

# A Sound in the Lead



nord lead<sup>®</sup> 2X  
virtual analog

## Background

First shown in early 1995, the original Nord Lead virtual analog synthesizer took the keyboard world by storm. It has since become a classic and a new standard of the industry. The warm analog sound coupled with modern technology moved the Nord Lead straight up to a leading position on the synthesizer scene. All around the world musicians praise the simplicity, the smart design and the musical power of the Nord Lead "virtual analog" concept.

With the Nord Lead 2, released in 1997, this great concept was improved upon in many new ways. A lot of nice features were added and the polyphony was increased. To this date, the Nord

characteristic sound coupled with a fast and intuitive user interface. From earth-shattering basses to screaming leads – you can definitely tell it's a Nord. The sound is literally right in your face! The unique sound engine of the Nord Leads employs mathematical simulations of signals generated by analog oscillators, instead of using waveform tables. This makes it possible, for example, to sweep the pitch smoothly over a very wide range and allow for true pulse width modulation. Also, the character of the filter exhibits a typical analog behaviour when swept with high resonance value. The awesome sound in the new Nord Lead 2X is refined even further thanks to the new 24 bit D/A converters!

While we were at it, we reduced the weight to under 5.3 kilos (11.7 lbs) and also lowered the price!

## Nord Lead 2X – a stage and studio synth in one!

The compact and smart design makes the Nord Lead 2X equally perfect on stage and as synth/master keyboard in the studio. With 26 realtime knobs and 27 buttons that send and receive MIDI Controller data, the Nord Lead 2X is ideal also for controlling other MIDI equipment. Imagine your home studio set up with the Nord Lead 2X as main synth and master keyboard for your soft synths and sampler. The perfect match!

# Nord Lead 2X – the rebirth of a classic

Lead and Nord Lead 2 are two of the most popular synthesizers ever built! Used extensively in studios, on stage and on records by the world's greatest artists, the Nord Leads have contributed with their characteristic sound on hit song after hit song. And of course, that's how we want to keep it!

## Nord Lead 2X – the rebirth of a classic

So why change a winning concept, you may ask. Well, we didn't change the concept – or the sound, for that matter. We simply upgraded the hardware to make it possible for the Virtual Analog sound to live on for many more years to come. The reason why the Nord Lead and Nord Lead 2 synthesizers elevated to the top of the synthesizer scene is because of their

The Nord Lead 2X features a large internal memory to hold all your great sounds. There is room for 4x99 user Programs, 100 user Performances and 4x10 user Percussion Kits. In addition, there are another 6x99 factory Programs, 3x100 factory Performances and 7x10 factory Percussion Kits in ROM. Plenty to choose from, in other words! The Nord Lead 2X is fully patch compatible with the Nord Lead 2 which means that you can transfer sounds straight between the models via MIDI.

With the Nord Lead 2X, every essential part of the original Nord Leads have been carefully preserved – the characteristic sound, the super-fast user interface – the works!

Nord Lead 2X comes with 20-voice polyphony, very useful when creating layered sounds, "power pads", awesome leads and booming basses. 20 notes are also very beneficial in sequencing situations thanks to its 4 multi-timbral channels. The keyboard of the Nord Lead 2X can be split into two sections with selectable split point. Also, since the Nord Lead 2X has the ability to play up to four sounds simultaneously, each side of a split can contain up to two layered sounds for even more exciting sonic possibilities! Nord Lead 2X comes with 4 assignable audio outputs which makes it very flexible to route individual sounds for further external processing.

The Nord Lead 2X offers 4 parts multi-timbrality, 4 individual outputs and 20 voice polyphony. You have them at all times – in real time. Imagine the advantages in a MIDI-set up. With the Lead 2X, it's a breeze to edit your sounds.

The Pitch Stick. Put your finger in the "groove" and move it! You have complete control of the pitch, just as a violin or guitar player.

The Nord Lead 2X is extremely light and portable. With a weight of 5.3 kg (11.7 lbs) it's easy to carry to the gig.

### Virtual analog

Combines classic ideas with today's technology. This synthesizer has it all... and more. Awesome leads, booming basses, frantic techno – at your fingertips. Every function has a knob. No digging in menus! Total real time control and instant accessibility make it a breeze to shape the sounds exactly the way you want them. Play with the filter and reso-

nance knob and enjoy the precise tracking and the superb sound quality. You can program any parameter change to velocity and do your licks. Our new high-precision Pitch Stick gives you complete control of the pitch and allows you to make a true and natural vibrato – just like a violin player! Add a whole new dimension to your playing!

### Velocity programming (morphing)

A special velocity programming section can be controlled by the Modulation Wheel making it possible to continuously "morph" between two parameter settings. This feature is a musically expressive tool that lets you shape your sounds while you play. This feature can also be routed to the Modulation Wheel.

