

Impulse

Virtual analogue synthesizer



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This manual was written by Bo Johansen.

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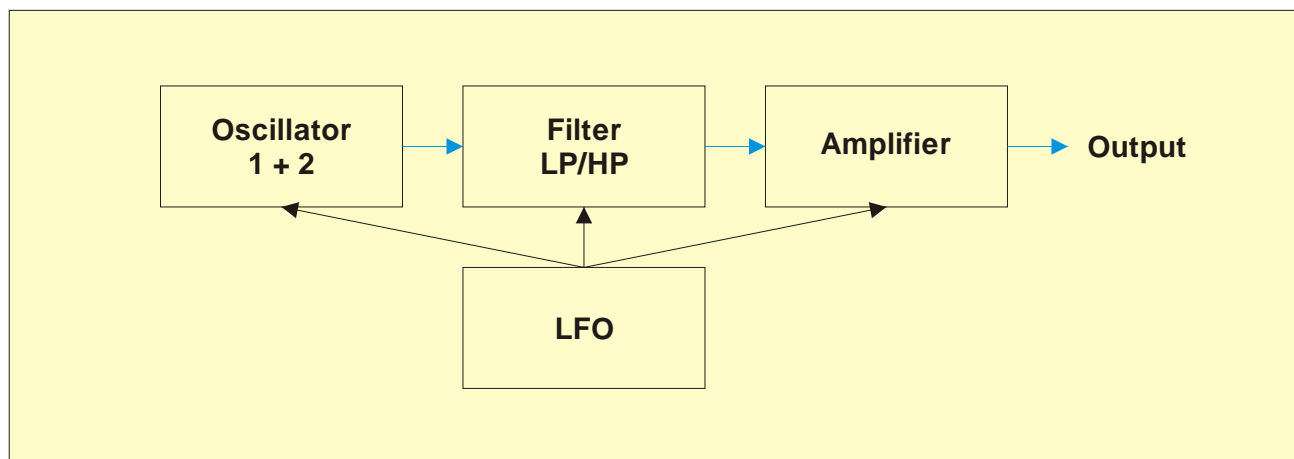
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Impulse is a virtual analogue synthesizer for Cubase VST® and compatible systems.

Key features

- Simple, easy to use interface.
- 16 voice polyphony
- 1, 2 or 4 oscillators in each voice
- 5 different oscillator waveforms
- Oscillators effectively anti-aliased
- 4 different resonant filters
- LFO with 8 different waveforms (incl. Random)
- Several MIDI-controllers implemented



Host software:

To use Impulse you need a VST 2.0 compatible host-software.

Since Impulse is a plugin, it needs to be installed in such a manner that the host-application can find and use it. Normally this is done by installing Impulse into a specific folder.

Installation:

To start installation run the installation file called “impulse100.exe” (the demo is called “impulsedemo.exe”) and follow the instructions on the screen. If you have a newer version of Cubase the installationprogram will locate the correct installation folder.

If you’re using an older version of Cubase or if you are using another host-software (f.inst. Logic Audio), you must select the correct installation folder manually.

In older versions of Cubase the installation folder is the folder called “vstplugins”, which is located under the folder in which Cubase is installed..

In Emagics Logic the installation folder is the folder called “vstplugins”, which is located under the folder in which Logic is installed..

Usage

After installation you should be able to select Impulse as an instrument in your host-software.

Please refer to the host-softwares documentation to get information about using VST instruments.

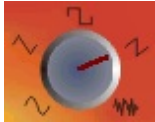
Uninstallation

There is no automatic uninstallation of Impulse. To uninstall Impulse, simply delete the “impulse.dll” file. No other files are installed.



Oscillators generate the raw soundwaves.

Waveform



This selects the oscillators waveform.

Sine

The most simple waveform. Does not contain any harmonics and is therefore quite uninteresting to filter. Best used for flute like sounds or very deep sub basses.

Triangle

Has very few harmonics and sounds only a bit more exiting than the sine wave when filtered. Can be used for flutes and organ sounds.

