

FRET-KING CORONA 60 & 70 FLUENCE EQUIPPED £1,699 EACH
ELECTRICS

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Wireless is more

Trevor Wilkinson teams up with Larry Fishman's latest pickup invention to produce a pair of super guitars. Fluence has landed

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Fret-King Corona 60 & 70 Fluence Equipped **£1,699 each**

What You Need To Know

- 1 What the heck is Fluence?**
It's the name of Fishman's first entry into the electric guitar pickup market. Our review Fret-Kings are loaded with the 'single coil' Single Width pickups and a pair of Classic Humbuckers.
- 2 They don't look very different...**
Outwardly, no, but via a solid core, instead of a coil of wire, not to mention active powering and multiple voices, they represent a pretty fundamental redesign of the magnetic pickup as we know it.
- 3 Active? They're more metal then...**
You're thinking of EMGs, which, originally, weren't designed for metal players. And while Fishman does offer the Modern Humbucking Fluence pickups that certainly look to that genre, our review guitars and their pickups, are much more classic.

Think Fishman and the majority of us think of pickups and preamps for our acoustic guitars. 'Fishman-equipped' has become a standard for many major brands' electros, but that's certainly not all that the Boston-based company creates. Aside from pickup systems for most stringed instruments, there's the innovative Triple Play Wireless MIDI guitar controller, the Loudbox acoustic amps, the SA220 solo performance vertical PA system, the Aura acoustic imaging system (both onboard and outboard) and standalone preamps, such as the Platinum Pro EQ and ToneDEQ preamp with effects. And last – but we feel far from least – we have a whole new range of pickups for the *electric* guitar: Fluence.

Fishman is distributed in the UK by JHS, the company behind the Trevor Wilkinson-designed Fret-King range, which is the first guitar brand to fit these new pickups onto production models. In concept, both Fishman's and Wilkinson's designs centre on the same re-imagining of the classics. Wilkinson's Corona, for example, takes the Fender Stratocaster, alters a few lines, adds a few tweaks and creates something that's a good guitar in its own right. Fishman,

meanwhile (as our interview on p102 details) has re-imagined the classic Fender single coil and Gibson humbucker. But perhaps 're-imagined', which suggests a facelift or a subtle redesign, isn't going far enough: Fluence represents one of the most significant redesigns of the magnetic pickup in its entire history.

Multi Voices

Our Corona 60 is fitted with the only set of Single Width Fluence pickups currently offered by Fishman. They might be single-coil sized, but they are hum-cancelling and use two of the solid cores (instead of conventional coils) that lie at the heart of the concept – stacked on top of each other with a spacer between. They also use conventional Alnico IV rod magnets. The three pickups share one preamp, which is mounted to the base of the bridge pickup. Irrelevant of the technology, these pickups are unique in offering two voices. Voice 1, 'vintage single-coil', is described by Fishman as having

"vintage tone, clear and present, seamlessly fused with a sweet warmth". Voice 2, selected by pulling up the second tone control, is called 'hot Texas single-coil' and is described by Fishman as "muscular, beefy, 'overwound' tone without losing the highs or the 'Strattiness' we all love".

There is a third option, that can be used with either, or both, of the Voice selections – and that is High Frequency (HF) Tilt. It's not wired on our Corona 60, but it effectively offers a preset high-end roll-off and might be handy if you find these Single Width pickups to be too bright.