### MIDI

Let's go MIDI controlling! In the studio, the Nord Lead 2X offers real time MIDI controlling of knob settings and special "MIDI patches" to recreate many of the effects produced by external patching

on traditional units. For example, let your pre-recorded drum pattern trigger filter and amplifier envelopes, where the hi-hat pattern triggers the filter envelope and the kick drum pattern simultaneously triggers the amplifier envelope. Use the Nord Lead 2X in this way and you'll be able to create fascinating poly-rhythmic patterns. The programmable velocity function can also be controlled from a separate MIDI source. All MIDI triggering can be done from separate programmable MIDI channels. The LFOs and 4 arpeggiators of the Nord Lead 2X can be forced to restart by MIDI clock.

### Four synthesizers in one!

There are four parts which are directly accessible from the front panel. This makes it possible to instantly create layers with up to four different sounds, where each separate sound in the layer can easily be edited in real time. Each sound has its own independent output. Make up super patches in the Performance section. Create monster basses and mega pads.

But it doesn't stop here. The sounds in a layer can be programmed by the special morph function making it possible to fade sounds and parameters and create an unlimited number of exciting patches.

### Sound generation

Virtual Analog Synthesis. Clavia has analyzed analog synthesizer design in detail and implemented the research in several digital models. The Nord Lead 2X employs mathematical simulations of the electrical signal generated by analog oscillators, instead of using waveform tables. This makes it possible, for example, to sweep the pitch smoothly over a very wide range and allow for true pulse width modulation. Also, the character of the Nord Lead 2X filter exhibits a typical analog behaviour when swept with high resonance value.





Virtual Analog  
**MIDIEX**

# Technical specifications

## Polyphony

20 voices. 4 part multi-timbral.

## Special features

Velocity Morphing: each function, controlled by a knob, can be controlled to respond to keyboard velocity.

Wheel Morphing: each function, controlled by a knob, can also be controlled by the Modulation Wheel/Control Pedal to continuously fade between two sets of values.

## Performance controllers

4 octave velocity sensitive keyboard with octave shift buttons (+/-2 oct.). Keyboard Split, two sections. Modulation Wheel, the Pitch Stick (with no dead zone at zero crossing), 1 pedal input for sustain and 1 for expression pedal. Patent pending for the Pitch Stick.

## User interface

3 digit display, 26 knobs and 27 buttons for program editing.

## Oscillator section

OSC 1 generating sine, triangle, sawtooth or pulse with adjustable width, waveforms. OSC 2 generating triangle, sawtooth or pulse (with adjustable width) waveforms and can also generate noise with a color control. OSC 2 can be hardsynched to OSC 1. Linear deep frequency modulation of OSC 1 from OSC 2. A wide range of new waveforms, with a strong formant character, is achieved with the new synchable noise, where noise can be synched to OSC 1.

## Filter section

12 dB (2-pole) low pass, 24 dB (4-pole) low pass, band pass or high pass and notch with 12dB low pass. Cut off, resonance, envelope amount, envelope amount controlled by velocity. ADSR envelope. Filter keyboard tracking, full, 1/3, 2/3 or off. Filter distortion.

## Amplifier section

ADSR envelope, gain control.

## Modulation section

LFO 1 generating triangle, saw, pulse, LF filtered noise and random staircase routed to OSC1+2, OSC 2, filter, pulse-width and FM amount.

LFO 2 produces a triangle waveform, routed to OSC 1 and 2 or amplifier. It also controls the rate for the arpeggiator. Arpeggiator: Range: 1-4 octave. Modes: up, down, up/down, random. Hold function. Echo can be set between 1 to 8 repeats. Modulation envelope (attack, decay) for OSC 2 pitch, FM amount and pulse width.

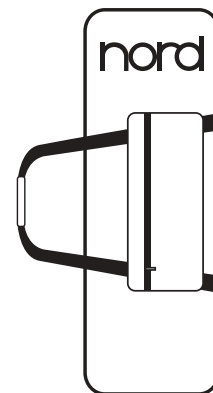
## Performance section

Play mode: Poly, legato, mono, unison mono, unison poly. Manual mode: Four program slots for layering possibilities. Portamento/auto portamento.

## Percussion kits

10 "analog" drum kits. Each percussion kit consists of 8 independent sounds, configured in 8 zones across the keyboard.

The lightweight Nord Lead 2X is a breeze to carry to the gigs using our custom designed soft case with back pack straps.



## Memory

Programs (single sounds): 396 (4x99) user, 594 (6x99) factory. Performances (multi sounds): 100 user, 300 (3x100) factory. Percussion kits (multi zone sounds): 40 (4x10) user.

## Audio Out

4 outputs. Each slot has its own output. Modes: stereo, mono and multi-timbral mode. Headphones out. High resolution low noise 24 bit DACs.

## MIDI features

All control knobs and switches for program editing send and receive control change messages. System exclusive bulk dumps. One program or all programs. MIDI clock synchronizing LFO 1 and LFO 2/arpeggiator restart. Triggering of the filter and amplifier envelopes and velocity control from separate programmable MIDI channel and note numbers.

## Dimensions in mm

865(W) 265(D) 105(H). Weight 5.3 kg (11.7 lbs).



