Up/Down

Sets the arpeggiator mode to UP/Down.

G1 CV/Gate4 - ARP On/Off

activates/deactivates the arp for CV/GATE4. This function function toggles ON or OFF. The function button LED will blink once for ON and twice for OFF

C#1 Arp mode Up

Sets the arpeggiator mode to UP.

A2 Glide is Glide

In this mode all notes glide. Turn the **glide knob** clockwise to increase the glide time.

B2 Glide is Legato

In this mode the first played note doesn't glide, only the 2nd and subsequent notes glide. Turn the **glide knob** clockwise to increase the glide time.

C2 Split Zone 1

Sets the split zone to C2. When splitting is enabled all keys below C2 are in zone1. C2 key and above are in zone2

C2# Mod Wheel is Manual

In this mode the **mod** output jack sends a constant voltage manually adjusted by the mod wheel.

D2 LFO shape = Triangle

Sets the LFO waveform to a triangle.

D2# Mod Wheel is LFO

In this mode the **mod** output jack sends a low frequency oscillator LFO voltage. In the mode the mod wheel sets the voltage range a.k.a LFO depth.

E2 LFO shape = Ramp

Sets the LFO waveform to a ramp.

F2 LFO shape = Saw

Sets the LFO waveform to a sawtooth (inverted ramp).

F#2 Clock Division 16

Sets the clock output pulse rate to a 16th of a bar.

G2 LFO shape = Square

Sets the LFO waveform to a square.

G#2 Clock Division 8

Sets the clock output pulse rate to an 8th of a bar.

A3 LFO shape = Random

Sets the LFO waveform to random.

A#3 Clock Division 6

Sets the clock output pulse rate to an 6th of a bar.

B3 Set the MIDI input channel for CV/Gate1

Press this function key followed by a number key to set the MIDI input channel that controls CV/Gate1.

C3 Split Zone 2

Sets the split zone to C3. When splitting is enabled all keys below C3 are in zone1. C3 key and above are in zone2.

C#3 Voicing Mode = 1 voice

Sets the voicing mode to 1 voice. See voicing modes for details

D3 Set the MIDI input channel for CV/Gate2

Press this function key followed by a number key to set the MIDI input channel that controls CV/Gate2.

D#3 Voicing Mode = 2 voices

Sets the voicing mode to 2 voices. See voicing modes for details

E3 Set the MIDI input channel for CV/Gate3

Press this function key followed by a number key to set the MIDI input channel that controls CV/Gate3.

F3 Set the MIDI input channel for CV/Gate4

Press this function key followed by a number key to set the MIDI input channel that controls CV/Gate4.

F#3 Voicing Mode = 3 voices

Sets the voicing mode to 3 voices. See voicing modes for details.

G3 Set the MIDI input channel for Zone1

Press this function key followed by a number key to set the MIDI input channel that controls keyboard Zone1.

G#3 Voicing Mode = 4 voices

Sets the voicing mode to 4 voices. See voicing modes for details.

A4 Set the MIDI input channel for Zone2

Press this function key followed by a number key to set the MIDI input channel that controls keyboard Zone2.

A#4 Voice Splitting On/Off

Toggles the voice splitting On or Off. See voicing modes for details.

B4 Set the MIDI output channel

Press this function key followed by a number key to set the MIDI output channel. MIDI notes will be transmitted on this channel when you play the NiftyKEYZ keyboard.

C4 Split Zone 3

Sets the split zone to C4. When splitting is enabled all keys below C4 are in zone1. C4 key and above are in zone2.

C#4 Transpose Down

Press this key to transpose the NiftyKEYZ down by 1 semitone. This will transpose both the outgoing MIDI notes and CV/GATE voltage.

Hold the **shift** key at the same time to transpose down by 1 octave.

D4 Reset = Key

The **Reset** output jack has two modes: Key and Clock. This sets the mode to Key. In this mode the reset output jack will send a pulse every time the first of a series of keys is pressed down. This allows you to start a sequencer or envelope in sync with the beginning of a legato melody.

D#4 Transpose Up

Press this key to transpose the NiftyKEYZ up by 1 semitone. This will transpose both the outgoing MIDI notes and CV/GATE voltage.