Our Corona 70 is fitted with a pair of Fluence Classic Humbuckers, again with dual voicings (once again, the HF Tilt option isn't wired in). Voice 1 on both is 'Vintage PAF', albeit with the "dynamics and output level you want," says Fishman. Voice 2, on the bridge pickup, is 'classic hotrod' – a hotter-style voicing – and on the neck pickup, Voice 2 is called 'clear, airy chime', which Fishman

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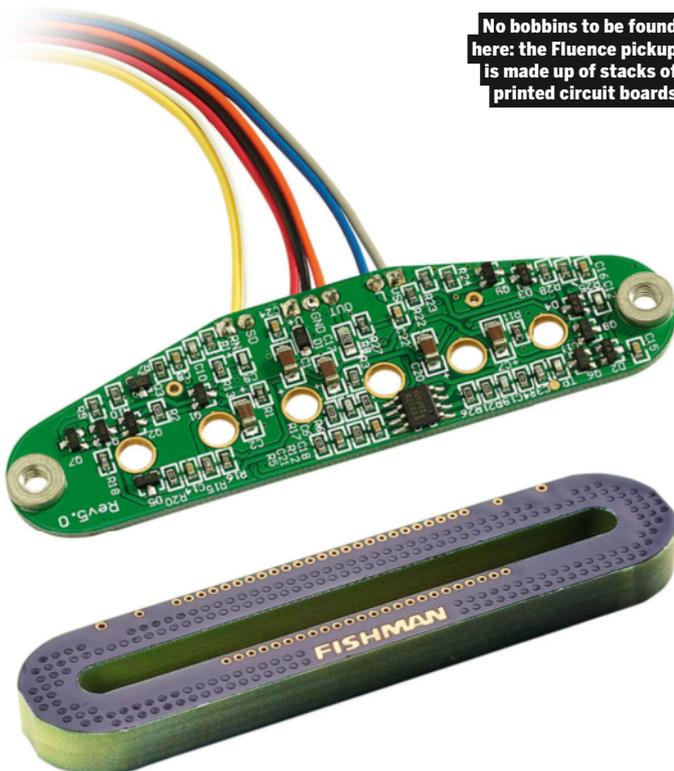
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The Rivals

Fender doesn't make an active pickup-loaded Stratocaster, so you might be best looking at the perennial **American Standard** (£1,438) and fitting your own active pickups – it's not that difficult! The obvious rival to the Fluence pickups is **EMG**. Its single-coiled humbuckers, like the **SA**, retail at £69.99 each; a set of three costs £199 including five-way selector, volume and two tone pots, output jack and battery clip – all with solderless connections. Individually, the full-size humbuckers, like the **81, 85** and **60**, cost £74.99. The metal-covered 'Metal Works' humbuckers are £109 each – sold in pairs for twice the price. Again, they come with the necessary wiring, all solderless. While EMG doesn't offer a rechargeable battery pack, you can power them offboard with a pedal-sized power supply and stereo lead. The nine-volt supply retails at approx £89; the 18-volt is £140

No bobbins to be found here: the Fluence pickup is made up of stacks of printed circuit boards



states has “unreal highs, vocal midrange and tight lows”. As supplied, with just one pull switch on the master tone, in down position we have Voice 1 of both pickups; pulled up, we get Voice 2 of both.

Available with black or white covers (as here), the Single Widths look quite modernist with their protruding staggered height rod magnets, but not overly so. The Classic Humbuckers have metal tops – in a choice of gold, black or chrome plating (as here) – and a single row of adjustable poles. They use Alnico V magnets, and the gubbins is all encapsulated in the otherwise plastic covers; mounting is via inset, threaded nuts at the end of the bases of the Single Width pickups and on protruding plastic legs on the Classic Humbuckers.

Moving away from the pickups, both guitars are eminently fit for purpose. Fret-King's Green Label series sits at the top of the brand's range and

the guitars are created in small numbers by Wilkinson and his team in the UK. The specs of both guitars are very similar to the non-Fluence equipped Corona models with the exception of the hardware, which is from Wilkinson's cost-effective Korean-made range, as opposed to Japanese-made – which might cost less but are typically good. The switch is to ensure that the guitars still hit the market at well below £2,000, despite the cost of the Fluence pickups compared with usual passive pickups.

However, it raises a valid point about the Fluence pickups: they're not cheap, and that fact alone may well limit their appeal to the numerous brands that use EMGs, Duncans, DiMarzios and the like. At their suggested retail prices, they're more expensive than EMG (see The Rivals, above), especially the humbuckers. Still, while the Single Widths are nearly twice



the price when purchased individually, the gap narrows considerably when sold as a three-unit set with that shared preamp.

