The remaining four channels use balanced XLR outputs, and all channels are fully configurable from 2.0 to 9.1.6 and just about everything in between, including bi-amping speakers and any number of subwoofers.

The Astral 16 has the processing power to utilise all those channels, delivering a hat-trick of immersive audio formats: Dolby Atmos, DTS:X, and Auro-3D. All this multichannel potential can be corralled using Dirac Live, but if you prefer a more hands-on approach there are filters, EQ curves and bass crossovers galore.

At £20,000, this is clearly a high-end product aimed squarely at the custom install market. As such, the Astral 16 has an industrial design often associated with dedicated home cinema builds, where the emphasis is on robust construction rather than looks. After all, the chances are it’ll be sitting in an equipment room (and comes with rack ears).

The design has a simple elegance, with a large (4.3in) central TFT display that provides general information, three control buttons, a sizable volume dial, and a power switch. The volume dial is very granular in terms of adjustments, but while the three control buttons (Edit, Enter and Exit) allow for minimal adjustments, the Astral 16 can only be set up and fully controlled using a web-based interface.

That’s because despite costing as much as a family car, Focal has decided not to supply it with a remote control. The logic is simple: the Astral 16 is designed for custom installers who will use some form of control system (it’s compatible with automation brands such as Control4 and Crestron), making a remote redundant. For those without smart home integration there’s also an iPad remote app. Lacking a control system or an iPad, I was forced to use my laptop – which was a pain when all I wanted to do was change the volume without getting out my seat. On the plus side, the web-based user interface is well designed and highly effective. You simply plug the Astral 16 into your router, get its network address from the front display, type that into your browser and you’re good to go.

The resulting screen gives you a choice of remote or setup, with the latter password-protected – the reason for which is obvious once you access it. The Astral 16 offers the kind of flexible configuration only seen on very high-end processors, and once fully set up by a professional installer it’s best to avoid any unwanted fiddling.

Before I go through the installation and calibration of the Astral 16, I’ll run through all the connections at the rear. These are fairly straightforward with the emphasis on seven HDMI inputs and two mirrored outputs, all of which support 4K/60p, HDR, HDCP 2.2, and, in the case of the first HDMI output, ARC as well.

There are also three optical and three coaxial digital inputs, along with eight analogue phono connectors that can be assigned as four stereo inputs or one 7.1-channel input. There are two USB ports (one for connecting a USB microphone and the other for service), an Ethernet port for the web-based UI (there’s no built-in Wi-Fi), an IR input/output, and four 12V triggers.

There are also some fairly large fans at the rear of the Astral 16. These are essential for keeping the amplification
The Astral 16 supports every Dolby and DTS variant (apart from a laptop to take measurements and make adjustments). Automated wizardry of Dirac Live, which uses the mic and buttons that explain each feature, knowledgeable enthusiast will have a field day playing another room.

For a stereo down-mix of whatever's playing – perhaps for subwoofers. There's also a pair of balanced XLR outputs with you (as it was for me).

In my case I set up a 7.2.4-channel system with four overhead speakers and a pair of subs up front. The menu allows you to assign the channels in any order you like, but since there are three individual power supplies that each drive four channels, it's recommended you connect the front three speakers to channels one, five and nine, thus spreading the primary load across all three power supplies. I took that advice, and then allocated the remaining eight channels accordingly.

Focal includes a Li-MiK-1 USB mic, which can be used to calibrate the channels manually or automatically with Dirac Live. You plug the mic into the Astral 16, allowing it to generate test tones, provide a real-time frequency analysis, equalise each channel, and offer bass management to fine-tune the performance to suit your system and acoustical environment.

Those with the necessary skills can also integrate measurements from external correction tools like Room EQ Wizard. However, most people will plump for the automated wizardry of Dirac Live, which uses the mic and a laptop to take measurements and make adjustments based on the characteristics of the room, before loading the curves into the processor.

Doctor in the house

The Astral 16 supports every DTS and DTS variant (apart from IMAX Enhanced DTS:X), and since Doctor Strange (Blu-ray) actually uses astral projection as a plot device, its lively DTS-HD Master Audio 7.1 soundtrack seems like an appropriate place to start. The Focal's sonic presentation beguiles with an energetic and wraparound soundfield that helps sell the trippy visuals.

You can process a non-immersive soundtrack based on its native channels or upmix with a choice of Doby Surround DTS-HD Master Audio and Auro-Matic. I generally found the first two worked best, creating a more enveloping experience that enhances the titular doctor's adventures, especially during the climactic Hong Kong battle, where up and down become interchangeable.

I wasn't running the Astral 16 in the correct speaker configuration for Auro-3D, which uses a different layout to Atmos and DTS:X. So, rather than upmixing it to Atmos and DTS:X, which uses a different layout to Atmos and DTS:X, I was struck by the overall cohesion of the Astral 16's presentation, with the powerful built-in amplification creating an immense hemisphere of sound.

The second episode concerns the Apollo 11 fire, and after the terrible accident is delivered with hair-raising impact, the rest is more subdued, taking place in committee rooms and aircraft hangars. The Astral 16 creates a spaciousness that makes the environments completely believable.

Movie magic

As good as TV soundtracks are these days, it still takes a modern blockbuster to give a system an acoustical shakedown and Shazam! (4K Blu-ray) is just the ticket. This soundtrack keeps things low-key and realistic when dealing with child hero Billy Batson, but as soon as he says the magic word the entire soundstage is energised, with low frequencies accompanying every hit and fall. The Astral 16 and its Dirac EQ skilfully integrates both subwoofers, managing the crossovers to provide an ultra-sonic experience with bass that is felt in the pit of your stomach.

A later scene involving an unpinned bus reveals the processor's ability to simultaneously orchestrate all my 13 channels, including the overheads. There are sounds of falling objects that emanate for all around, including above. And there is a definite benefit when engaging the Dirac EQ – individual effects become more pronounced and the adverse effects of my room evaporate.

The new LHD-Blu-ray of Waterworld impresses with a fully-bodied DTS-HD MX mix. The attack on the atoll illustrates the kind of bold and cinematic soundscapes the Focal can produce. I preferred the film's DTS-HD Master Audio over its DTS:X mix, as the surround channel's nuclear explosion gun has a thrillingly percussive kick, and bullets rip through the metallic structure. Jet skis roar convincingly over the perfume and explosions are spine-tingling.

There's plenty of bass running through the entire film, part because of James Newton Howard's drum-dominated score. This is given a solid foundation by the Astral 16, while the built-in amplification showcases reserves of power, easily driving all the channels at once. Subwoof effects generate the feeling of being isolated and at sea – water laps and wind rustles through sails – and once again the EQ brings those effects to the fore. Meanwhile, the all-channel soundscapes of the film's underwater sequences are presented with water-logged realism.

Sonic superstar

Overall, this is a bit of a beast; a state-of-the-art processor that assimilates each component of a system and leaves cutting-edge calibration to ensure a flawless audio experience. It certainly isn't affordable, and will be too frighteningly complex for most people – it demands a professional setup – but the inclusion of 12 channels of potent amplification sets it apart from much of the custom install community. Value for money is always relative, but if you have the budget this high-end AV processor and amplifier is a sonic superstar.