

PROFESSIONAL LOUDSPEAKERS

APPLICATION NOTE



KEY FEATURES

> High performance 1 x 18" subwoofer system

> Double driver choice is possible

18LW2400 subwoofer key features: 4" interleaved sandwich voice coil (ISV) Triple silicon spider (TSS) Double Demodulating Ring (DDR) 2400W AES power handling

18LW1400 subwoofer key features: 4" interleaved sandwich voice coil (ISV) Double silicon spider (DSS) Double Demodulating Ring (DDR) 1000W AES power handling



18LW2400

GEINERAL SPECIFICATIONS		
NOMINAL DIAMETER	460 mm (18 in)	
RATED IMPEDANCE	8 Ohm	
AES POWER	1200W	
PROGRAM POWER	2400W	
PEAK POWER	7000W	
SENSITIVITY	98 dB	
FREQUENCY RANGE	31 ÷ 2500 Hz	
POWER COMPRESSION @-10dB	0.7 dB	
POWER COMPRESSION @-3dB	1.5 dB	
POWER COMPRESSION @0dB	2.2 dB	
MAX RECOMM. FREQUENCY	500 Hz	
RECOMM. ENCLOSURE VOLUME	130 ÷ 350 lt (4.59÷12.36cu	
MINIMUM IMPEDANCE	6.3 Ohm at 25°C	
MAX PEAK TO PEAK EXCURSION	50 mm (1.97 in)	
VOICE COIL DIAMETER	100 mm (4 in)	
VOICE COIL WINDING MATERIAL	Copper	
SUSPENSION	Triple roll, Polycotton	

Straight ribbed, fiberglass reinforced cellulose

GENIERAL SPECIFICATIONS

CONE

Fs	35 Hz
Re	5 Ohm
Sd	0,1225 sq. mt. (189,88 sq. in.)
Qms	7.2
Qes	0.32
Qts	0.31
Vas	230 lt. (8.12 cuft)
Mms	192 gr. (0,42 lb)
BL	25,6 Tm
Linear mathematical Xmax	± 9,5 mm (± 0,38 in)
Le (1kHz)	1.35 mH
Ref. Efficiency 1W@1m (half space)	96.7 dB

THIELE SMALL PARAMETERS



KEY FEATURES

> High performance 1 x 18" subwoofer system

> Double driver choice is possible

18LW2400 subwoofer key features: 4" interleaved sandwich voice coil (ISV) Triple silicon spider (TSS) Double Demodulating Ring (DDR) 2400W AES power handling

18LW1400 subwoofer key features: 4" interleaved sandwich voice coil (ISV) Double silicon spider (DSS) Double Demodulating Ring (DDR) 1000W AES power handling



