Large As Life

Plug-in specialist Neural DSP steps into the hardware world
with this highly anticipated modelling unit that boasts
2GHz of power from its quad-core processors

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NEURAL DSP QUAD CORTEX £1,449

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The display is armoured with chemically strengthened protective glass and a reinforced touch-sensor panel

What You Need To Know

1 **Neural? Never heard of them…**
Neural is a Finnish company, known for its software plug-ins. The brand's mission is to design the next generation of both audio software and hardware products.

2 **So, it's a bit high-tech?**
Well, any digital modeller could be defined as such, but this particular one leans towards a more modern approach with a sophisticated touchscreen, Wi-Fi connection and a massive amount of digital signal processing (DSP).

3 **Plenty of footswitches but only one knob. How does that work?**
The huge volume knob is right where you need it, while the touchscreen takes care of a lot of what knobs, switches and buttons normally do. But there are actually knobs – they're just cleverly implemented as the cap on each of the footswitches!

Digital signal processing (DSP) in a hardware unit (providing a whole modelled signal chain of amp and cab simulation plus effects) is becoming increasingly popular, with many players opting for the likes of the Line 6 Helix or similar over a conventional amp-plus-pedals rig. New to the genre – and the subject of much buzz since its reveal at the 2020 NAMM Show – is the Quad Cortex, which manufacturer Neural is promoting as "the most powerful floor modeller on the planet".

Not only does the unit possess enormous processing capacity with 2GHz of dedicated DSP from its Quad-Core SHARC architecture, but it also has touchscreen capability implemented to a degree that we have never seen before in a guitar processor. But the jewel in the crown is Neural Capture, which digitally captures the sound of an analogue rig, in a similar fashion to Kemper's Profiling.

For all of its power, the Quad Cortex still manages to be a fairly small unit, which might not be out of place on a medium-sized pedalboard and is certainly easily transportable as a 'fly-rig'. It has a reassuringly solid build and its size has been kept down via two main features: the seven-inch touch display; and the metal caps on each of the footswitches, which are actually rotary encoders that can be used to change parameter values.

There are ample inputs and outputs that take care of many tasks besides plugging in a guitar. This includes a pair of combi inputs (with switchable phantom power for the XLRs) so you can plug in mics, as well as a headphone output, and a pair of send and return loops, which let you bring external pedals into the signal chain or employ the four-cable method of connection. There are standard MIDI DIN connections and MIDI over USB, although most players' use of the USB socket is likely to be employing the QC as an audio interface for recording and reamping.

There's no current computer-based editor/librarian to connect to via USB, but the unit is equipped with Wi-Fi to access firmware upgrades and more. It links to the Cortex Mobile app, and there's a Cortex Cloud for backing up your unit's presets, Neural Captures and IRs, and also sharing files with other QC users.

The sizeable Volume knob is in just the right place. Turn it up here!

Hold the tuner/tap switch to tune or tap in time for tempo change. A simultaneous press with the down footswitch changes modes

THE RIVALS

With similar functions for capturing sounds, the Kemper Profiler Stage (£1,401) combines the Kemper Profiler digital guitar amplifier with the Profiler Remote foot controller.

Line 6 modelling and effects floorboards are massively popular choices. There's the large Helix Floor (£1,230 street price) and the Helix LT (£799 street price), but the HX Stomp XL (£599 street price) offers great foot-switching ability in a smaller package.

Fractal Audio's Axe-Fx III is arguably the king of the hardware processors, but the company's FM3 floorboard (€1,299) is the unit most equivalent to the Quad Cortex, but only has three footswitches.

All the connections you need are clustered on the back panel

Creating and editing presets is easy with swiping, tapping and drag-and-drop moves on the touchscreen

In Use

The presets are built on a grid with four rows of eight blocks, each hosting a virtual device. This could be set up as four individual signal paths, but you have the ability to split and mix paths so you can use all four rows together to create a complex rig. There's no shortage of presets, either. 10 onboard setlists can each contain 256 presets (32 banks of eight). As for the virtual devices, you get more than 50 amps and more than 70 effects, and there are over 1,000 IRs, as well as the opportunity to load your own.