Sounds

Evaluating a guitar pickup isn't straightforward. Unlike a microphone, which you can line up next to your reference mic and listen to how it sounds capturing your voice or guitar, for example, you can't just compare a Fluence-loaded instrument with another guitar. Well, perhaps you can, and that's what most of us will do. So let's start there...

In Voice 1, the Corona 60 exhibits a clean, bright, pretty balanced Strat-like voice that sounds a little polite; it is very quiet in terms of noise pick-up. There's a marked difference in Voice 2: noticeably higher in



Like the Single Width units, the Classic Humbucker (neck shown here) offers two voices

output, thicker and more ballsy. We'd be very tempted to either hard-wire this second voice or swap them around so Voice 1 is activated when you pull up that switch. Pulling out a first-generation, and now well-gigged, Fender Road Worn Strat, it sounds bigger, tougher

and darker. We also throw another custom-made Strat-alike into the mix, which sits sonically between the Fret-King and the Road Worn.

But, of course, we're not just listening to the pickups, are we? There are the different woods, ages and finishes, string gauges,

string condition, hardware, and last but not least, the pickups themselves, how they are placed height-wise, and so on and so forth. It's 50 shades of subtlety that can add up to a substantial difference in what we're hearing. After our initial listening test, we restring our three guitars with the same gauge strings and set each of the pickup sets as close as we physically can at the same distance from the strings. It certainly narrows the field a little, but, for example, our Fender Road Worn still has the 'bigger' sound, while the Corona 60 sounds a little more 'produced', as if we've EQ'd it to maximise that 'Stratty' high-end sparkle and tightened up the lower mids. The more we play the Corona 60, however, the more we like it, especially that Voice 2 tone. In anyone's book, it's a good single-coil tone.

One deal breaker might well be that volume control. Of our passive guitars, the Road Worn is pretty classic in that as we turn down we lose highs and there's quite a steep hump: we



The Corona 70 comes with a pair of Fluence Classic Humbuckers



<http://bit.ly/guitarist394>



Fluence pickups can be powered by mounted rechargeable battery packs



Power Packs

FLUENCE pickups need power, and they can use either a standard nine-volt battery – which offers 250 hours' continuous use for the Single Widths and 200 for the Classic Humbuckers – or three optional rechargeable battery packs. One, as fitted to our Coronas, is like a thicker vibrato backplate; the second pack functions as the rear control cavity cover for a Les Paul, and there's also a smaller universal pack that can be mounted, for example, inside a back cavity. All are rechargeable via USB, a complete charge from zero taking three hours or less, and continuous use time is similar to the quoted nine-volt times. While we can't complain about these quoted battery use times, EMG – Fluence's obvious competitor – quotes far longer times: 1,500 hours for its full-size humbuckers and 3,000 for the 'single-width' pickups, such as the SV. EMG also offers outboard powering.

go from full-on to quite a reduction with only a small travel of the pot. The Fluence's volume control on both Fret-Kings is like a fader on a mixing desk: it's very nicely graduated and reduces the volume without tonal change. But, if you want to lose some highs as you turn down, you can't. The tone controls could be a little more effective, too: the high-end roll off, especially on the lower bridge pickup tone, takes time before it's noticeable.

Think 'classic humbuckers' and you immediately imagine a Les Paul. As good as the Corona 70 is, it isn't a Les Paul – although, for many a player, a Strat-style body with humbuckers... Well, it's a pretty classic hot-rod recipe, isn't it?

