



## Reference Series Model 104 and 104aB

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### REFERENCE SERIES MODEL 104 (1973-76) AND 104AB (1976-80)

In the early 1970s KEF invested heavily in digital technology to assist in the design and manufacture of loudspeakers. Using computers to control acoustic measurements allowed data to be stored in a form that significantly aided the design process as well as forming the basis of an advanced production quality control system. The first loudspeaker to benefit from this was the first of the new Reference Series, the Model 104.

Model 104 was an 8 inch two-way system with a passive radiator augmenting the low frequency response, a format that was developed previously for the Cadenza system. The B200 bextrene coned bass driver for the 104 had a short coil/long gap magnet system for low distortion and the system included a three position acoustic contour control, which allowed +/-2dB of midrange level adjustment.

In 1976 the system was updated into the 104aB, where aB was an abbreviation for 'acoustic butterworth', relating to the shape of the acoustic response of the midrange and treble drivers in the crossover region. Perfect integration of the units will only happen if the acoustic responses of the two units conform to a precise characteristic. Previously, crossover filters had been designed primarily on the basis of the electrical response of the filter but, in reality, the acoustic roll-off is also a function of the natural roll-off of the driver response. By considering the filter and driver as a combined system the filter response can then be optimised to give the precise acoustic roll-off necessary for perfect integration.

Specification: Model 104

System type: Two-way, stand-mount

Enclosure type: Passive radiator

Size: 630 x 330 x 260 mm (24.8 x 13 x 10.23 inches)

Weight: 15.8kg (34.75 lb)



Input Impedance: 8 ohms  
Rated maximum power: 50W programme  
Amplifier Requirements: 15-50 watts per channel into 8 ohms  
System resonance: 35Hz, mechanical reflex  
Frequency range: 30-30,000Hz  
Frequency response: 50-20,000Hz +/-2dB  
Sensitivity: 12.5 watts for 96dB at 1m and 400Hz in anechoic conditions  
Crossover Frequency: 3000Hz  
Finishes: Walnut, Teak, White  
Grille: black microcellular foam  
System: SPI038  
Drive units: B200 bass unit (SPI039), BD139 passive radiator (SPI042), T27 tweeter (SPI032)  
Crossover: SPI041

Specification: Model I04aB  
System type: Two-way, stand-mount  
Enclosure type: Passive radiator  
Size: 630 x 330 x 260 mm (24.8 x 13 x 10.23 inches)  
Weight: 16.3kg (36 lb)  
Input Impedance: 8 ohms  
Rated maximum power: 100W programme  
Amplifier Requirements: 15-100 watts per channel into 8 ohms  
System resonance: 35Hz, mechanical reflex  
Frequency range: 30-30,000Hz  
Frequency response: 50-20,000Hz +/-2dB  
Sensitivity: 12.5 watts for 96dB at 1m and 400Hz in anechoic conditions  
Crossover Frequency: 3000Hz  
Finishes: Walnut, Teak  
Grille: black microcellular foam  
System: SPI038  
Drive units: B200 bass unit (SPI039), BD139 passive radiator (SPI042), T27 tweeter (SPI032)  
Crossover: SPI065

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