

Fohhn Xperience III

This German-made PA costs a bit more than some, but if top sound quality is your priority it's well worth a look.

German company Fohhn have been building powered, processor-controlled PA speakers for over a decade and their Xperience III system is part of a much larger range that extends from small portable systems to installation and touring components. As is now commonplace, the system comprises separate main speakers and subwoofers, to keep it as compact and manageable as possible, but a noticeable departure from the current trend is the use of Class-D 'digital' amplifiers, digital signal processing and passive crossovers. Rather than having an amplifier in every speaker box, the Xperience III has its the amplification inside the sub cabinets and uses passive crossovers to feed the main speakers, which in turn house further crossovers to split the signal between the cone driver and the compression horn. A basic system comprises a single sub plus two main speakers and is configured for mono-sub, stereo-top operation. In configurations using dual subs the amplifiers can be used in bridge mode to increase the peak power handling per side, and the whole system can then be run in full-range stereo. Popular alternative configurations to the basic one referred to above include two mains and two subs, or four mains and two subs.

Sub stance

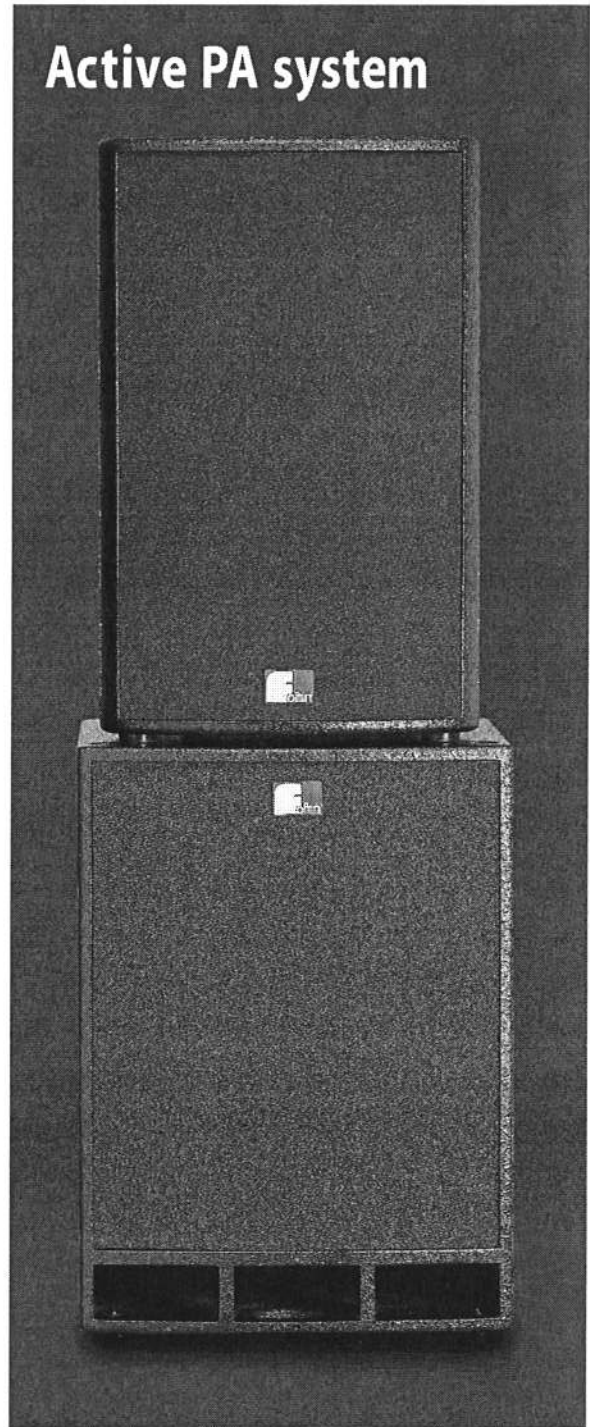
As the subwoofer is the heart of the system, it makes sense to look at that first. The XS3 uses a custom-built 15-inch driver mounted in a dual-chamber reflex cabinet, also known as a back resonator. (In effect, this creates two fairly broad resonant peaks, which are combined to give a nominally flat frequency response over the cabinet's intended range.) Considering its power, the XS3 is surprisingly compact at 430 x 590 x 520mm, and because Class-D amplifiers (in this case driven from switch-mode power supplies) can be made much lighter than conventional class B or A/B designs, it

weighs only 36kg, despite being manufactured from braced marine ply. Two wheels are built into the bottom of the cabinet at the rear for easy transport, and there are two side handles, one top handle and one bottom-edge handle. Black textured paint provides an attractive and durable finish and a mounting plate is fixed into the top of the cabinet to accept a threaded mounting pole for the main speaker. The 15-inch driver is protected by a metal grille, and a thin layer of acoustic foam in front of it prevents the ingress of dust.

