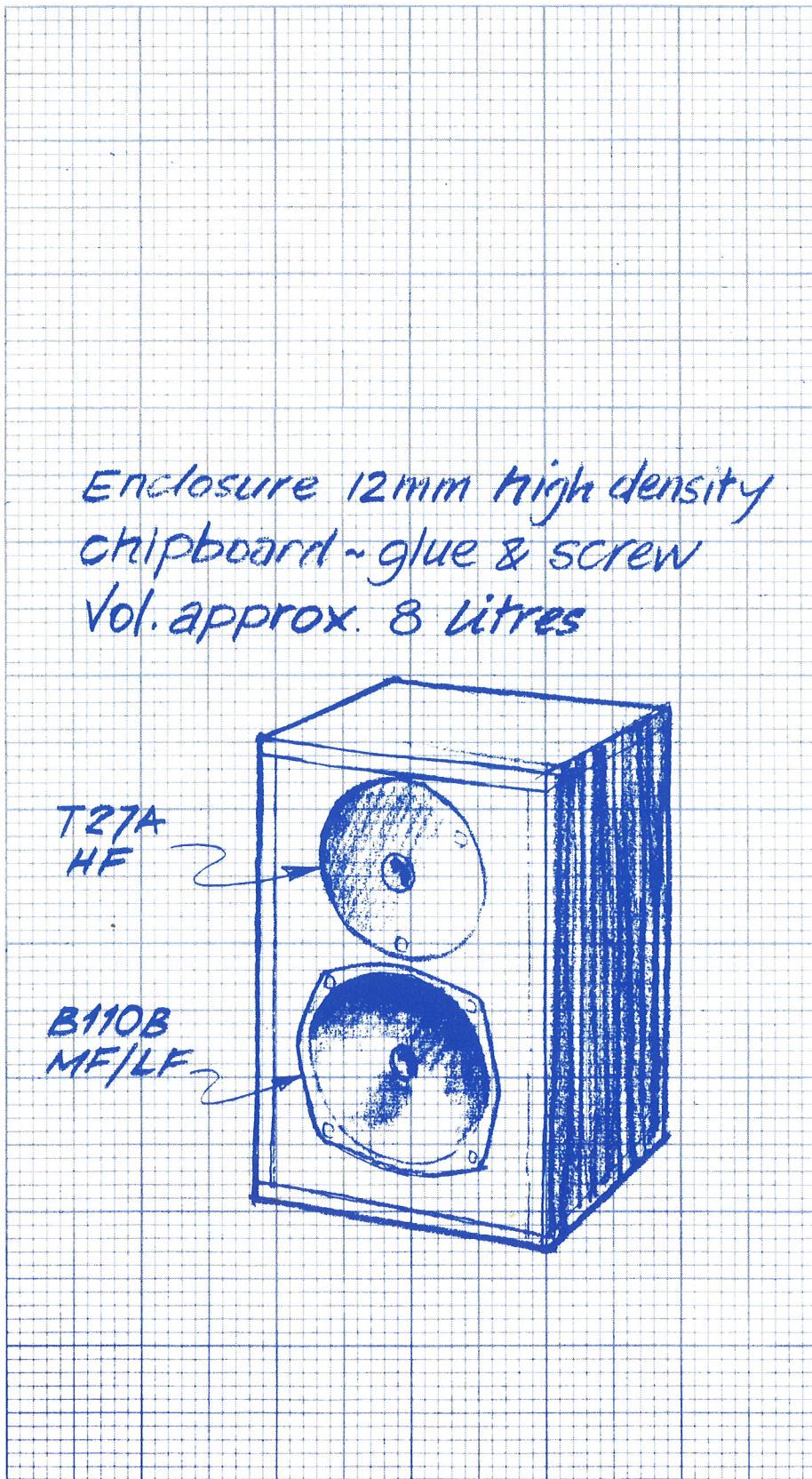


KEF CONSTRUCTOR SERIES MODEL CS1

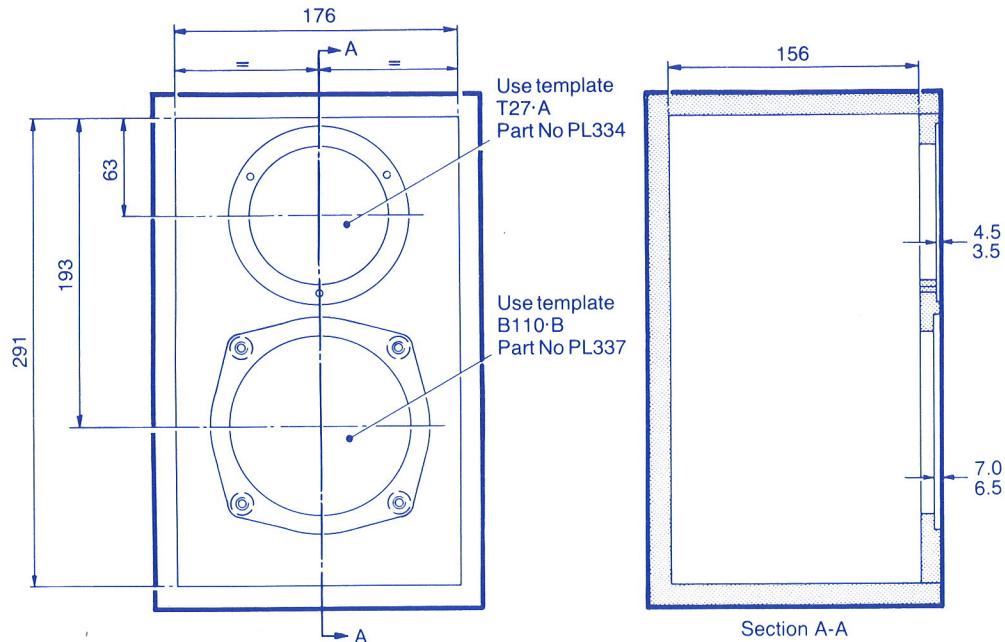


This miniature bookshelf system is based on the renowned Model 101, smallest of the KEF Reference Series. It is a two-way system specially designed for the home constructor and featuring a 110mm diameter Bextrene cone LF drive unit and a 19mm dome HF radiator. It can provide very high quality reproduction where small physical size is essential and high efficiency is not of prime importance. Wide bandwidth is achieved from a small enclosure of only 8 litres with a characteristic sensitivity of 81dB/m/W. Amplifiers giving continuous power output of 50 watts per channel are recommended for use with this design.

This leaflet gives all the information required to construct the enclosure and dividing network together with curves of terminal voltages which may be useful in checking the operating characteristics of the network. Performance data for the complete loudspeaker are given on the back page. A leaflet giving general information about loudspeaker cabinet construction is also available on request – KEF Part No. SL358EN01.