While the Yamaha suggested classic Kossoff, the Corona 70 jumps a decade and suggests early EVH

For reference, we loaded a set of the Fluence CHs onto a Yamaha SG1820 and with just Voice 1 it's a thumpingly huge single-cut voice with all that low end and lower midrange girth of a good 'Paul. Back to the Corona 70 and we hear a tightened low end with a little more upper midrange push. Either would be welcome in this writer's collection. While the Yamaha suggested classic Kossoff and the like, the Corona 70 jumps a decade and suggests early EVH. Switch to Voice 2 and, with

some classic rock amp gain, it's subtle but noticeable: the bridge's second voice is mid pushed with a high-end roll-off, a little juicier hitting the front end of your amp, too. The neck's Voice 2 is slightly more open in that it seems to bring down the upper mids a little – a very vocal lead voice indeed, especially with some more gain underfoot.

Switch hats and plug directly into a small PA or acoustic amp and, well, if pristine cleans or clipped funk are your thing this is the way to go. On the Yamaha,

it really nails an older jazz tone, especially as we'd wired in the HF Tilt, again subtle under gain but more pronounced in this 'studio'-like setting. Both the Corona 60 and 70 sound superb here, too.

Verdict

Our host Fret-King Coronas are seriously good guitars. If you can't find your fit with their obvious competition, we suggest you check 'em out. But the real innovation here is the Fishman Fluence pickups and the question is, does the world need yet another electric guitar pickup, especially one that bucks the zeitgeist and is active? So many of us 'hear' pickups by looking at their specifications and simply won't touch an



The Corona 60 is fitted with Single Width pickups, but they are hum cancelling

With their potentially three different voices, the Fluences are unique, along with their solid cores

active pickup with a barge pole. Of course, many players will – certainly those of a more metal persuasion – and Fishman is catering for those players with the Modern Humbucking set and just-released seven-string sets. Then there are some of us who actually *like* active pickups, such as EMGs, for their response, balance and quiet operation, not to mention their low impedance.

However, with their potentially three different voices, the Fluences are unique, along with their solid cores that allow incredible consistency from pickup to pickup – something Trevor Wilkinson has observed while building these and other Fret-King Fluence-equipped guitars. It's that consistency, and the

other attributes of the active pickup, that make these units very valid for the recording guitarist, or indeed any player who wants to expand the voices on their guitars beyond the usual coil-splits or rarer coil-taps. Of course, the very inconsistency of a passive pickup is what appeals to many of us. Some good vintage PAFs exhibit a slight bell-like microphony that some like. Others don't. Some makers purposely unbalance the coil windings of their humbuckers. On it goes...

It'll be very interesting to watch the progress of these pickups. In the meantime, check out our Longterm Test section from the next issue onwards to see how we get on with them in the real world. **G**



Fret-King Green Label Corona 60 & 70 Fluence

PRICE: Both £1,699 (inc case)
ORIGIN: Assembled in UK
TYPE: Double-cutaway, solidbody six-string electric
BODY: American alder
NECK: Canadian hard rock maple, bolt-on
SCALE LENGTH: 648mm
NUT/WIDTH: Wilkaloid/60: 41.6mm; 70: 41.5mm
FINGERBOARD: Rosewood, cream dots, 254mm (10-inch) radius
FRETS: 22, medium jumbo
HARDWARE: 60: Chrome-plated Wilkinson WVC SB vintage-style vibrato. 70: Chrome-plated Wilkinson WVPC SB vintage-style vibrato. Both use rear-wheel locking tuners
STRING SPACING, BRIDGE: 54mm
ELECTRICS: 60: 3x Fishman Fluence Single Width, 5-way lever pickup selector switch, master volume neck/middle tone, bridge tone w/ pull-push switch to engage Voice 2; 70: 2x Fishman Fluence Classic Humbucker, 3-way lever pickup selector switch, master volume and master tone w/ pull-push switch to engage Voice 2
WEIGHT (KG/LB): 60: 3.5/7.7; 70: 3.78/8.3
RANGE OPTIONS: See website
LEFT-HANDERS: No
FINISHES: 60: Laguna Blue with white s/plate; 70: Classic Burst with tortoiseshell s/plate (as reviewed). Numerous other finishes are available
JHS
01132 865381
www.fret-king.com