All the sub's connections are on the rear panel. To allow the greatest flexibility of connectivity, the signal inputs (stereo) are on combi XLR connectors that can also accept quarter-inch jacks. Link sockets are also included for daisy-chaining multiple cabinets, and as these are of the opposite 'sex' to the inputs, they can also be used as input connections where the 'wrong' sex of XLR connector is available, as might be the case when using a simple 'inputs only' stage box. Feeds for the main speakers are on standard Speakon connectors.

There is little adjustment for the user to mess up, not even an input gain trim control, though there is the facility to adjust the relative bass level (35-130Hz) by +/-6dB to suit the operating environment. There's also a stereo/mono switch; stereo must be selected when driving two main speakers from the same sub. A ground-lift switch helps avoid ground-loop hum in difficult

Active PA system



▶ The XT3ND cabinet (top) and XS3 subwoofer.

situations, and a bridge-mode switch puts the internal amplifiers into bridge mode for systems where two or more subs are being used. Other than that, there's just a mains switch and a mains inlet, which in this case is on a Powercon connector rather than a standard IEC socket, the reason being that Powercons are locking connectors and so

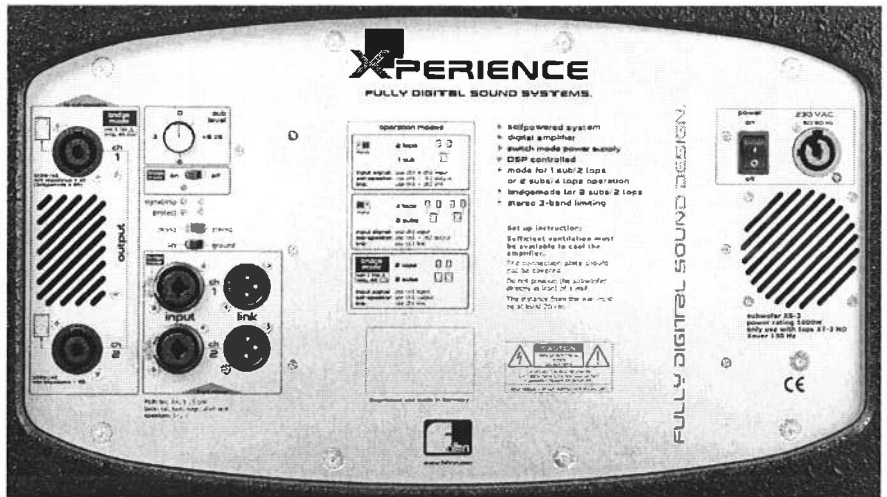
are unlikely to become detached during use. If there's a downside to this, it's only that you have to remember to pack the correct mains cables. Soft-start circuitry prevents switch-on thumps.

Three-band processing is used inside the sub to allow separate limiters to operate on the source signal as transparently as possible, the three ranges being 35-130Hz, 130Hz-2kHz and 2kHz-20kHz. This is very practical, as something like a snare-drum hit that might cause limiting in the mid band won't affect the gain of low-frequency signals, which would be the case if a single full-band limiter was being used. A limit LED on the rear panel shows when the limiter is being goaded into action.

Cooling for the amplifiers is via a quiet-running fan that responds to the system temperature, though Class-D amplifiers are more efficient than conventional Class-B types and so generate less heat in the first place. In fact, the only external heat sink is the rear panel, and in normal operation this only runs at 14 degrees above the ambient temperature. Under standard operating conditions the fan rarely comes on at all. The culmination of this combination of components is a sub that works from 35Hz-500Hz with a maximum SPL of 128dB.

