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Trevor Wilkinson explains the revolution of auto-tuning



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FRET[®] *King* **Super-Matic**[™]
by Trevor Wilkinson



Fine tuning

After years of development, the long rumoured ADT self-tuning bridge was launched at Summer NAMM on a Wilkinson-designed Fret King. Gary Cooper tightens the gears with Trevor Wilkinson to see how it all came about...

Trevor Wilkinson has something on his mind. As Britain's one-man guitar think-tank, this isn't particularly surprising – indeed, you imagine that his brain must be bubbling with ideas continuously, but almost as soon as we start speaking, it's clear that he wants to get something off his chest. The problem, he explains, is one of perception. He wants to make sure the industry understands that the recently launched Wilkinson ATD HT440 self-tuning bridge system wasn't a solo project and, equally, is soon to be available on other guitars besides his (and JHS') Fret King – the first brand to carry this remarkable product.

Though it wouldn't be the *MI Pro* style to spring Paxmanesque-style questions,

Wilkinson's candour did slightly take the wind out of our sails as these were two issues we had intended to raise – both the story behind Auto Tuning Developments and whether it has got off to a lower key start than one might have expected for what could be a truly world-beating idea.

The ATD has been a long time in the making. Word began to spread about its development several years ago and, originally, Wilkinson's name wasn't connected with it. We wanted to know how he had got involved, what his role in the project had been and whether he feels he can succeed in selling an auto-tuning system to a public (let alone a trade) that hasn't exactly showered Gibson's Robot concept with universal praise.

Moreover, we wanted to know whether he felt Gibson had tainted the entire market for self-tuning guitars.

But before that, whence ATD?

"The system came about in the first place with Richard Whittall and his son, Nick. Nick was at college and a guitar player. He had heard a guy talking about a device that could automatically tune a guitar. He mentioned it to his father as a product they should develop and, to cut a long story short, they did that. They then looked around for the best way to take what was a very large, expensive piece of equipment to the next stage. They were put in touch with me – and to give you some idea how long this has been in gestation, this was in around 1996 or 97." ▶

I want to set the record straight on this. This was not a solo effort – it has been a team effort from the start.
Trevor Wilkinson

COVER FEATURE WILKINSON

Wilkinson – the only man in Britain who had managed to challenge the US monopoly on advanced guitar vibrato systems and components – had unique experience here. He had a reputation among players, had sold branded products to the big international guitar companies, been an early pioneer in sourcing reliable Far Eastern licensing without getting his ideas stolen – in short, he had credibility in the international guitar world. It was that experience and insight that made him set two initial conditions for his involvement in the project. The first was that it had to retro fit an American standard Stratocaster, the second, that it had to sell at an affordable price. Two conditions which, particularly in the light of what Gibson debuted ten years later, shows the sort of market nous for which Wilkinson is famed.

At this point in the interview, Wilkinson launches into a fascinating account of the technical struggles the team (which included Richard Whittall, a digital engineer, a mechanical engineer and himself) had to overcome. It's to be hoped that one of the guitar magazines will find

Team work

"I do want to set the record straight about this," Wilkinson continues. "This wasn't a solo effort. For example, ten years ago I brought into the team a lad called Andy Leadbetter, straight out of college with an honours degree in mechanical engineering. At that time we thought we were going to have to construct the whole gearbox ourselves, which was a nightmare project to undertake. Andy came to the project without the slightest knowledge of guitars and that has more or less defined my role, which has been as designer and taskmaster. I supplied my knowledge of guitars, vibrato systems and fixed bridges and he did the leg work. That's how this has worked – it's been a team project."

"Richard Whittall, as the managing director, has raised capital and all the essential things that go to make something like this a reality. For 14 years we've been an R&D company – there's been no money coming in, it's been just going out."

Wilkinson also stresses the contribution of Dave Goodway, the digital engineer

There is so much I could tell you. We don't look after our own in this country. Even with sales in hand, you still can't raise money from a bank.

