

RCF Mytho 8

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The RCF Mytho 8 is the largest of two studio monitors in the Mytho range. It comprises a 200mm woofer with a 51mm voice coil, and a 25mm metal dome tweeter, both with neodymium magnet systems. The drivers are mounted symmetrically in a vertical orientation with the tweeter radiating through a shallow horn. The diecast aluminium cabinet has a rear-facing bass reflex port and the front baffle is shaped to reduce the effects of diffraction. The power amplifiers, crossover and protection circuitry are all housed within the cabinet, with the rear panel acting as the heat sink. At the bottom of the rear panel are the usual mains socket and switch and combination XLR/Jack signal input socket along with an input sensitivity control, variable from -6dB to +6dB, and a set of 12 dip switches. The switches are for adjusting bass tilt (0, -1, -2 and -4dB below 500Hz), bass roll-off (0, -3, -6dB below 80Hz, with an additional 80Hz high-pass filter setting for use with subwoofers), treble tilt (+1, 0, -1, -2dB above 6kHz), equalisation (flat on-axis or flat power response for different room types), desktop control (on/off reduction of output around 150Hz) and on/off



switches for the woofer, tweeter and front power LED.

All crossover and equalisation filtering is handled by a dedicated DSP, and there is a USB socket on the rear panel that is apparently for service only. RCF specify amplifiers of 200W for the woofer and 100W for the tweeter which endow the Mytho 8 with a claimed maximum sound pressure level of 116dB (conditions unspecified). The electronics also has circuitry for thermal, over excursion and RMS protection plus a soft limiter. Overall dimensions are 430mm high x 310mm wide x 300mm deep and each cabinet weighs 13kg.

Figure 1 shows the on-axis frequency response and harmonic distortion for an output level of 90dB SPL at 1m. The response is commendably smooth and extended, lying within +/-2.5dB limits from 40Hz to 20kHz, with -10dB at a very low 27Hz and a 6th-order low-frequency roll-off. The 2nd harmonic distortion is very low, at less than -46dB (0.5%) at all frequencies above 30Hz except for a narrow peak to -42dB (0.8%) at around 360Hz. Levels of 3rd harmonic peak to -32dB (2.5%) at 50Hz but are otherwise below -46dB (0.5%) above 30Hz. These are very low distortion levels for a speaker of

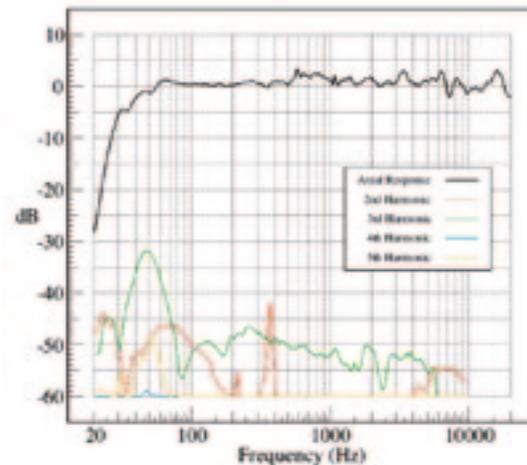


Fig. 1. On-axis frequency response and distortion.

this size, particularly considering the extended low-frequency response. Horizontal and vertical off-axis frequency responses are shown in Figure 2 and 3 respectively. The horizontal dispersion is well controlled with little evidence of mid-range narrowing but there are some side-lobes at very high frequencies. The vertical dispersion shows the characteristic interference notch at the crossover frequency of 1800Hz due to the spacing of the drivers; this notch is symmetric about the up and down directions.

The time domain performance of the Mytho 8 is shown in Figures 4 to 6, the step response, power cepstrum and acoustic source position respectively, and the combined time/frequency performance in the waterfall plot of Figure 7. The step response reveals good time alignment between the drivers, with a high frequency spike occurring around 0.5 milliseconds before the sharp main rise. The acoustic source position

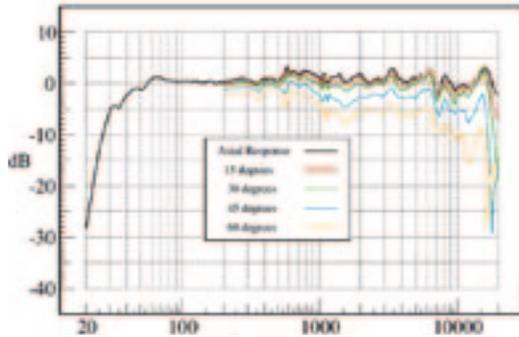


Fig. 2. Horizontal off-axis response.

