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SVS SB17-Ultra R|Evolution

Offered in sealed (SB) and ported (PB) variants, SVS's new Ultra subs claim refinements to driver, amplifier, power supply and DSP, and include a new auto EQ room correction
 Review: **Mark Craven** Lab: **Paul Miller**

Although SVS sells a variety of loudspeakers, from its desktop-friendly Prime Wireless Pro powered monitors to the recently launched Ultra Evolution series [HFN Jul '24], it's best known as a subwoofer manufacturer. This is, after all, how the Youngstown, Ohio-based company first got started in 1998, and in the intervening years it's evolved a catalogue of subwoofers that's now crowned by the new 17-Ultra R|Evolution models.

SVS claims to be the 'top subwoofer brand in the world', but how has it achieved such a lofty status? Firstly, by offering plenty of choice. All its subwoofers, except the in-wall and 'Micro' models of its mid-level 3000 series, are available in either sealed or ported cabinets. Ease of use is a factor, too. Since 2016, each new SVS subwoofer range has been compatible with a custom-designed smartphone/tablet app for control and setup [see boxout, p71]. And then there's the pricing. The new SB17-Ultra R|Evolution seen here might be the company's flagship sealed subwoofer, but at £3250 it's an indication of the company's goal of appealing to 'audio fans... with all budgets'.

SEISMIC SHIFT

This new model, and its ported sibling, the PB17-Ultra R|Evolution (£3750), take the place of SVS's end-of-line 16-Ultas. Those subwoofers, EISA Award-winners in 2016,

RIGHT: Weighing in at 56kg, the SB17's internally braced MDF cabinet also includes an ABS grille frame with fabric mesh cover. The enclosure is fitted with four polymer feet

feature a 16in/405mm bass driver, so you can likely guess that one upgrade of the 17-Ultra R|Evolution subs is a newly designed 17in/430mm driver. Facing front, it comprises a glass fibre composite cone, a very serious-looking 'extreme-excursion catenary SBR rubber surround', and a 25kg ferrite magnet. Despite the increase in size, though, the SB17-Ultra is basically no bigger than the older SB16-Ultra, although the 495x507x537 (hwd) dimensions mean some thought is required when it comes to installation.

SVS's essentially cube-shaped cabinet is finished in a black ash veneer or high-gloss black, the former more suited to a home cinema room where light reflections must

be kept to a minimum. For the cabinet, SVS has opted for 25mm MDF, but the baffle is twice as thick to provide, in the words of director of product management, Smith Freeman, 'an inert and non-resonant launch

surface'. The sub weighs in at a hefty 56.2kg and is supported by four screw-in elastomer feet.

On the SB16-Ultra there was an LCD control panel, cut into the join between baffle and top, that replicated many

of the settings of SVS's Bluetooth app. This has been replaced by a smaller OLED display around the back that is only used for setting level, crossover, and phase.

The result is a cleaner look for the subwoofer and no real loss to the overall user experience, considering the app is much more convenient. Also, unlike the older 16-Ultra models, there's no IR remote control supplied.

WIRED OR WIRELESS

Below the OLED panel are the connections: stereo inputs and outputs on RCAs (one of the inputs acting as the LFE connection for a home theatre processor) and balanced XLRs. There are no speaker-level inputs, although the company does sell a 'Level Adapter' (£89) with speaker-level inputs and line-level outputs in its range of SoundPath accessories.

As for those who dislike cabling, the SB17-Ultra R|Evolution is compatible with SVS's SoundPath Wireless Adapter (£129), which uses transmitter and receiver units to send a low-latency signal (rated at 14ms) over the 2.4GHz frequency band.

'The SB17-Ultra earns its coin with orchestral and cinematic music'



In addition to the new driver, the SB17-Ultra R|Evolution features a new, dual voice-coil arrangement with bifilar aluminium copper clad windings around an 8in/200mm diameter former. Each coil is independently driven from a Class D amplifier stage claiming a 2.8kW output – another new design. Processing power has also been boosted ('over 5x', says SVS) by the implementation of a 295MHz Analog Devices DSP engine. This handles audio processing and signal conversion; power management and thermal monitoring; and ensures 'precisely regulated clean voltage is delivered to and from' the sub's active power factor corrected (PFC) switch-mode power supply.

Setup can take time, as experimentation with positioning is recommended, as is fine-tuning of the level and low-pass filter to dovetail with the main speakers. For this review, with the sub mainly supplementing Canton's Reference 3 floorstanders [see p74], we installed it on the same plane as the speakers, eschewing any boundary boost from a corner position. The LPF was set at 80Hz, with a 12dB slope, and the app's 'room gain compensation' tool switched off. Level tuning was by ear, making use of the app's easy control for occasional tweaks depending on content.

