

KRK VXT 8

KEITH HOLLAND

The KRK VXT 8 is a 2-way active speaker consisting of a 1-inch silk dome tweeter and an 8-inch woven Kevlar cone woofer which, in common with other KRK speakers, has a distinctive bright yellow colour. It is the largest of a range of VXT models alongside the VXT 4 and VXT 6. The cabinet is constructed from ABS structural foam, which has a rigid skin and a lightweight core, and has rounded contours to improve rigidity and reduce edge diffraction problems, along with a slotted bass reflex port. All of the power amplifier, crossover and protection electronics are built in to the cabinet. KRK specifies the power amplifiers to be



60W for the tweeter and 120W for the woofer which endows the VXT 8 with a claimed maximum output level of 111dB SPL on music and 114dB SPL peak. The rear panel has a level adjustment control with a range from -30dB to +6dB, and switches for HF adjustment with -1dB, 0dB or +1dB above 2kHz and LF adjustment for whole, half or quarter space use. There is also a switch for the clip indicator and limiter settings with three options: clip indicator without limiter, no clip indicator without limiter, or clip indicator with limiter, along with a ground lift switch. Usefully, all of these switches have tamper-proof covers. Input can be balanced or unbalanced via a combination XLR/

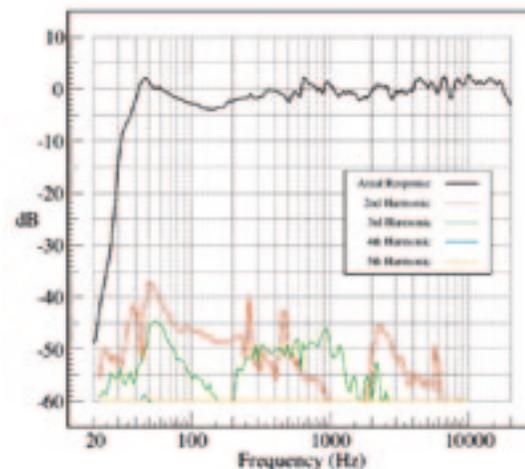


Fig. 1. On-axis frequency response and distortion.

TRS socket and mains is via an IEC socket and switch, all on the rear panel. The speaker has overall dimensions of 438mm high by 3218mm wide by 300mm deep and weighs about 19kg.

Figure 1 shows the on-axis frequency response and harmonic distortion for the VXT 8. The response is held within ± 3 dB from 40Hz to 20kHz with a very rapid 8th-order roll-off through -10dB at a very respectable 30Hz. Harmonic distortion is low with maximum levels of -37dB (1.4%) second harmonic at 50Hz and -44dB (0.6%) third harmonic at 55Hz. The horizontal directivity (Figure 2) shows some woofer-related mid-range narrowing at around 1500Hz but otherwise the response is seen to fall smoothly with frequency and off-axis angle. Figure 3 shows that the vertical directivity is very well controlled with just a narrow interference notch at 1.8kHz and 30 degrees down. This impressive frequency-domain performance usually comes at

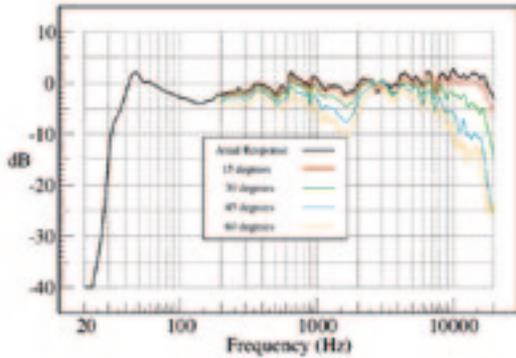


Fig. 2. Horizontal directivity.

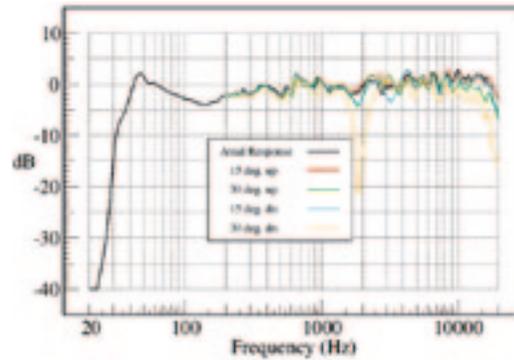


Fig. 3. Vertical directivity.