GUITARIST RATING ★★★★★

Build quality	★★★★★
Playability	★★★★★
Sound	★★★★★
Value for money	★★★★★

Guitarist says: *Classy versions of a classic recipe that, with Fluence's unique attributes, make both first-class choices*



Fishman Fluence Single Width

PRICE: £115 individually; £235 for 3
TYPE: Multi-voice, active single-coil-sized humbucker
COVER COLOURS: White or black
VOICE 1: Vintage single coil
RES PEAK FREQUENCY: 4kHz
VOICE 2: Hot Texas single-coil
RES PEAK FREQUENCY: 3kHz
MAGNETS: Alnico IV rods
POLE SPACING: 52.2mm
OUTPUT IMPEDANCE: 2k ohms
POWER: 9V block or rechargeable battery pack (£109)
BATTERY LIFE: 200 hours
OPTIONS: None
www.fishman.com

Fishman Fluence Classic Humbucker

PRICE: From £149; from £279 for two
TYPE: Multi-voice, active full-size humbucker
COVER COLOURS: Nickel; black and gold (both £159 each; £289 for 2)
VOICE 1: Bridge and neck: Vintage PAF
RES PEAK FREQUENCY: 2.25k (bridge); 2.6k (neck)
VOICE 2: Classic Hot rod (bridge); Clear, airy chime (neck)
RES PEAK FREQUENCY: 1.6kHz (bridge); 4.5kHz & 350Hz (neck)
MAGNETS: Alnico V bar magnet with pole pieces
POLE SPACING: 52.6mm (bridge); 49mm (neck)
OUTPUT IMPEDANCE: 2k ohms
POWER: 9V block or rechargeable battery pack (£109)
BATTERY LIFE: 277 hours (bridge); 200 hours (neck)
OPTIONS: See website

GUITARIST RATING ★★★★★

Build quality	★★★★★
Features	★★★★★
Sound	★★★★★
Value for money	★★★★★

Guitarist says: *One of the most innovative pickup concepts in decades, Fluence isn't cheap, but it is unique. Time for a change?*



Are the coils and windings of traditional guitar pickups about to be superseded?

Sculpting Sound

When it comes to amplifying the acoustic instrument, there's little that Fishman doesn't know. But the 'dark art' of the electromagnetic pickup is another story..

“I’ve been avoiding the electric guitar pickup for over 30 years because Seymour Duncan, Rob Tuner [EMG] and Steve Blucher and Larry DiMarzio, they were doing just fine,” states Larry Fishman in his whiskey-toned East Coast twang. “I didn’t have anything extraordinary to say, so I just stayed out of it and did my thing with acoustic stuff.”

If you didn’t know better, you’d think Larry was an old-school pro musician who’d just got up after a late-night session. He is a very fine upright bass player, but we know him as the head and driving force of Fishman Transducers. Acoustic stuff is his business, but at the winter NAMM show in 2014, he entered the electric guitar pickup market. Why?

“Well, over that 30-year period we became very good at measuring things, measuring guitar response – we certainly know about electronics, both analogue and digital, and we were building the company. Because of that, I got approached by an aerospace company. One of their physicists was a guitar player and he figured you could make a pretty interesting coil without winding wire. They had filed a patent on it then shopped the idea around to see if someone was interested in turning it into a guitar pickup.

“So, basically, the Fluence core is a 48-layered stack of printed circuit boards, with race track-like coils etched on each layer, and all interconnected with little taps. We have a solid-

mass coil that replaces the usual bobbin. That intrigued me. I said, ‘It’s certainly *different*’. I loved the way it looked and felt especially in terms of potential manufacturing. So, I signed a licensing deal with them not knowing, at that point, if I could actually make a pickup out of it: a good electric guitar pickup.