BASS WITH GRACE

In times of yore, a subwoofer with such a large driver and powerful amplifier would be expected to sound untamed and boisterous. The SB17-Ultra R|Evolution,

while capable of astonishing, stomach-churning lows, isn't exaggerated in the way it throws its weight around. It will tread lightly when required, and there's obvious control over that 430mm woofer. Its impact on system performance varied from track to track – sometimes offering a slight-but-noticeable feeling of extra bass solidity, other times adding an almost physical dimension to the listening experience.

The reggae-influenced baseline on 'Long Way Down', from producer Bass Mekanik [*King Of Bass*; Bass Mekanik

ABOVE: Loaded into a sealed box, SVS's massive (17in/430mm) long-throw woofer weighs 29kg, featuring an overhung motor with dual 200mm voice coil(s) driven by separate Class D amps

Records download], gives any hi-fi setup a stern test. SVS's sub responded to the continuous low notes with a deep-reaching performance that bolstered the output of the Canton floorstanders without sounding incongruous. And a dip into the drum 'n' bass of Grooverider's 'Where's Jack The

Ripper?' [*Mysteries Of Funk*; Higher Ground HIGH6CD] only confirmed the SB17-Ultra R|Evolution's ability to slam hard into infra-bass effects.

You don't need to seek out esoteric electronica to appreciate this sub's impact, however. Given Daisy Gray's cover of Chris Isaak's 'Wicked

Game' [Qobuz, CD res download], it crafted a rounder, grander feel to the bass line beneath her breathy vocals and piano accompaniment, ☺

SVS APP

The sheer scope of the SB17-Ultra R|Evolution series's low-pass (LPF), slope, phase, polarity, output level, room gain compensation, parametric EQ and placement scenarios enables many possible performance combinations.

Managing them, therefore, is not really suited to a standard display panel – which is where SVS's custom app comes in. Free to download for iOS, Android and Amazon Fire devices, this software quickly pairs with your SVS subwoofer(s) over Bluetooth and offers full control over setup and fine-tuning.

The presentation is intuitive [see screenshots, right] and includes useful descriptions of each feature and adjustment – of particular interest to some will be parametric EQ, with Q factor adjustment, covering frequencies from 20Hz to 200Hz. The app informs the user that the PEQ mode 'works best when used with acoustic measurements' but that doesn't mean you can't have fun with it. For those seeking a less intensive calibration, SVS is adding an Auto EQ feature later this year that will use a microphone room measurement to crunch the numbers.

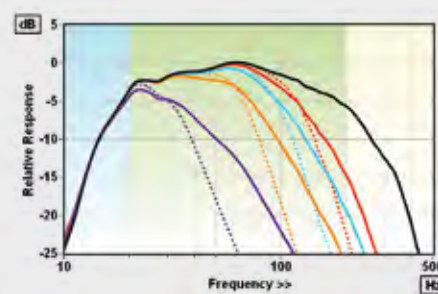


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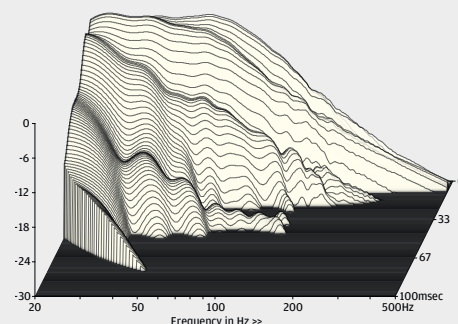
SVS SB17-ULTRA R|EVOLUTION

With the LPF disabled (LFE Mode 'Active'), the sub's working bandpass is a maximum 17Hz-205Hz (-6dB re. 100Hz) right down to a narrow 15Hz-93Hz with the LPF set to the lowest 30Hz. The infra-bass roll-off acts below 20Hz and is essentially unchanged by the LPF setting [Graph 1, below] – this appears to be a gentle third-order (18dB/octave) slope reaching 15Hz (-6dB re. 100Hz). This benefits not only LF extension but also minimises the inevitable group delay – and phase distortion – back in the low audioband. In this instance the latency is 6msec and the max. in-band group delay is 33msec/20Hz (80Hz/12dB slope). Also, the impulse decay time is a moderate 43msec (re. -20dB) – acceptable, given the moving mass of the driver [see Graph 2].