Square

Has a lot of harmonics and is therefore very interesting to filter. Has a metallic quality and is suitable for clarinet and bell-like sounds.

Sawtooth

Like the square wave the sawtooth contains lots of harmonics and responds very well to filters. Best used for synth-sounds, basses, strings and lots more.

Noise

Random noise. Usable for effect-sounds etc.

Octave



This knob selects the oscillators octave. Position “8” is the standard octave.

Transpose



These two knobs control how oscillator 2 is transposed according to oscillator 1. The upper knob selects from 1 to 11 semitones and the “fine” knob finetunes oscillator 2 from 0 to +1 semitone.

Oscillator 2 mode



This knob selects one of the four different oscillator mixing modes.

Off:

Uses only oscillator 1. This is the mode that has the lowest processing power usage.

Mix:

Both oscillators are playing and mixed together. This mode uses almost twice the processing power than the “off” mode.

Rm:

Oscillator 1 is multiplied with oscillator 2 to obtain a ringmodulator effect. Good for gong sounds and effects. When the “fine” knob is turned, various sweeping sounds are created.

Fat:

Oscillator 1 & 2 are being doubled and detuned for a very fat and big sound. This setting uses the most processing power.

Volume mix



This knob sets the oscillator volume balance.



The amplifier shapes the volume over time, by using the envelope.

The envelope

Attack

This sets the time(0-10 sec.) it takes for the sound to rise from 0 to maximum volume.

Decay

Sets the time (0-10 sec.) it takes the volume to fall from maximum to the sustain level .

Sustain

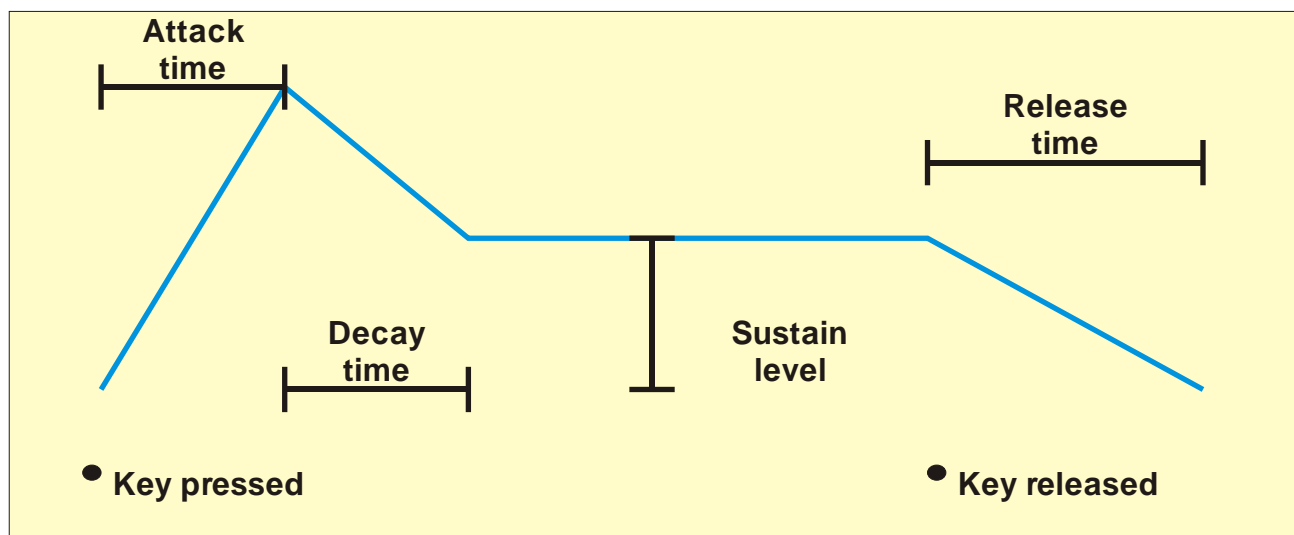
This knob sets the sustain level.

Release

Sets the time it takes the volume to fall to 0, after the key is released.

Volume

This sets the overall volume of the sound. Use it to give all the sounds in a bank a similar volume.