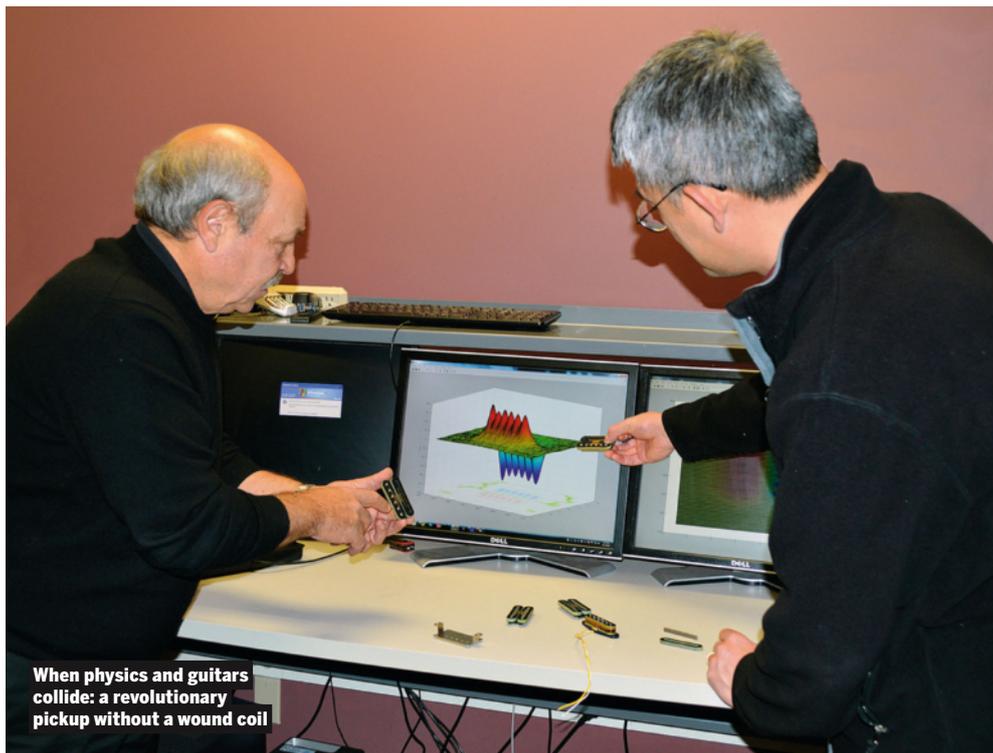
“We made up a bunch of the coils with these cores and I started about an 18-month process of trying to turn that into an electric guitar pickup. We looked at all the great electric guitar pickups, going back to George Beauchamp

80-something years ago and, you know, nothing has really changed: everything that has come since is sort of a variation on a variation. I looked at this [electric guitar pickup] industry and realised there is so much voodoo going on; people don’t know this from that. It seemed to me that it was time to bring some sensibility to the game.

Not change the way they sound – I love the way a good set of Seth Lover’s humbuckers in a Les Paul sound. Or the Telecaster, it’s bright, it’s chiming, it’s magical. I love all that, but there’s bad things that come with all these pickups...

“Number one, single coils hum and buzz; people have been trying to get rid of that forever, but doing that can kill the pickup. All passive pickups are subject to cable loading, volume pot loading, tone pot loading. It’s like... it’s archaic. You can’t use your volume control on your electric guitar

“The Fluence core is a 48-layered stack of printed circuit boards, with race track-like coils on each layer”



When physics and guitars collide: a revolutionary pickup without a wound coil

'cos it's going to change the sound. Now, plenty of people do exploit that, but many don't. So, even the greatest-sounding pickups have this negative side."

Getting powered

"I said, 'Okay, let's fix that,' Larry remembers. "The first decision – and it was a tough one because I know how reticent this industry is to change – was to go active. We're going to power these pickups because I can solve a thousand problems that way and bring so much to the table. But before we got there, I wanted to get in some zone where I could standardise the coil – I didn't want a different stack for every pickup design. Going powered allowed me to do that: it was a blessing in disguise and was the beginning of this whole system.