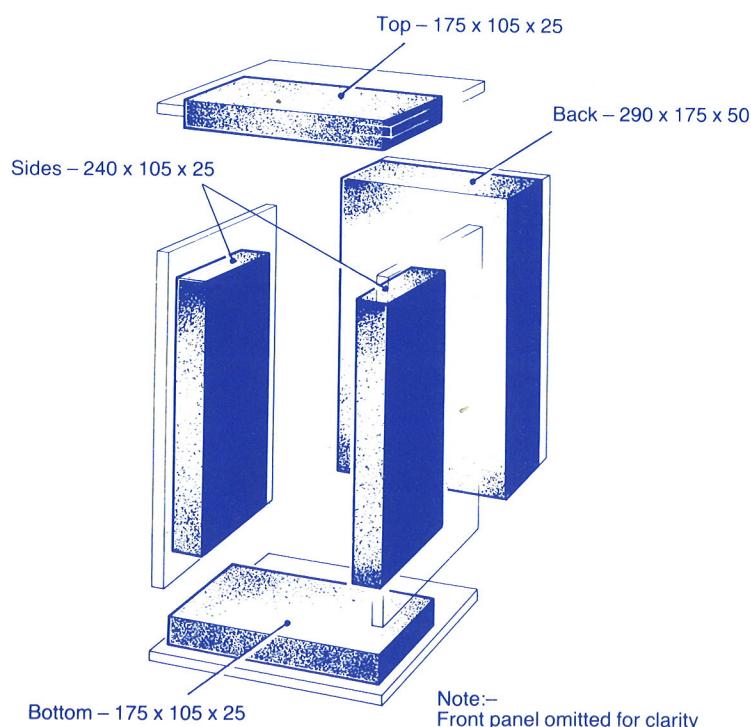


CABINET CONSTRUCTION



All dimensions in mm

The enclosure is constructed from chipboard 12mm thick. Plywood or fibreboard of similar thickness may be substituted. The method of construction is not critical so long as all joints are generously glued and the enclosure generally rendered airtight. The use of glue blocks along inside edges will provide extra security. The inside surfaces of each side, top and back panel should be laminated with sound deadening material such as "Dedshete", well bonded with a rubber-based adhesive. The damping laminate need not extend to the panel edges but it should cover at least half the inside surface area. See leaflet no. SL358 for general hints on loudspeaker construction.

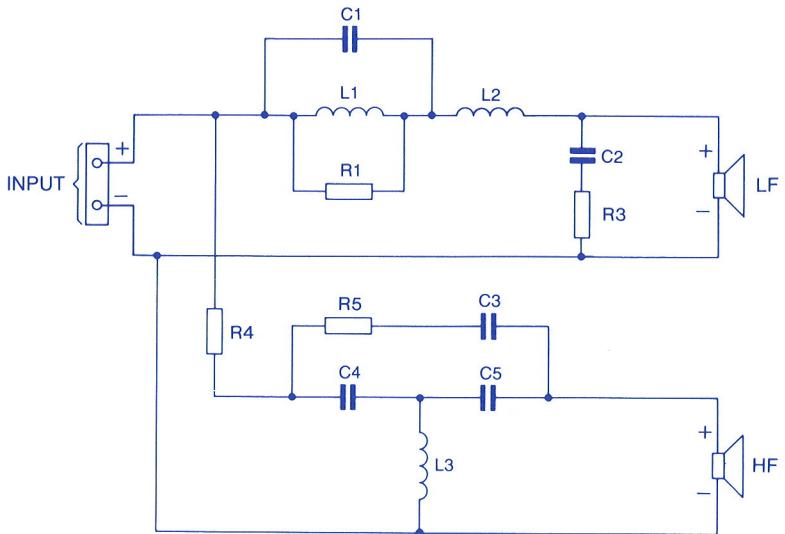


Pads of sound absorbing material are placed inside the cabinet to inhibit the formation of standing waves in the enclosed air space. Suitable materials include polyester foam, resin-bonded fibre glass and acetate fibre. The pads are retained by adhesive or string lacing.

DIVIDING NETWORK

Circuit diagram

This network has been computer designed for use with the specified drive units and enclosure. It may not be suitable for use with other combinations.



Component list

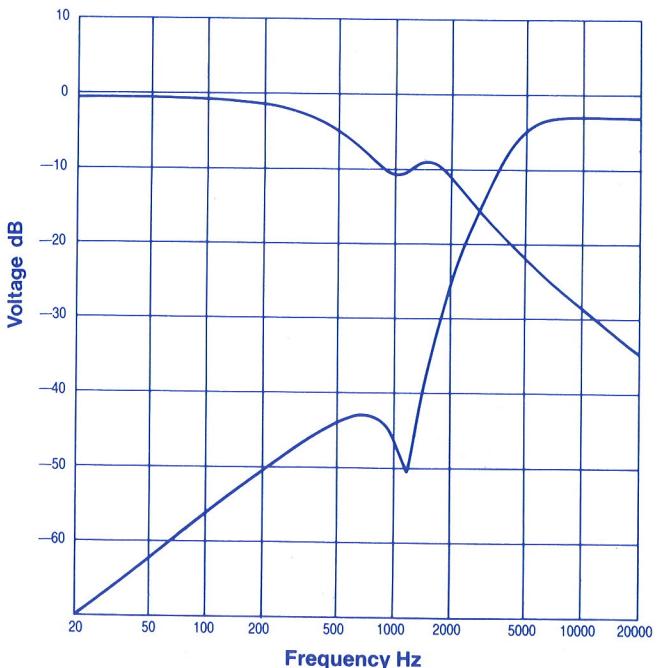
Components should be chosen with values as close as possible to those shown in the table. Minimum working voltages for capacitors are specified but no harm will be done if higher ratings are used.