Example of an envelope



The filter changes the harmonic content in the sound.

Filter type

Off

The filter is deactivated. If your sound doesn't use the filter make sure you set it to "off" to reduce the processing power usage.

LP6

Selects a 6dB low-pass filter. This filter uses very little processing power.

LP12

Selects a 12dB low-pass filter. This filter is more powerful than the LP6 filter, but it also consume twice as much processing power. It can produce a powerful resonance effect. Good for techno sounds.

LP24

A different design than the LP6 & LP12. Sounds warmer and less digital. Very good for classic analog sounds.

HP

Selects the high-pass filter. Best suited for "thin" sounds.

Filter envelope

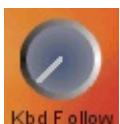
Attack, Decay, Sustain & Release

These controls work in the same way as the controls in the volume envelope. The filter envelope modulates the filter cut-off frequency.

Env. Mod.

Sets the amount of modulation that the envelope applies to the filter cut-off frequency.

Keyboard follow



When playing low keys on the keyboard the filter cut-off frequency is lowered, and when playing high keys it's raised.

Kbd. Follow

This knob controls the amount of keyboard follow (0-max).

Filter cut-off



This knob controls the filter frequency cut-off point.

When a low-pass filter is selected

As you lower the value, higher frequencies are reduced. When the knob is positioned at its lowest setting no frequencies will pass through the filter. At the highest setting all frequencies will pass through the filter.