18LW1400

NOMINAL DIAMETER460 mm (18 in)RATED IMPEDANCE8 OhmAES POWER1000WAES POWER1400WPROGRAM POWER1400WPEAK POWER7000WSENSITIVITY98 dBPOWER COMPRESSION @1000.8 dBPOWER COMPRESSION @1003.0 dBPOWER COMPRESSION @0103.0 dBMAX RECOMM. FREQUENCY500 HzMAX RECOMM. FREQUENCY130 + 350 lt (4.59 + 12.3 dcm)MINIMUM IMPEDANCE6.4 Ohm ot 25°CMAX PEAK TO PEAK EXCURSION50 mm (1.97 in)VOICE COIL DIAMETER100 mm (4 in)VOICE COIL WINDING MATERIACopperSUSPENSION5tright ribbed, fibergloss rinforced cellulose		
AES POWER 1000W PROGRAM POWER 1400W PEAK POWER 7000W SENSITIVITY 98 dB FREQUEINCY RANGE 28 ÷ 2500 Hz POWER COMPRESSION @-10dB 0.8 dB POWER COMPRESSION @-3dB 2.1 dB POWER COMPRESSION @-0dB 3.0 dB MAX RECOMM. FREQUENCY 500 Hz RECOMM. ENCLOSURE VOLUME 130 ÷ 350 lr (4.59÷12.36cm) MINIMUM IMPEDANCE 6.4 Ohm at 25°C MAX PEAK TO PEAK EXCURSION 500 mm (1.97 in) VOICE COIL DIAMETER 100 mm (4 in) VOICE COIL WINDING MATERIA Copper SUSPENSION Straight ribbed, fiberglass	NOMINAL DIAMETER	460 mm (18 in)
PROGRAM POWER1400WPEAK POWER7000WSENSITIVITY98 dBFREQUENCY RANGE28 ÷ 2500 HzPOWER COMPRESSION @-10dB0.8 dBPOWER COMPRESSION @-10dB3.0 dBPOWER COMPRESSION @-3dB3.1 dBPOWER COMPRESSION @-0dB3.0 dBMAX RECOMM. FREQUENCY500 HzRECOMM. ENCLOSURE VOLUME130 ÷ 350 lr (4.59+12.36cmMINIMUM IMPEDANCE6.4 Ohm at 25°CMAX PEAK TO PEAK EXCURSION50 mm (1.97 in)VOICE COIL DIAMETER100 mm (4 in)VOICE COIL WINDING MATERIALCopperSUSPENSIONTriple roll, PolycottonCONEStraight ribbed, fiberglass	RATED IMPEDANCE	8 Ohm
PEAK POWER7000WSENSITIVITY98 dBFREQUENCY RANGE28 ÷ 2500 HzPOWER COMPRESSION @-10dB0.8 dBPOWER COMPRESSION @-3dB2.1 dBPOWER COMPRESSION @-3dB3.0 dBPOWER COMPRESSION @0dB3.0 dBMAX RECOMM. FREQUENCY500 HzRECOMM. ENCLOSURE VOLUME130 ÷ 350 lt (4.59 ÷ 12.36 cmMINIMUM IMPEDANCE6.4 Ohm at 25°CMAX PEAK TO PEAK EXCURSION50 mm (1.97 in)VOICE COIL DIAMETER100 mm (4 in)VOICE COIL WINDING MATERIALCopperSUSPENSIONTirple roll, PolycottonCONEStraight ribbed, fiberglass	AES POWER	1000W
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FREQUENCY RANGE28 ÷ 2500 HzPOWER COMPRESSION @-10dB0.8 dBPOWER COMPRESSION @-3dB2.1 dBPOWER COMPRESSION @0dB3.0 dBMAX RECOMM. FREQUENCY500 HzRECOMM. ENCLOSURE VOLUME130 ÷ 350 lt (4.59 ÷ 12.36c)ffMINIMUM IMPEDANCE6.4 Ohm at 25°CMAX PEAK TO PEAK EXCURSION50 mm (1.97 in)VOICE COIL DIAMETER100 mm (4 in)VOICE COIL WINDING MATERIALCopperSUSPENSIONTriple roll, PolycottonCONEStraight ribbed, fiberglass	PEAK POWER	7000W
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POWER COMPRESSION @0dB 3.0 dB MAX RECOMM. FREQUENCY 500 Hz RECOMM. ENCLOSURE VOLUME 130 ÷ 350 lt (4.59 ÷ 12.36 cm² MINIMUM IMPEDANCE 6.4 Ohm at 25°C MAX PEAK TO PEAK EXCURSION 50 mm (1.97 in) VOICE COIL DIAMETER 100 mm (4 in) VOICE COIL WINDING MATERIAL Copper SUSPENSION Triple roll, Polycotton CONE Straight ribbed, fiberglass	POWER COMPRESSION @-10dB	0.8 dB
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SUSPENSION Triple roll, Polycotton CONE Straight ribbed, fiberglass	VOICE COIL DIAMETER	100 mm (4 in)
CONE Straight ribbed, fiberglass	VOICE COIL WINDING MATERIAL	Copper
	SUSPENSION	Triple roll, Polycotton
	CONE	