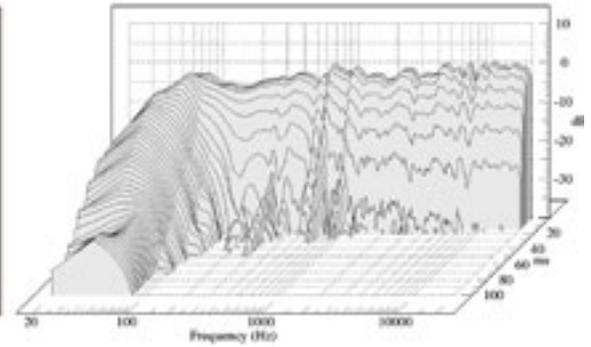


Fig. 4. Waterfall plot.

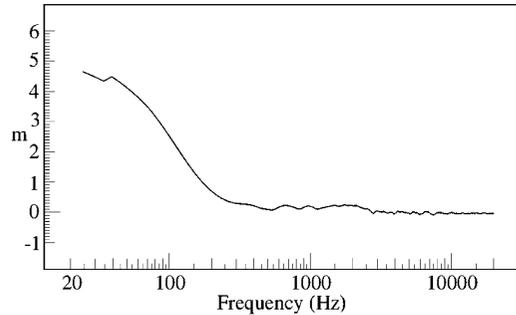


Fig. 5. Acoustic centre.

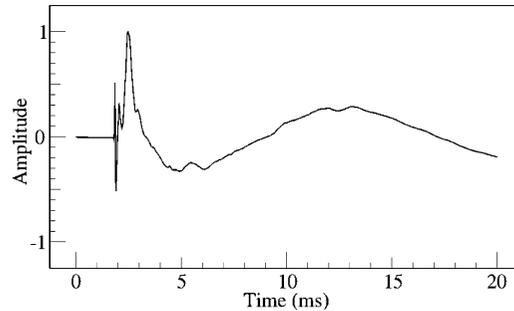


Fig. 6. Step response.

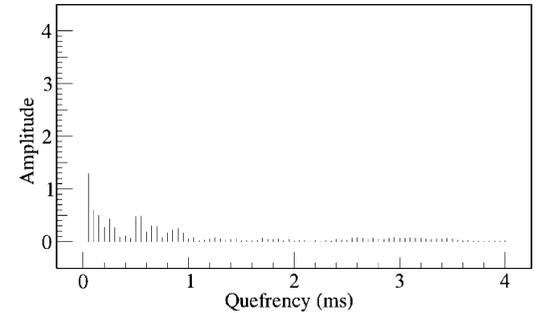


Fig. 7. Power cepstrum.

a price, and the waterfall plot shown in Figure 4 demonstrates the result of some compromise with the slow decay at low frequencies as strong evidence of the rapid 8th-order roll-off. There is some sign of some resonances between 300Hz to 1kHz but these are not strong. Another time-domain problem at low frequencies can be seen in the acoustic source position (Figure 5) where a high group delay means that low frequencies apparently emanate from a

position over 4m behind the speaker. These two plots suggest that the rapid low-frequency roll-off, although desirable for maintaining low-frequency output with low distortion, has resulted in a compromise in the transient response of the speaker. The step response in Figure 6 shows that the mid frequency output arrives about 1 millisecond after the high frequencies, which is slightly more delay than is usual for a two-way speaker; this may be due to the use of high-

order slopes in the crossover. The power cepstrum in Figure 7 shows little activity with low levels of edge diffraction due to the curved baffle contours.

Overall, the KRK VXT 8 is an impressive performer that should prove popular where robustness, high bass output and low distortion are important. The frequency response is smooth, extended and flat both on- and off-axis, but transient accuracy is compromised as a result. ■