Trevor Wilkinson

space for this story – which we, concentrating on the business angle, do not have – because for anyone interested in guitars, engineering or turning an idea into a product, it must rank alongside the Dyson saga for interest.

Britannia's business

Our focus, being on business, needs to record the difficulty Wilkinson says the team faced in trying to get support – the familiar tale that has left the UK with an unmatched record of patents and an empty treasure chest, as waves of inventors have been spurned by banks. For all the talk of 'cool Britannia' and the posing of government ministers with rock stars, no-one from government was interested in helping the ATD come to life and the banks proved equally as unenthusiastic. Wilkinson and the team were on their own.

Help came from other companies – including Maxon Motor, German gear makers founded by the Braun family (of electric razor fame) and Turchan, a US company that had developed a revolutionary process using lasers, employed to grow diamonds on the ATD's bridge saddles and Shadow electronics, again in Germany. With these three working alongside the British quartet (which, itself underwent some design personnel changes along the way) the product was, finally, brought to production, though it took an exhausting 14 years to do so.

who was a key component in the team.

"The other partners included Maxon. They make planetary gearboxes and I need to explain why that matters. We've got to be able to have enough torque to turn a 52 gauge string around a capstan the size of a tuning key, within the confines of a vibrato block in a bridge, and we can't go any deeper than 45 mm because 1¼ inches is the thickness of a Strat body. That means I needed to find gearboxes and motors within that size. I knew Maxon made a planetary gearbox and after a bit of a giggle at our prototype, they said they could do it. They saw it. I think, as a challenge – a way to demonstrate their skills. They've invested a lot of time and money and I'm very grateful for their involvement."

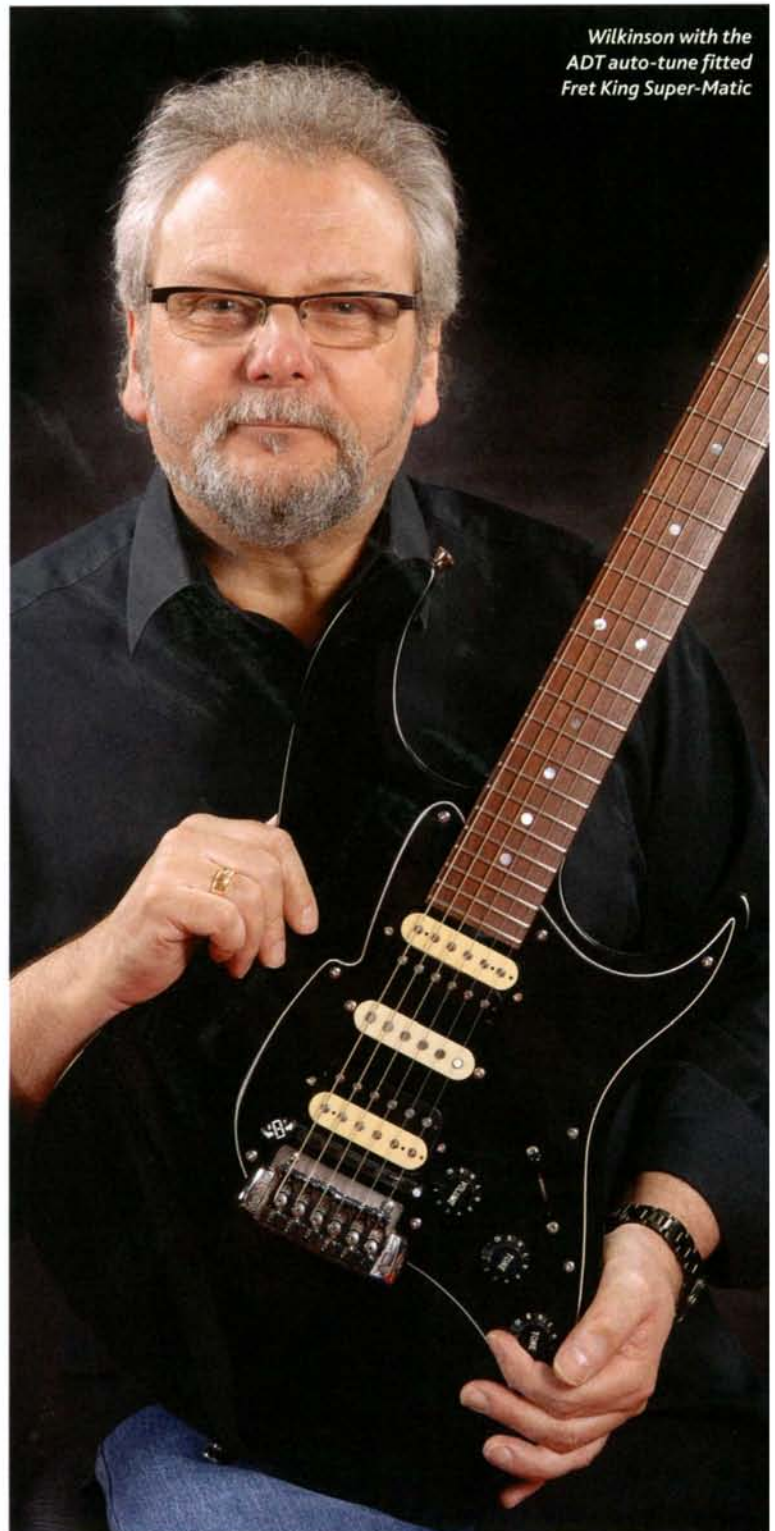
"We've had so many things happen like that – Maxon was a strategic partner – and so was Turchan. A problem we needed solving was reducing friction on the bridge saddles without sacrificing the sound of a Strat. Turchan had that technology and they've been invaluable."

