STAYING NEUTRAL

Conventional guitar speakers are, by their very nature, not neutral. To solve this, a full range flat response (FRFR) speaker is typically deployed. However, that all-important 'musical' character musicians get when playing through guitar speakers is lost when using an FRFR. *Headliner* interviews John Paice, marketing and artist relations at Celestion, who explains why the F12-X200 full range live response speaker provides an (almost) neutral characteristic across the entire frequency band, but also delivers the feeling of playing through a guitar speaker.

Words Alice Gustafson

For guitar players who use modelling and profiling amps, a full range flat response loudspeaker is viewed as highly desirable for delivering the output of your emulated set-up in all its glory," begins Paice. "While this can provide an impressive amount of detail and fidelity, it can also lack the physicality and the tactile and auditory feedback you get from playing through a bona-fide guitar speaker. It feels different; colder – more sterile, perhaps."

Traditionally, electric guitar players have plugged into an amplifier connected to a speaker cabinet to create their sound. For decades, the guitar player stood in front of a wall of iconic Marshall stacks. However, Marshall – and companies like them – wouldn't be where they are without the loudspeakers that partner their amps.

"When making a purchasing decision, guitar players choose an amplifier brand based (at least in part) on whether they like that amp's sound," says Paice. "And it's even more the case for the guitar speaker that is used with the amp. Unlike a home hi-fi speaker or a PA speaker at a concert, guitar speakers don't just reproduce amplified sound, they significantly contribute to its tonality."

Recent years have seen a trend moving away from traditional amps and speakers, which can be attributed to any number of reasons: if you're a gigging musician, amps can be heavy and awkward to carry; they can get in the way, and have a tendency to break if dropped. Meanwhile, in larger venues, it might be necessary to mic up the amp, which is difficult to do consistently, night after night. This in turn can result in an inconsistent guitar sound.

"It also means that the player has one fundamental sound that they take with them always, which is not the most flexible situation to be in, particularly if you're in a band who plays lots of different styles of music," Paice points out.

In response to this, a new breed of amplifier evolved. Referred to as 'modelling' or 'profiling' amps, these amplifiers incorporate sophisticated signal processing functionality, which enable them, when used together with impulse response software, to closely and quite convincingly emulate any and all amplifier and speaker types. The only strictures being memory space available in the hardware and the budget limitations of the guitar player – as well as their desire to collect different sounds.

FAITHFUL REPRODUCTION

Essentially, the modelling amp has all the required tonality already programmed into it.

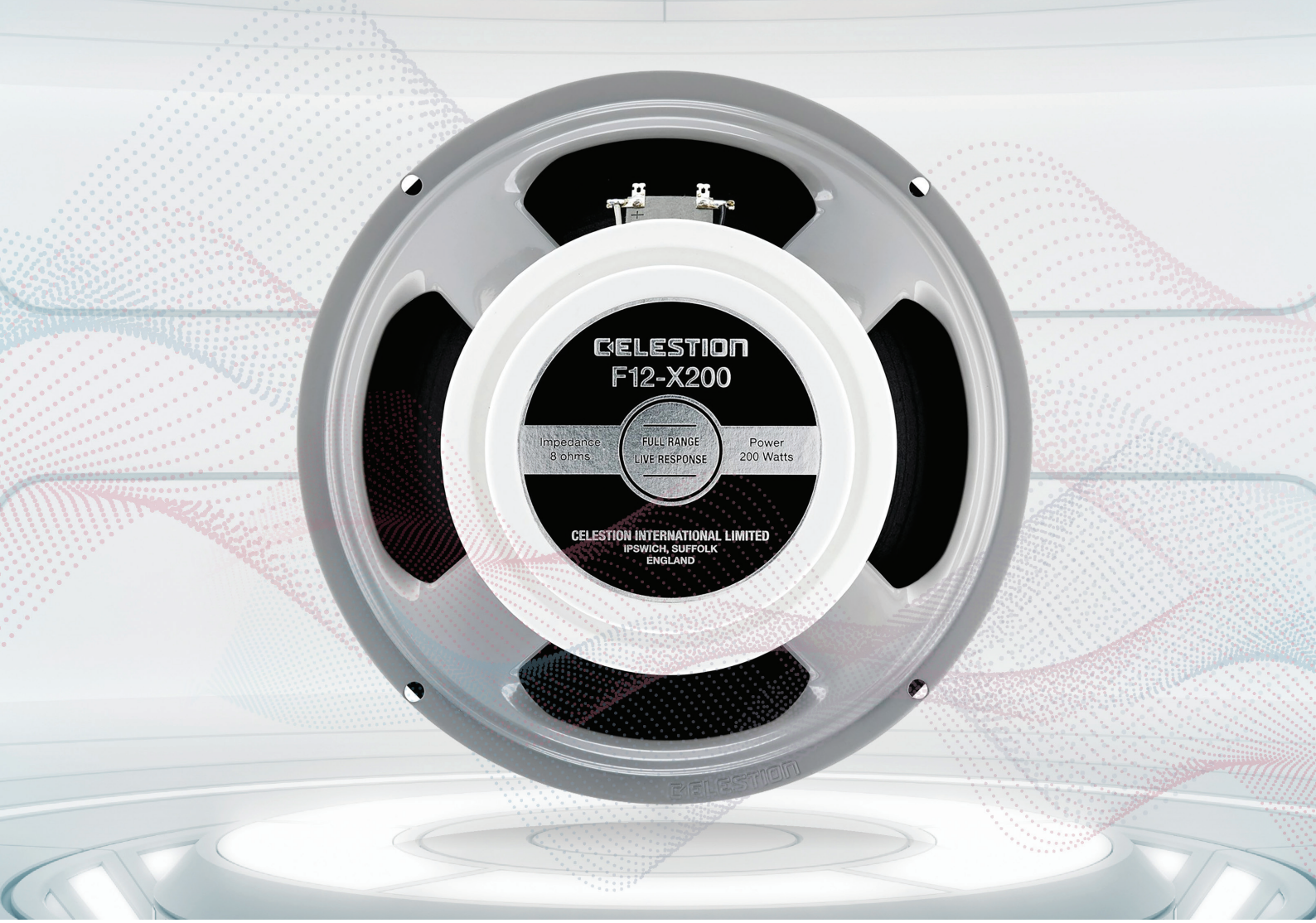
"That being the case, we want the amp's output to be reproduced by very neutral sounding speakers," Paice stresses.