Hold the **shift** key at the same time to transpose up by 1 octave.

Press C#4 and D#4 (transpose Up) simultaneously to reset the transposition to zero.

Press C#4 (transpose down) and D#4 (transpose Up) simultaneously to reset the transposition to zero.

E4 Reset = Clock

The **Reset** output jack has two modes: Key and Clock. This sets the mode to Clock. In this mode the reset output jack will send a pulse every time NiftyKEYZ receives a MIDI clock start message enabling you to synchronise a sequencer module with the MIDI clock master for example.

E4 + SHIFT MIDI Clock On (External Clock) or OFF (Internal Clock)

This function toggles between External Clock and Internal Clock.

When Internal clock is selected (function button LED blinks twice) NiftyKEYZ generates its own clock. This is the factory default mode.

In this case the arpeggiator advances automatically. The master clock rate is adjusted with the arp rate knob. The clock can be stopped and started by holding **function** and pressing **arp** at the same time. NiftyKEYZ also transmits MIDI clock in this mode, allowing the device to be used as a MIDI clock master.

When External clock is selected (function button LED blinks once) NiftyKEYZ waits for MIDI clock before advancing the Arpeggiator or pulsing the clock output jack.

F4 Gate Re-triggering On/Off

This function toggles gate retriggering **On** or **Off**. When **On** the gates will pulse on every depressed key (useful for staccato). When **Off** the gate will go high on the first depressed key of a series and only go low after the last key is released (useful for legato).

F#4 AutoChord On

This function activates the AutoChord feature. Learn more about AutoChord below.

G4 Expression / Velocity / Aftertouch / Mod Wheel voltage range is 0-5V

This function sets the voltage range of the Expression, Velocity, Aftertouch and Mod Wheel output jacks to 0V to 5V DC.

G#4 AutoChord Off

This function deactivates the AutoChord feature. Learn more about AutoChord below.

A5 Expression / Velocity / Aftertouch / Mod Wheel voltage range is 0-10V

This function sets the voltage range of the Expression, Velocity, Aftertouch and Mod Wheel output jacks to 0V to 10V DC.

A#5 AutoChord Learn

This function puts the AutoChord in learn mode. Learn more about AutoChord below.

B5 Panic!

Press this function to close all the gates and transmit "All notes off" MIDI control change message to all MIDI channels. Useful in the event of "hanging notes".

B5 + Shift Factory Reset

Press this function to reset all NiftyKEYZ parameters to factory default.

C5 Shift Key

Use this key in combination with other function keys to access their secondary function where available.

Arpeggiator

NiftyKEYZ has a fun and powerful arpeggiator that doubles as a sequencer. You can enable the arp on any of the 4 voices using the function keys. It can also be globally enabled with the arp button. You can start and stop the arp's internal clock by pressing **function + arp**

Arpeggiator rate and swing

Adjust the rate knob to set the speed of the ARP. When in function mode, the rate knob becomes swing to add shuffle to your ARPs!

Enabling the Arpeggiator per voice

When in function mode, press the white keys labelled 1-4 to toggle the arp on or off for the respective voices. The function button LED will blink to confirm your selection: 1 blink = ARP Enabled on the selected voice.
2 blinks = ARP Disabled on the selected voice.

Arpeggiator Modes

When in function mode, use the first 4 black keys to set the arpeggiator mode to up, Down, up/down or random. Selecting either of the above will automatically exit function mode.

Sequencer Mode

When set to sequencer mode the arp can play back a customisable sequence of up to 32 notes. There are 2 steps to activating sequencer mode:

-First enter function mode and select sequencer mode by pressing the 5th black key.

-Now "feed" the sequencer by playing a sequence of notes.

When done press the function button to confirm and exit function mode.

Voicing Modes

NiftyKEYZ has 4 main voicing modes some of which can be split into several zones. Below is a detailed description of the 4 voicing modes and their split modes.

The keyboard can be split into 2 zones. The split zone can be any of the C keys. Press function followed by C2 C3 or C4 to set the split zone respectively. When split is on all keys below the split zone are zone1 and all keys equal or above the split zone are zone2.