Lift off

The launch vehicle for the ATD self-tuner was the Fret King Super-Matic.

Without wanting to belittle Fret King, wasn't that a low-key launch for such an exciting product? Wouldn't it have made more impact on a Fender or an Ibanez? Wilkinson has an intriguing answer.

"The device is available to every guitar company in the world and has been since



Wilkinson with the ADT auto-tune fitted Fret King Super-Matic

the start. The reason that it has appeared first in the Fret King Super-Matic is simply because Dennis Drumm at JHS had had the guts and the foresight to say 'We'll do that – put it in one of our guitars'. It's just the fact that Dennis was prepared to do it before anyone else."

So, what held back the rest of the world? Does Wilkinson think that Gibson could have shot the auto-tuning fox with its Robot – putting guitarists off the whole idea?

"I don't think they damaged the market – I think they damaged themselves. I think in some ways they did us a favour as they did bring something to the mass market by making people aware that the technology exists and actually

does work. And there's no doubt that the Gibson technology does work – it's just that it works within certain limitations.

"But not only do I think Gibson have damaged themselves, I think Tronical have damaged themselves, too, by taking it to market with an exclusive company."

Herein lies what could prove to be ATD and Wilkinson's smartest move, or biggest mistake. It isn't hard to imagine a deal being struck with a major guitar manufacturer to offer the ATD as an exclusive product – but Wilkinson is sure that would be the wrong thing to do.

"In an ideal world I'd like to have seen it available from every single guitar brand in the world. But to have gone from nothing to producing 10,000 bridges a



month would have been impossible. Someone had to be first. I've been in meetings with investors who know a little bit about rock n roll and their first comment is always: 'We need to sell it to Fender'. But my call has always been, Fender can have it with pleasure – but I've worked with companies like Fender and Ibanez in the past and what they want is exclusivity. Why would I want to give it to a company that has 20 per cent of the market and thus alienate the remaining 80 per cent? If I offer it to the other 80 per cent, that 20 per cent has to have it anyway – or be left behind."

One can only imagine the wrangling that must have gone on behind the scenes as Wilkinson sought to persuade fellow board members and investors of this point of view. And yet his logic is hard to fault.