Component	Value	Tolerance	Losses	Notes
L1	1.3mH	±5%	R≤0.3Ω	
L2	2.0mH	±5%	R≤0.3Ω	
L3	0.18mH	±5%	R≤0.2Ω	
C1	16µF	±10%	d≤0.08	≥100V DC working
C2	7µF	±10%	d≤0.04	≥50V DC working rev electrolytic
C3	0.33µF	±10%	d≤0.01	≥50V DC working
C4	3.3µF	±10%	d≤0.04	rev electrolytic
C5	7µF	±10%	d≤0.04	≥50V DC working rev electrolytic
R1	15Ω	±5%		9W
R3	10Ω	±5%		6W
R4	3Ω	±5%		6W
R5	220Ω	±5%		2W

d is loss factor of capacitor. It is related to series resistance by the formula $R = \frac{d}{2\pi f c}$
above d values are measured at 1kHz

Testing the network

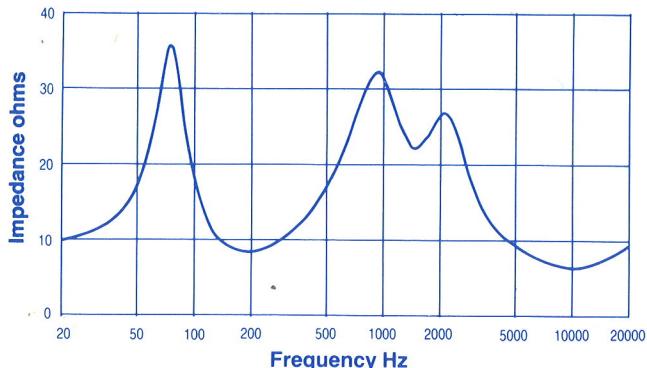
Operation of the dividing network can be checked by substituting resistive loads of 8 ohms value in place of the loud-speakers. With a constant voltage input of varying frequency derived from a signal generator or test disc terminal volts at the output of each filter section should accord with the curves opposite.



KEF CONSTRUCTOR SERIES MODEL CS1

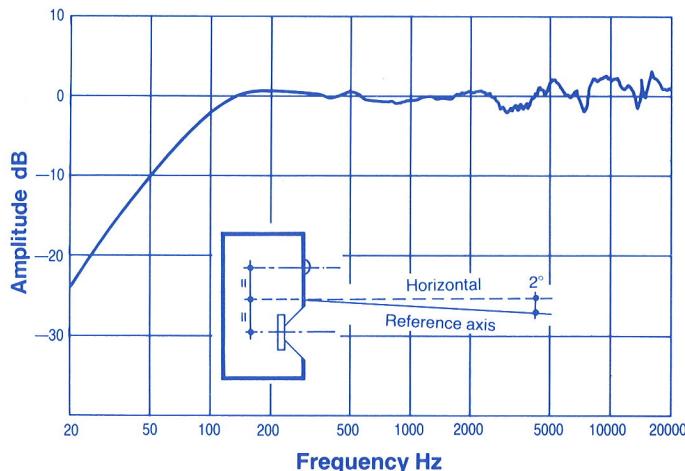
Technical Specification

Frequency range	85Hz – 30kHz ± 3dB at 2m on reference axis
Maximum output	98dB spl on programme peaks under typical listening conditions
Characteristic sensitivity level	81dB spl at 1m on reference axis for pink noise input of 1W
Enclosure type	Closed box
System resonance frequency	70Hz
Internal volume	8 litres
Nominal impedance	8 ohms
Programme rating	50W
Minimum amplifier requirements	20W
Internal dimensions	291 × 176 × 156 mm
External dimensions	315 × 200 × 180 mm
Material	12mm chipboard
Drive units	LF: B110B SP1057 HF: T27A SP1032



Impedance Characteristic

The modulus of impedance curve provides a useful method of checking for suspected faults. The above curve is measured under constant current conditions at 100 mA.



Amplitude-Frequency Response

The completed loudspeaker will produce the above amplitude-frequency response when measured in free field conditions at a distance of 2m on the reference axis.



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KEF Electronics Ltd
Tovil
Maidstone
Kent ME15 6QP England
Telephone: 0622 672261
Telex: 96140

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Distribution in the USA by:
Intratec
PO Box 17414
Dulles International Airport
Washington, DC 20041 USA
Telephone: (703) 435 9100