GENERAL SPECIFICATIONS

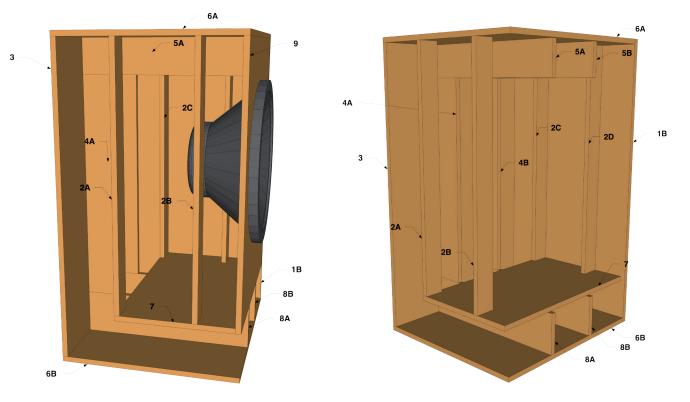
Fs	31 Hz
Re	5 Ohm
 Sd	0,1225 sq. mt. (189,88 sq. in.)
 Qms	7.2
 Qes	0.31
 Qts	0.29
 Vas	297 lt. (10.49 cuft)
Mms	190 gr. (0,42 lb)
BL	24.7 Tm
Linear mathematical Xmax	± 9 mm (± 0,35 in)
Le (1kHz)	2.3 mH
Ref. Efficiency 1W@1m (half space)	96.5 dB

THIELE SMALL PARAMETERS





- > The enclosure should be made of Baltic birch plywood (15mm thickness)
- > Bolts are M6x35mm
- > M6 T-Nuts are recommended
- > Handling, rigging and connectors are user's choice





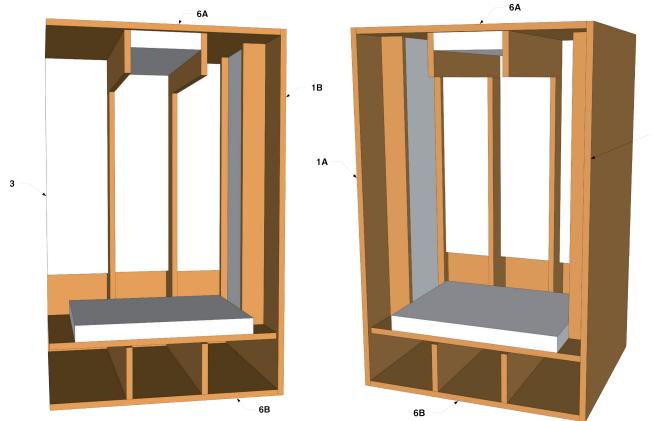
INTERNAL VIEW

KEY FEATURES

> It's recommended to well damping the cabinet interior

> You should see an example of the required dampening on the image on the next page

> An high density dampening material, such as Dacron or other synthetic fibers, is required for better performance