Lower bass may be achieved than indicated by the ground plane responses [see Graph 1] if the SB17 is parked against a wall or – with great care – a corner. The intermediate LPF settings yield 16Hz-85Hz (60Hz), 17Hz-110Hz (90Hz) and 17Hz-125Hz (120Hz, all re. 12dB LPF slope). Relaxing the slope to a first-order 6dB widens this to 15Hz-84Hz (30Hz LPF), 16Hz-111Hz (60Hz), 16Hz-126Hz (90Hz) and 17Hz-137Hz (120Hz). The steepest 24dB/oct slope gives a narrow 15Hz-37Hz (30Hz), 16Hz-73Hz (60Hz), 17Hz-97Hz (90Hz) and 18Hz-124Hz (120Hz). SVS's Room Gain compensation acts at 25Hz, 31Hz & 40Hz, reducing the SPL by 6dB (ie one boundary) at the selected 'compensation frequency'. The infra-bass roll-off is unchanged but level and extension are reduced, ie a 40Hz compensation (re. 120Hz/12dB) realises a reduced 39Hz-136Hz bandpass (as opposed to 17Hz-125Hz). Finally, distortion is a low <0.2% (20Hz-100Hz, re. 90dB SPL) and only finally climbs to 1%/20Hz at 109dB SPL/1m. PM



ABOVE: Corrected ground plane responses. LPF off, black. 30Hz LPF, purple; 60Hz, orange; 90Hz, blue; 120Hz, red (12dB/oct, solid; 24dB/oct, dashed)



ABOVE: Reflections rather than resonances are seen across the 430mm driver (-20dB decay at 43msec)

HI-FI NEWS SPECIFICATIONS

LF extension (-6dB re. 100Hz)	15Hz
Maximum bandwidth (-6dB re. 100Hz)	17-205Hz
Max. group delay (20Hz-100Hz, 80Hz LP filter)	33ms @ 20Hz
ETC decay time (to <-20dB, 80Hz LP filter)	43ms
THD 20Hz/60Hz/100Hz (for 90dB SPL/1m)	0.16% / 0.2% / 0.06%
Power consumption (Idle/Standby)	26W / 1W
Dimensions (HWD) / Weight	495x507x537mm/56kg

LEFT: Rear panel includes a simple OLED display serving basic volume and LPF controls. USB-A input serves a wireless audio dongle alongside single-ended (RCA) and balanced (XLR) line in/outputs

plus the feeling of a wider overall dynamic range. Furthermore, on music such as Christy Moore's 'How Long' [This Is The Day; Columbia/Sony 503255.2], where the folk singer/guitarist is accompanied by very gentle bass, the SB17-Ultra's presence was approaching the imperceptible... until you switched it off. Then the performance lost a little of its scale, and Moore's voice sounded a little less prominent.

EPIC IMPACT

I again noted this effect – of a more involving, richer-sounding midrange – with Mudcrutch's 'Scare Easy' [Mudcrutch; Reprise Records 455868-2]. SVS's sub added not only a shade more weight to the country-rock rhythms of this Tom Petty-led band, but the richer foundation appeared to strengthen the impact of the vocal and guitar lines above.

This is entirely subjective, of course, and just what my ears told me. It's also the element of the sub's performance that most depends on careful level matching. I stayed at or below SVS's default '-10dB' setting, as a nudge up from there (which can accidentally be done if you use the slider tool on the app, rather than the ± buttons) saw the SB17-Ultra R|Evolution begin to 'dominate' the music. During Jennifer Warnes' 'Somewhere, Somebody' [The Hunter; Private Music 261974], the bass playing of Jorge Calderón, which had sounded brilliantly defined and chewy, started to bloom and swamp the other elements.

Back in more obvious 'subwoofer demo' territory were the bass gains to be had when playing 'O Daiko (Big Drum)' from Kodo's Heartbeat Drummers Of Japan [Sheffield Lab CD-KODO]. The barrage of drums on

this recording had superb resonance and snap, their textures and tones being truly compelling.

Other areas where the SVS subwoofer really earns its coin are with orchestral and cinematic music. Hans Zimmer's 'Jack Sparrow Theme' from the Pirates Of The Caribbean: Dead Man's Chest soundtrack [Walt Disney Records; Qobuz CD res download] required the sub to perform mostly light-touch duties, filling out the low strings behind the main jaunty melody. But his eerie soundscapes for Blade Runner 2049 [Epic/Sony Music 19075803092] are rife with infrasonic bass notes, which sent the SB17-Ultra R|Evolution's monster driver rollicking in its heavy-duty rubber surround.

In these moments the entire listening room seemed to be energised without actually joining in. It was music with a physicality to it, and all the better for visualising the film's dramatic images of flying spinner craft and neon-lit streets. Brains and brawn from one big, affordable box? Where do I sign? ☺

HI-FI NEWS VERDICT

Not for SVS a flagship model at a cost-no-object price – the SB17-Ultra R|Evolution, a '17-incher' with a suite of features, is both relatively affordable and a brilliant performer. There's guile and craft to the way it adds depth and scale to your music, it hits hard and (very) deep when required, and the setup app streamlines integration into your system. Owners of speakers big and small should book an audition.

Sound Quality: 86%