Press function followed by the split function key to toggle split on or off.

1 Voice

1 voice splitting off

In this mode when **split** is **off** all keys control the 4 cv/gates in unison.

This mode is handy for playing a big monophonic lead.

It is also the recommend mode for tuning 4 oscillators together since the same voltage is present at all CV outputs.

1 voice splitting on

In this mode when **split** is **on** all keys in zone 1 control CV1/Gate1 and CV2/Gate2 in unison and all the Keyz in zone 2 control CV3/Gate3 and CV4/Gate4 in unison. Handy for playing a fat bass and fat lead at the same time.

Note: When several keys are controlling the same CV last note priority is used.

2 Voice

In this mode NiftyKEYZ is duo-phonic meaning that you can play up to 2 notes at the same time.

2 voice splitting off

When **split** is **off** the first key controls CV1/Gate1 and CV3/Gate3 in unison. The second and subsequent keys control CV2/Gate2 and CV4/Gate4 in unison.

2 voice splitting on

When **split** is **on** the first key in zone1 controls CV1/Gate1 and the second and subsequent keys in zone1 control CV2/Gate2. The first key in zone2 controls CV3/Gate3 and the second and subsequent keys in zone2 control CV4/Gate4.

3 Voice

In this mode you can play up to 3 notes at the same time.

3 Voice splitting off

When **split** is **off** the first key controls CV1/Gate1 and CV4/Gate4 in unison. The second key controls CV2/Gate2. The third key controls CV3/Gate3.

Note: Why trigger CV4/Gate4 in unison with CV1/Gate1? This gives you an extra gate to trigger a master envelope if your 3 voices are paraphonic a.k.a sharing for example the same envelope-controlled VCA.

3 Voice splitting on

There are 2 split modes available for voicing mode 3

Low chord + high lead and Bass lead + high chord.

When we set the voicing to 3 voice, we toggle between both modes.

We are essentially swapping the two zones.

Notice that the function button LED will blink **once**, or **twice** before exiting function.

Low chord + high lead (function button LED blinks once).

In this mode when **split** is **on** zone1 is a 3 voice chord:

The first key controls CV1/Gate1, The second key controls CV2/Gate2, the third key controls CV3/Gate3. Keys in zone 2 control only CV4/Gate4

Bass lead + high chord (function button LED blinks twice).

In this mode when **split** is **on** zone1 is a monophonic bass. All keys in zone 1 control only CV4/Gate4.

Zone 2 is a 3 note chord. The first key controls CV1/Gate1, The second key controls CV2/Gate2, the third and subsequent keys control CV3/Gate3.

4 Voice

In this mode you can play up to 4 notes at the same time using the 4 available CV/Gate outputs. Split has no effect in this mode.

The first key controls CV1/Gate1, the second key controls CV2/Gate2, the third key controls CV3/Gate3 and the fourth and subsequent keys control CV4/Gate4.

Auto-chord

This feature enables you to play chords with a single key. Auto-chord applies to the MIDI output and the CV/GATE when voicing mode is set to 4 voice.

When auto-chord and the arpeggiator are on at the same time, the arp will play the notes of auto-chord allowing you to arpeggiate chords with one finger.

Auto-chord learn

This function is used to “teach” NiftyKEYZ a chord by holding a combination of keys.

- Press function to enter function mode (the function button LED is lit solid)
- Press the auto-chord learn key A#5 (the function button LED blinks once)
- Press some keys to define the chord & press function when done.

The chord is saved in internal memory and will remain until a factory reset is performed.

Note: a chord can have up to 32 notes, all of which are sent via MIDI but only the first 4 defined notes will be used for the analog CV/GATE voices.

Auto-chord On/Off

When in function mode use the following keys to turn Auto-chord On or Off. F#4 turns AutoChord On. G#4 turns AutoChord Off

Note: When learning or activating auto chord the voicing mode is automatically changed to 4voice

Aftertouch, Expression Pedal Smoothing

You can adjust the sensitivity of the aftertouch and expression pedal response, allowing for snappier or smoother response.

Hold function and adjust the glide knob to set the aftertouch/expression smoothing. Turning the knob clockwise increases the smoothing.