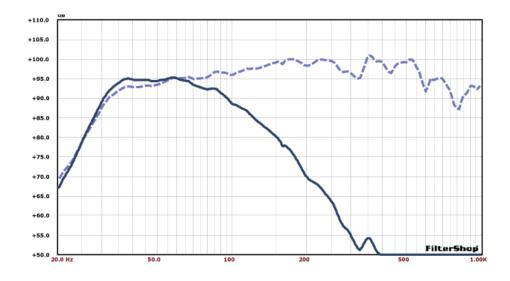
DAMPING MATERIAL



18" SUBWOOFER KIT

1B

MEASUREMENTS: UNFILTERED MAGNITUDE RESPONSE, 2.83V/1M AND RELATIVE PHASE RESPONSE WITH 18LW2400



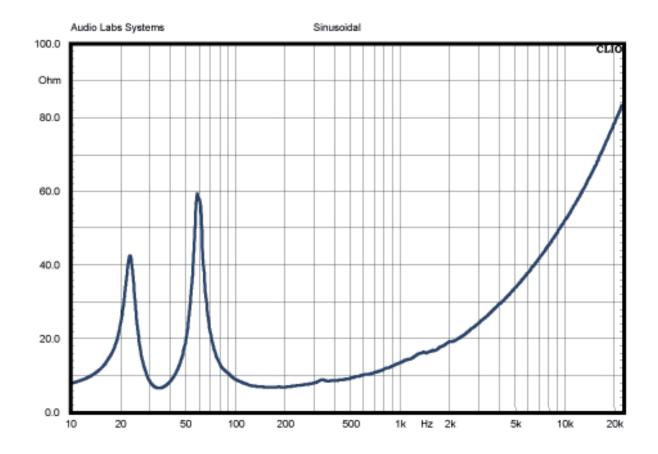
MAGNITUDE RESPONSE



PHASE RESPONSE

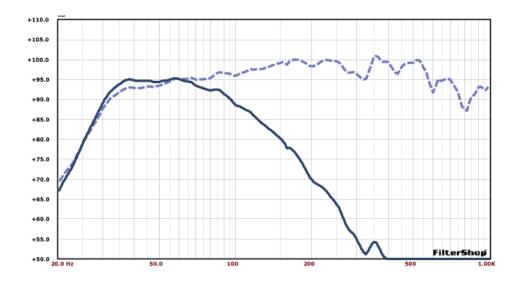


MEASUREMENTS: IMPEDANCE WITH 18LW2400

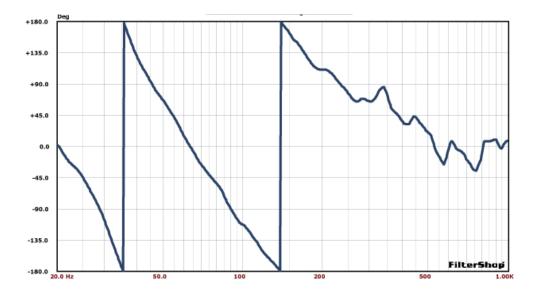




MEASUREMENTS: UNFILTERED MAGNITUDE RESPONSE, 2.83V/1M AND RELATIVE PHASE RESPONSE WITH 18LW1400