Creating and editing presets is quick and easy with swiping, tapping and drag-and-drop moves on the touchscreen. Just tap on any on-screen block and its parameters show up on the screen as virtual knobs. In addition, the footswitches – whose rotary caps correspond to those virtual knobs – light up, and you then have a choice of turning those or using the screen to make adjustments.

The amount of footswitches makes onstage use painless. There are three easily toggled main modes for the A to H footswitches: Preset, Scene and Stomp. In Preset mode, each of the eight footswitches calls up a preset in the bank. Scene mode uses the footswitches to access the eight 'scenes' you can have within a preset – variations on the theme, perhaps with adjusted parameter values or a different set of active blocks. While Stomp is for those who wish to use the unit as a standard effects pedalboard where any device block in a rig can be assigned to a footswitch for instant recall.

For all of these modes, the screen can be set to Gig View, which divides it into eight segments showing what each footswitch is assigned to. Expression pedals can be assigned to any device and control multiple parameters simultaneously.

Neural Capture, using modern AI technology, is dead easy to set up, too – just follow the on-screen instructions – and

NEURAL DSP
QUAD CORTEX

PRICE: £1,449
ORIGIN: Finland
TYPE: Amp and effects modelling floorboard
FEATURES: 2GHz Quad-Core SHARC architecture, Wi-Fi, 8-in/8-out USB audio interface, tuner, MIDI, 2,560 presets, tap tempo
CONTROLS: Touchscreen, capacitive power button, Volume knob, 11x footswitches, 11x rotary actuators
CONNECTIONS: XLR/standard jack combi inputs (1&2), standard stereo phones output, standard Capture out, XLR Main outputs (1/L&2/R), standard outputs (3/L&4/R), standard Send (1&2), standard Return (1&2), EXP 1, EXP2 , MIDI In, MIDI Out/Thru, USB, S/PDIF digital out
POWER: Supplied adaptor 12V DC 3A
DIMENSIONS: 290 (w) x 190 (d) x 49mm (h)

Each footswitch has a rotary encoder that twists to adjust a parameter value

takes just a few minutes. The results are really good with just a little post-capture tweaking needed to get the taken global snapshot pretty indistinguishable from the real thing – whether that's the sound of rig, or a single amp or dirt pedal setting. You can then store it in the QC, integrate it as a block into presets and maybe gig with it, without having to take the original equipment out of the house.

Sounds

The Quad Cortex is naturally responsive to play through and has some great-sounding amps, with the usual familiar favourites covered. The actual modelled amps are variations on less than 20 guitar amps and a handful of bass amps, but these are supplemented with Neural Captures and, once you are part of the Neural community, there are loads of other users' Captures available to load into your machine. There are effects in all categories, but not the variety you'd see in some rival floorboards; there's no plate reverb, for instance. However, Neural says it is committed to expanding the amount of virtual devices and tells us there's a major update on the way with significant changes and features.

Verdict

By now, you'll all know the amount of different scenarios a unit such as this can be used in. Versatility is the name of the game and the Quad Cortex definitely has it. But does it outstrip the competition? Well, in certain ways... While its collection of models, particularly effects, is a work in progress (Neural is inevitably playing catch-up as other companies have been refining and adding to their hardware units for years), there is plenty of potential there. It has size and portability in its favour, its user-interface is outstanding, and the Neural Capture is an excellent facility. Overall, it's a powerful addition that pushes the boundaries of the genre. G

Guitarist **CHOICE**

9/10

PROS Compact and portable; innovative touchscreen operation; ease of editing; Neural Capture facility; Neural Cloud for file storage and download; good USB interface capability; versatile connectivity

CONS No computer-based editor; no looper; lacking in some areas of effects