Main event

Handling the top end is the XT3ND cabinet, loaded with a custom-built, 12-inch driver and a time-aligned, one-inch, horn-loaded compression driver powered by a Neodymium motor. A passive crossover is built into the cabinet, as mentioned earlier, and includes overload protection for the high-frequency driver. This 8Ω design



produces a 40-degree vertical, 90-degree horizontal directivity and has a maximum power handling of 450W (900W short-duration peak), with a maximum SPL of 130dB. As the frequency range of this cabinet is 65Hz-20KHz, it can be used as a full-range speaker if driven from a separate power amplifier, and because of the way the cabinet sides have been angled, it can also be used as a floor monitor at either 35 degrees or 55 degrees. Overall, the cabinet measures just 390 x 590 x 390mm (slimmer than my Mackie cabinets) and weighs 22kg, making it a fairly comfortable lift. Like the sub, it is built from marine ply with a textured paint finish and has two Speakon connectors for input and linking. Two edge handles are built in, as well as a pole-mount socket in the bottom of the cabinet and mounting bushes in the side for flying or installation. There's also a safety chain point on the rear of the cabinet. Protective covers for the main and sub speakers are available as optional extras.

The rear panel of the XS3 subwoofer. Combination XLR/jack connectors are used for the stereo inputs (left), and a Powercon locking connector is provided for the mains inlet (top right), giving protection against accidental disconnection when the sub is in use.

I didn't need to use gender-changer adaptors (but these are always a good thing to have in your tool box). The bass controls were set to their mid (flat) position and as soon as I had my mixer hooked up and a few mics and DI boxes plugged in, we were ready for a soundcheck.

First on was the singer/guitarist. I was immediately impressed with the vocal clarity and smoothness presented by the Fohhn PA, as well as the quality of the guitar sound. In

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fact, I'd go as far as to say it was one of the best vocal sounds I've had from any PA at any realistic price, a fact all the more startling given that I was using a set of Adam Hall's LD-series back-electret vocal mics, which retail at less than £50 each. (I first 'discovered' these when reviewing them and decided to buy four for my live kit as they fill the dual needs of sounding great and being expendable! See the review elsewhere in this issue.)

Next on was pop/rock band Ember, featuring a female singer/guitarist, bass, drums, keyboard and electric guitar, the latter DI'd from a Boss pedalboard with integral speaker simulation. Again, the vocal clarity was superb and didn't seem in the least bit disturbed by the kick drum and bass guitar which were now pounding through the system, not to mention some angsty lead guitar and power chords. The

At a glance

Fohhn Xperience III PA

Pros

- Portable.
- Easy to set up.
- Excellent sound quality.
- Expandable in logical stages.

Cons

- No input gain trim.
- You don't have the flexibility to leave the sub behind for bar gigs unless you have a separate power amp.

Summary

The combination of top sound quality and portability more than compensates for the slightly higher cost of this system.

Information

- £ Basic Xperience III system (one sub, two main speakers), £3253; 'Power' system (two subs, two main speakers), £5169. Prices include VAT.
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Testing, testing

Systems Workshop, who distribute Fohhn in the UK, were kind enough to supply a 'two subs, four mains' 2kW system for review, which I tested while handling the sound for an outdoor charity concert staged on a football field. The acts ranged from a solo singer/guitarist to some pretty loud rock bands, and there was also a need for background music during the change-overs between bands. Incredibly, the entire system turned up packed into the back of a VW Golf with the back seat down flat, so it gets full marks for portability!

Setting up the speakers was trivially simple and involved erecting the poles and stands, then linking the main speakers to the subs using Speakon cables. As I was using a very basic stage box fitted with all the same sex of XLR connector, standard mic cables were used to run the mixer outs to the link inputs of the subs. This meant

» acoustic guitar, which was DI'd, also came over smoothly, which is so often not the case with more aggressive-sounding PA systems. What's more, a stroll to the other end of the football pitch confirmed that the vocal projection was excellent, though the relatively high directivity of the system meant that those buying beer and food from the tents to either side of the

a PA should sound like a big hi-fi, and this one comes very close indeed. The beautifully built marine-ply cabinets are mercifully free of any rogue resonances and I was particularly impressed by the natural sound quality of the high end — so many systems that use compression-loaded horns manage to sound harsh or honky. A basic

'sub plus two tops' system would be ideal for smaller pub and club venues, while doubling up on that setup, as we did for this review, gives you a system that's game for just about anything short of a large-scale event. There's also a smaller system called the Experience II that uses the same power amps but has a smaller 12-inch sub and 10-inch main cabs. If you don't need as much power and require an even more compact system, that could be well worth looking at.