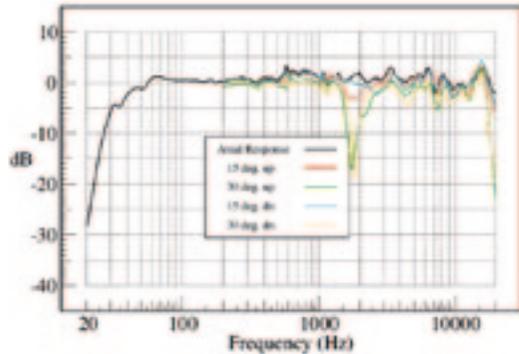


Fig. 3. Vertical off-axis response.

is quite surprisingly compact, given the 6th-order low-frequency roll-off, with the low frequencies apparently radiating from a position less than 3m behind the mid and high frequencies; many speakers with similar roll-off exhibit shifts of 4m or more. The power cepstrum shows only small evidence of reflection activity at a queffency of around 0.2 milliseconds, which is probably due to diffraction from the outer edge of the

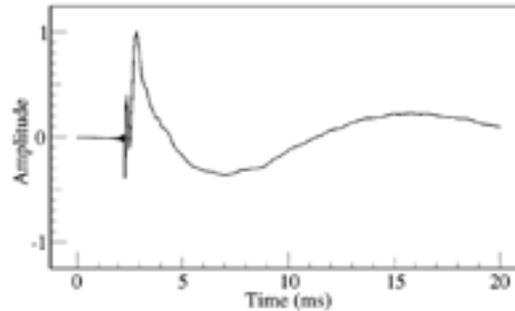


Fig. 4. Step response.

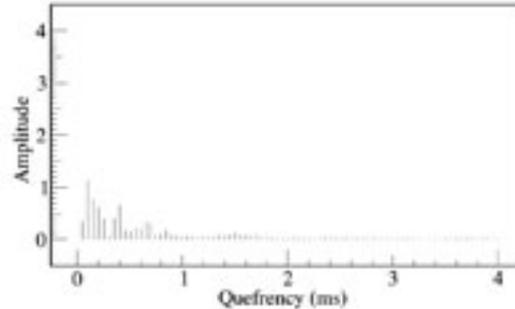


Fig. 5. Power cepstrum.

tweeter horn. The waterfall plot shows a reasonable rate of initial decay at low frequencies, but that then flattens out after around 50 milliseconds. There is some evidence of low-level resonance behaviour in the mid-frequency range which can be seen to be responsible for some minor ripples in the frequency response.

The RCF Mytho 8 is an impressive speaker. It manages to combine a very extended bass response

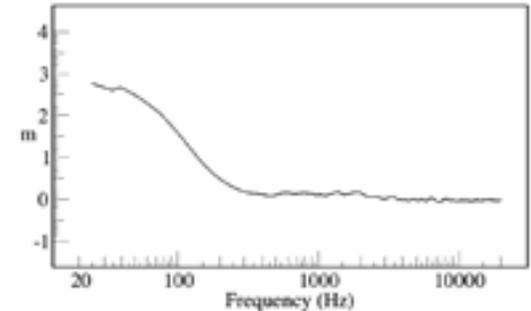


Fig. 6. Acoustic source position.

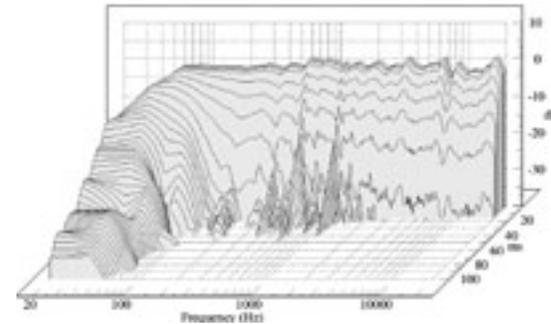


Fig. 7. Waterfall plot.

and low distortion without too much compromise in transient response. Taking this into account, along with the smooth, flat frequency response and controlled dispersion, there is very little to dislike; is this one of the greats? ■

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