"We decided, for a variety of reasons, to go with a 48-layer stack, which makes it a relatively low-inductance pickup. That brought a lot to the party, as the coil is dead flat in terms of response. That alone would be a horrible-sounding electric guitar pickup, but it's a great place to start sculpting. Also, because they are low inductance, if I want to stack

them for hum cancelling, the mutual inductance is so low they don't talk to each other. So even our 'single coil' [the Single Width] has a hum-cancelling stack on the bottom. But that doesn't affect anything, because that stack isn't 'seeing' anything, like the string. There's a spacer [between the two coils] – so they don't talk to each other."

Learning the art

"The thing we didn't know about too much in the beginning is that there are two circuits in a pickup," adds Larry. "There's the electrical circuit, the resistance, capacitance and inductance of the coil, there's the magnetic circuit. We started looking at these and bought some great sounding pickups and started to analyse them.

"We have a great guy, head of R&D, driving the research – Ching-Yu Lin. I was driving him crazy with these different designs and asking him to map their response. He ended up creating a three-dimensional magnetic field 'mapper' that we can look at on a computer screen and see, in 3D, the shape of all the fields of all the magnetic pickups you'd ever want. It was astonishing how

small differences can make a huge change. Over time, we learned a lot about the shape of the magnetic fields that make a great vintage pickup.

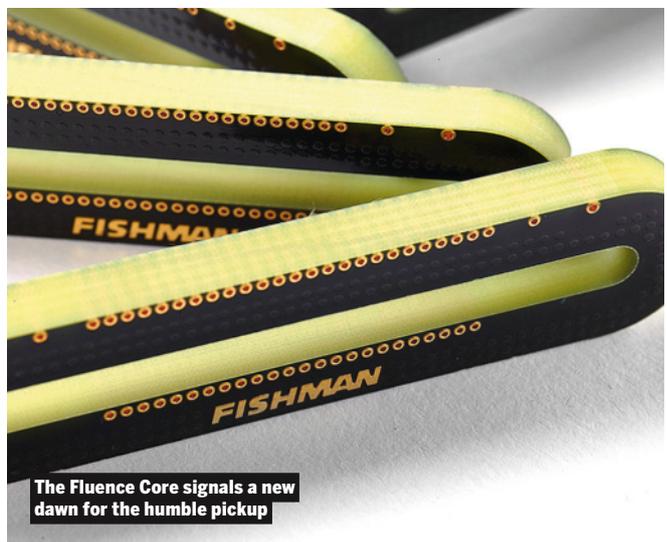
"So, having understood that and having our low-inductance coil [that has no microphonics] when we put them in a humbucking pair, they balance within half a per cent of each other: they *are* humbucking. All – I say *all*," laughs Fishman, "we had to do was make them sound good! They had to have the right frequency response, and they also had to have the right

dynamic response to make a great pickup.

"I pulled in a bunch of great guitar players and some other people from the industry that had experience in traditional magnetic pickups, and guitars in general. So we'd take an original pickup, do our analysis, then we'd build the circuit that gives it the resonant response, the high- and low-frequency roll-offs. I also built another real-time digital system for R&D that we could run our pickup through and put in our target filter and actually have dials to tweak the resonant frequency to a few Hertz. By the way, that would take my friend, Seymour Duncan, about three months and about 50 variations of winding to get to the same place: we can do it in 10 minutes. Basically, we went from zero to 125mph in that 18-month period.

"While we were at it, putting that 'voice' into the pickup, we said, 'Let's put *two* voices in there, so Fluence are actually multi-voice pickups."

"It's a modern world," concludes Fishman. "We pay great homage to those old sounds we grew up with, and many of the more modern ones the metal guys are using, but you don't build a house with a hammer any more: you use a nail gun because it's faster. You don't fly aeroplanes in bad weather without radar any more. And this is *not* rocket science, this is basic stuff." ☒



The Fluence Core signals a new dawn for the humble pickup