"I'm not bad-mouthing Fender and Gibson – they've both been good customers of mine in the past – but they don't sell guitars any more, they sell nostalgia and they don't have to try as hard as the other guys. You've got an awful lot of customers of my age who played guitar, never did anything with it, went into business, made a few bob and later in life decided they always promised themselves a Les Paul or a Strat. But they're not looking at the guitar, they're looking at the nostalgia.

"The key to this has been developing a tool that the guitar player can use on stage with confidence, not to show how clever we are. It doesn't take away from his art – that is our guiding principle.

"As I say, we were never going to get it on everybody's guitar at once. Somebody

will be first and after a few years of argy-bargy with various guitar companies, someone had to be willing to go first and it turned out that nobody – nobody – said 'All right, Trev – I'll have some of that' except for Dennis at JHS.

As long as it's black

And what did happen was epitomised by the reaction of 'a major guitar retailer' in the USA who, while apparently loving the system, opined that no one would pay \$1,599 for a Korean-made guitar. No matter that Korean guitars can be better made than US-produced ones, or that it featured a player-friendly self-tuning system that actually worked

Which isn't to say that the aforementioned guitar chain was wrong. Guitarists, as everyone in the industry knows, can make the Women's Institute look radical and edgy.

"I'm not knocking dealers, because I know they're having a tough time, but I sometimes just wish these two impediments to sales – dealers and distributors – would give the consumer some credit for making the choice. I know they see it as a gamble, but f we'd have thought making the ATD was too much of a gamble, I'd have gone fishing instead. If nobody takes a gamble, how the hell are we going to move forward? This attitude even hurt Leo Fender. He wanted to make a better guitar than a 62 Strat and he used to say to me: 'Trevor, why do people want to buy my old guitars? They're junk?' Well, they weren't junk, but I know what he was saying. His G&L guitars were, to him, better. He did till the day he died – tried to make a better mousetrap."

The waiting game

To bring things back to the present, the ATD system, for now, can be found solely on the Fret King Super-Matic guitar but that raises the question of Wilkinson's initial caveat when offered the chance to get involved – wasn't it supposed to be available as a retro-fit for a Strat?

"It's do-able now, but I learned early on – especially when I introduced the Wilkinson roller nut, which got me into the business in 1984 – if you put something in a box and put it on the counter, the first question is "Does that work?" If you can't point him to a guitar

If Wilkinson is right, the appearance of the ATD system on a variety of guitar brands will encourage this preternaturally conservative market to trust the idea. That should translate into increased guitar sales as ATD becomes the latest 'must have'. Beyond that, the market for retro-fitting the device to Strats and copies should also grow – another welcome stimulus for sales which the industry doesn't currently have.

Which takes us back to the point about the difficulty of raising investment.

"There's an awful lot more that could be done with the ideas we have here.

I'm not bad-mouthing Fender or Gibson – they've been good customers of mine – but they don't sell guitars anymore. They sell nostalgia.

Trevor Wilkinson

on the wall where he can see it working, you'll never sell it. So we had to get it out OEM first. We're playing a waiting game and if you pressed me for a date, I'd say it will be available as a retro-fit by next year. It could go tomorrow, but I feel I mustn't take my energies away from selling it to other guitar companies."

Will we be seeing an ESP, Ibanez or Dean with the ATD any time soon?

"I'm pretty confident that by the time NAMM 2011 comes around there will be quite a lot of major guitar companies that will have a prototype on show with this system."

"The frustration is the fact that you can't get any money to develop anything. We don't look after our own people in this country. There is so much more I could tell you that we could do with this and yet, even with sales in hand, still you can't raise money from a bank. That's another huge debt of thanks we have – to Richard Whittall and his family, without whom none of this could have happened.

"None the less, in the ATD the MI industry has a new opportunity for increased business. Let's hope its own innate cynicism doesn't prevent it from seizing the chance.