During the test we had numerous compliments on the sound quality from musicians attending the event, and because the system was tested outdoors there were no room artifacts to colour the sound. Having said that, speakers need to work

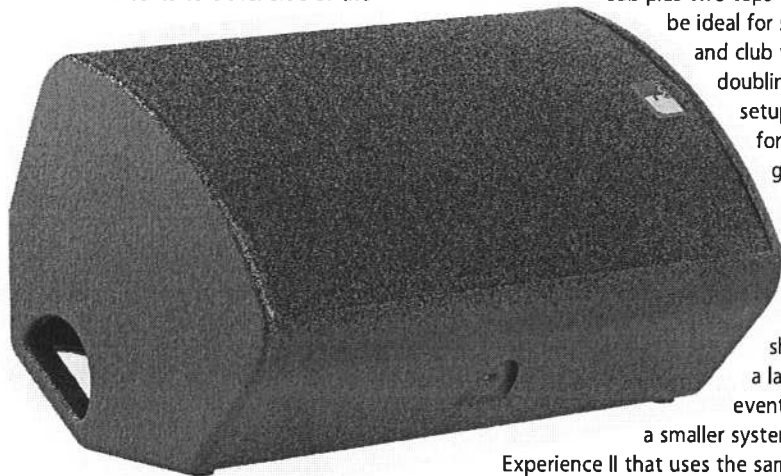
Jargon explained

Class-D amplifier: A class-D amplifier is one in which the output transistors are operated, effectively, as switches, being either fully off or fully on, with the audio signal modulating (controlling) the switching action. Class D is very efficient, allowing smaller power supplies to be used. The 'D' is sometimes mistakenly said to stand for 'digital' when in fact it was simply the next letter in the alphabetical series after Class A, Class B (and A/B) and Class C.

Switch-mode power supply: A high-efficiency power-supply design which allows the PSU to be smaller and lighter for a given capacity.

Bridging: A method of achieving more output from a power amp. If the same signal is applied to two channels of an amplifier, one of them with opposite polarity, a speaker output can be derived between the positive output of one channel and the negative of the other, allowing the amp to apply twice the voltage across the load.

SPL (Sound Pressure Level): Sound level calculated in decibels compared to a reference sound pressure, commonly 20 micropascal (20 uPa), defined as the threshold of human hearing (0dB SPL). The human ear is capable of hearing an enormous range of sound pressures — the ratio of the sound pressure from the minimum up to damaging levels from even short-term exposure is more than a million — necessitating a logarithmic scale, which also corresponds roughly to our psychological perception of loudness.



❏ The XT3ND cabinet can also be positioned on one of its angled sides for use as a wedge floor monitor.

stage weren't getting such great coverage. Angling the outer pair of top cabinets to around 45 degrees remedied this pretty well, which does show that you have to plan for coverage, not just 'out front' volume, at speciality events such as this.

The back line projected well, with plenty of punch and no boomy resonances, and though there wasn't that deep wall of bass you get from a stack of 2x15 bass bins, you have to keep in mind that it is asking rather a lot of a 2kW system to cover a football field. In fact, the only practical problem I had was that my mixer was running out of output headroom before the speaker system, so I'd have appreciated a gain trim control on the Sub signal inputs to remedy this. I had to get my mixer clip light to come on before the Xperience limiter LED would even blink!

On recorded music the system also worked surprisingly well — I've heard some horrendous music reproduction from PA systems, even some quite expensive ones, but this one managed to sound smooth and classy, even when driven at close to its power limit.

Summary

The Fohhn Xperience III costs rather more than a typical budget PA system, but it is still very reasonably priced when you consider the quality of sound on offer, and it doesn't cost much more than some of the better 'plastic' systems. I've always felt that



❏ Part of the Xperience III system *in situ* at the open-air event where testing took place.

indoors as well as out, but the sensibly controlled dispersion pattern of these speakers means they should be as venue-tolerant as is reasonably practical for a general-purpose system. In practical terms, the only limitation I can think of for this type of PA is that, in small venues where a sub may not be needed, you can't use the main speakers on their own without a separate power amplifier, as all the amplification resides in the subs. On the other hand, the system is so portable that you probably wouldn't use it without the subs anyway, unless you're a singer/guitarist, in which case a pair of main speakers teamed with a suitable powered mixer would also make a great portable system.

As always, you tend to get what you pay for, and if impeccable sound is your overriding concern, especially in the area of vocals, I feel the Fohhn Xperience III is worth the extra cost. Its ease of use and great portability is also a significant factor, as is its tough, all-ply construction. The system is also expandable in logical stages, so even if you can only afford the basic package now, you can add to it as your needs change. Indeed, I was sorry to see it disappear back into the VW Golf and drive off into the sunset. **505**