The sensitivity ranges from instant to 5 seconds.

Specifications

- Full size 49 key synth-action keybed with aftertouch
- 4x CV + gate outs - can be split by keyboard zone and used polyphonic or monophonic modes
 - Useable case area = 112hp for eurorack modules
 - Power output for modules
 - +12V - 1500mA
 - -12V - 1000mA
 - +5V - 1000mA
 - 2x buffered mults
 - Range of cv outs 1 through 4 = 0-10V
 - Voltage output gates 1 through 4 - off = 0 on = 5 (off = 0 on = 4.65)
 - Voltage output modwheel/LFO = 1-10V switchable to 0-5V
 - Voltage output pitchwheel = 1-10V
 - Voltage output expression = 1-10V
 - Voltage output velocity = 1-10V switchable to 0-5V
 - Voltage output aftertouch = 1-10V switchable to 0-5V
 - Voltage output clock - off = 0 on = 5
 - Input voltage range of oscillator = 0-10V
 - Two volume controllable 1/4" ts mono outputs on its rear (mirrored 3.5mm outs on top)
 - Dedicated control for headphone out with 1/4" headphone jack on its rear
- USB MIDI class-compliant - no drivers needed
- MIDI in via USB and 5 pin Din
- MIDI thru via 5 Pin Din and USB
- Dimensions = 70cm x 36cm x 13cm

Included in the box

- NiftyKEYZ
- NiftyKEYZ switching power supply with blades for NA, EU, UK, and AU
- Full-size cheat sheet

firmware updates

To benefit from the latest features and optimisations we strongly recommend updating your NiftyKEYZ before use. You can download the necessary files from our NiftyKEYZ web page:

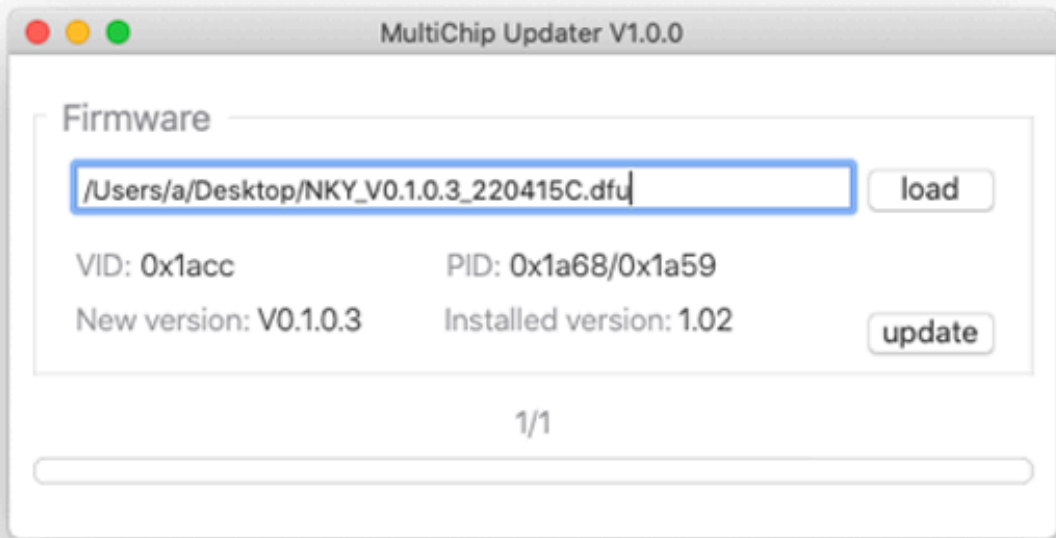
<https://www.cre8audio.com/niftykeyz>

Firmware updating is the same easy process on a PC and Mac and requires no drivers. Please follow the 5 steps below, watch the end of our [video manual](#) for a demonstration of the firmware update on both PC and MAC.

How to update

- Connect NiftyKEYZ to your computer with a USB cable type A male to USB type B male cable.
- Power On NiftyKEYZ
- Double click the updater icon
- Click the load button and browse to the .DFU (device firmware update) file.
- Click update and you're done!

Mac Updater



PC Updater