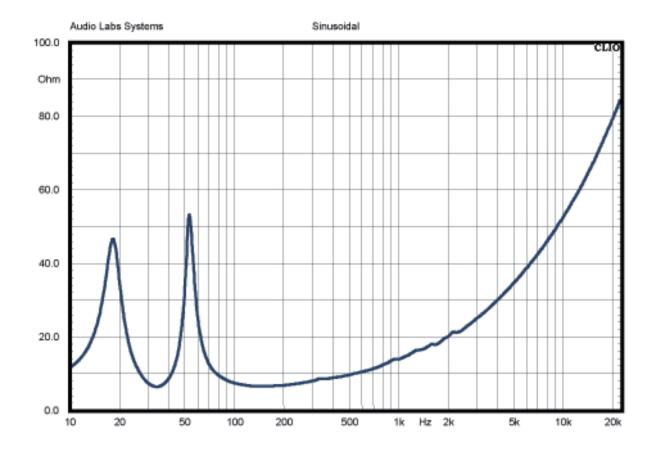
MAGNITUDE RESPONSE



PHASE RESPONSE

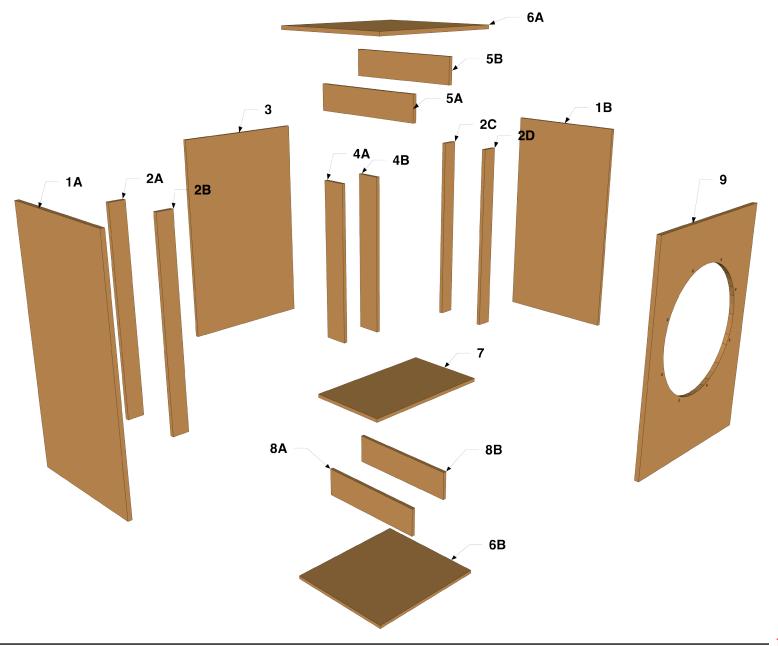


MEASUREMENTS: IMPEDANCE WITH 18LW2400



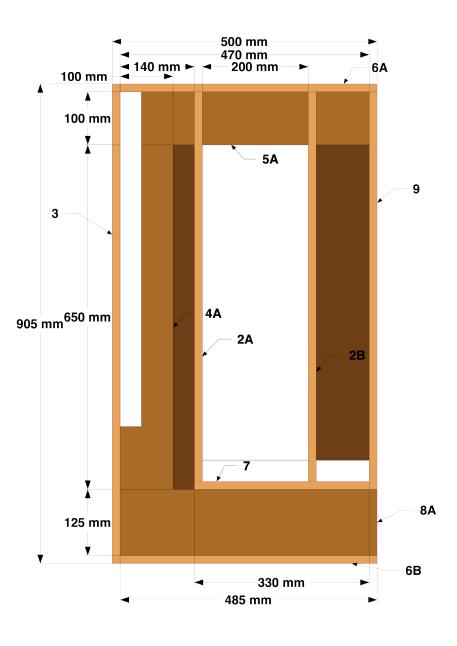


EXPLODED VIEW



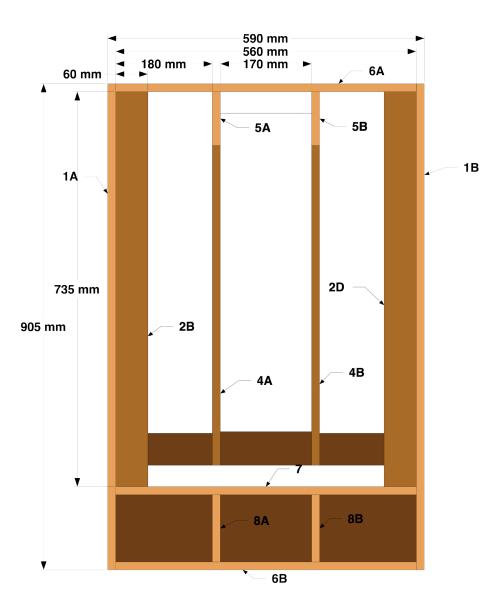
18 EIGHTEEN SOUND

SIDE VIEW



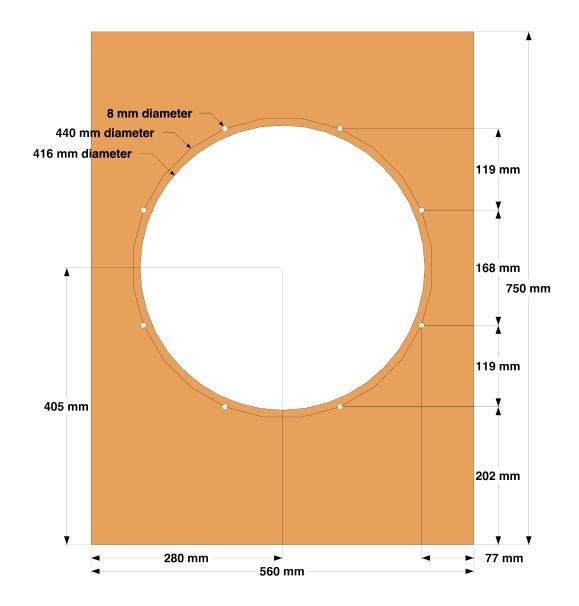


FRONT VIEW





WOOFER DETAILS





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