"Conventional guitar speakers are, by their very nature, not neutral – their purpose is to contribute a desirable tonality to the guitar sound. The modelled tone already has speaker tone built into it, so you don't want to overlay another guitar speaker's tone over it, adding an additional flavour to the one you already chose. By and large, this isn't really desirable."

Up until recently, the solution has been to deploy a FRFR speaker, which provides a neutral sound reproduction across the audio spectrum. Being very neutral-sounding – this solves the problem of 'too many tones,' but simultaneously introduces another issue.

Paice explains that if there is a downside to this kind of device, it's the fact that the very attributes enabling the speaker to perform in this neutral-sounding way, can also render it somewhat lifeless-sounding; removing a degree of musicality from the finished performance that make it less appealing both to play and to listen to.

"They often lack the physicality a guitar speaker brings," he warns. "The upshot is that while the tone of IRs are nearly identical to playing through a real speaker, playing them through the FRFR speaker feels different. The problem with FRFR is that it doesn't sound very 'musical'. Guitarists will tell you that there's a feeling and a character you get by playing through guitar speakers that you don't



"You can use the F12-X200 anywhere you are using a modelling amp with impulse responses: in a backline cab, a monitor wedge on stage, at home, or in the studio..."

with the FRFR. It's often described as stiff, sterile – dead almost. It reproduces the sound, but not the feeling of playing."

The current crop of FRFR speakers are essentially pro audio drivers, manufactured to offer as neutral and linear an output as possible. In this way, they are very different from guitar speakers, which are purposely designed to break up into harmonic resonances. Guitar speakers are designed to produce musical-sounding distortion and other desirable tonal colouration by using thinner cones, together with other sympathetic materials and design techniques.

This is where Celestion's F12-X200 comes in, which yes, is a speaker for guitarists, however, is quite different from the manufacturer's standard guitar speaker product range: it's an MI product that channels the speaker manufacturer's PA know-how.

What the F12-X200 speaker does is bring both key characteristics together in one loudspeaker. It truly is a full range driver, delivering a frequency response from 60Hz all the way up to 20kHz, with a sensitivity of 96dB.

The higher frequency part of the signal is reproduced using a Celestion compression driver which has been integrated using a high quality crossover circuit. This enables the F12-X200 to reproduce the full spectrum of audible frequencies for the most accurate output possible – in whatever environment and set-up a musician might be emulating.

The F12-X200's response is remarkably neutral, with Celestion technology built in to ensure there are no unwanted colourations that could overpower the input signal. However, it has been built with the lighter moving mass and straighter-sided cone of the type commonly used with guitar speakers – giving the F12-X200 that traditional guitar speaker feel.

The whole response of the speaker is live, delivering all the physical response and tactile feedback musicians would expect from playing a traditional guitarist's set-up.

"It doesn't just sound like you're playing a guitar through a guitar speaker, it feels like it too," enthuses Paice. "You can use the F12-X200 anywhere you are using a modelling amp with impulse responses: in a backline cab, a monitor wedge on stage, at home, or in the studio!"

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