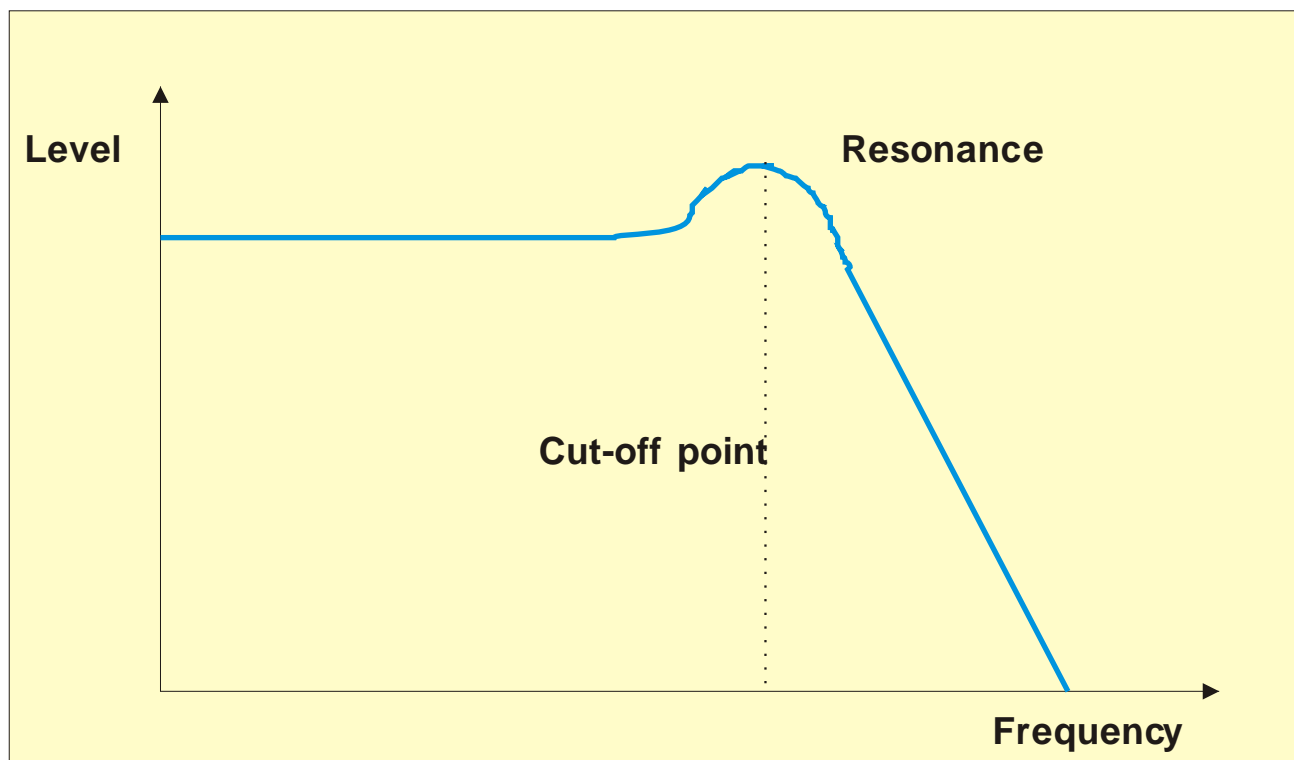
When the high-pass filter is selected

As you raise the value, lower frequencies are reduced. When the knob is positioned at its lowest setting all frequencies will pass through the filter. At the highest setting only very high frequencies will pass through the filter.

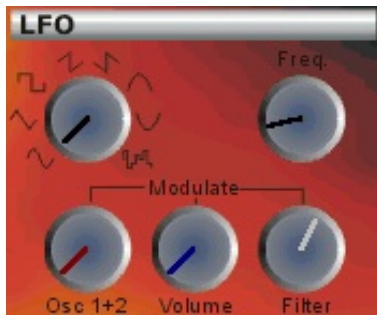
Filter resonance



This knob controls the amount of resonance. Resonance amplifies the frequencies in the area around the cut-off point. When the value is raised the resonance peak gets higher.



Example of a low-pass filter



The LFO (Low Frequency Oscillator) repeatedly modulates pitch, volume & filter cutoff with the selected waveform..

Waveform

Selects the type of waveform the LFO is using.

Sine, Triangle, Square, Saw up, Saw down, Exp up, Exp down or random.

Freq

Sets the speed of the LFO.

0.01 - 30 Hz.

Modulate Osc 1+2

Sets the amount that the LFO modulates the pitch of the oscillators. In this way vibrato effects can be obtained.

Modulate Volume

Sets the amount that the LFO modulates the volume of the sound. Use it to produce f.inst. tremolo effects.

Modulate Filter

Sets the amount that the LFO modulates the cutoff frequency of the filter. Can produce f.inst. wah-wah effects.

Voice limit



This knob limits the maximum number of voices.

When 2-16 voices are selected

In this mode voices are played polyphonically. When the synth runs out of available voices it “steals” a playing voice. Impulse’s note-stealing algorithms ensure that the note-stealing will be as transparent as possible.

When “mono” is selected

In this mode only one voice can be heard at a time. If a key is pressed before the previous key is released, the envelopes will not re-trigger! This feature can be used very creatively in solo-playing.

Please note!

Every voice from 1 - “Voice limit” uses a bit of processing power, even when they are not playing. Always set the “Voice limit” to the maximum number of voices the synth will be playing.

Demo Version

The demo version of Impulse doesn’t have the “Voice limit” knob. It’s hardwired to “mono” mode.

Impulse has support for the following MIDI controllers.

Controller	1	Modulation
-	7	Volume
-	10	Pan
-	11	Expression (Good for gate effects)
-	64	Hold pedal
-	71	Resonance (from 0 to the knobs value)
-	74	Cut-off (from 0 to the knobs value)
-	120	All sounds off
-	121	Reset controllers
-	123	All notes off

Furthermore Impulse support pitch-bend messages. Pitch bend is hardwired to +/- 2 semitones.

Program change is also supported. This gives you the possibility to use the same channel to play different sounds. Please note that sound is cut off when a program change is received, so its best to send program change when the channel is silent.

Please note!

Some host-sofwarens (f.inst. Emagic's Logic) remaps some of the controllers. Therefore you may need to use another controller number than the above mentioned.

Price in US\$: 25

If you would like to purchase a license for Impulse -Virtual analogue synthesizer, you can order on-line at ShareIt:

Go to <http://www.shareit.com> and enter the program ID number 139241 in the search window at the bottom left of the screen.

We also accept orders via email at: register@shareit.com