



# WOOFER DATA SHEET EMPHASER XTREME T6



The EMPHASER X-Treme T6 woofer line has been engineered to offer best bass performance in its class, by the use of high quality parts and components, as well as by advanced design and construction.

### ■ DIE CAST ALUMINUM BASKET

EMPHASER's X-Treme T6 woofers deploy die cast aluminum baskets for a stable and highly anti-resonant platform.

### ■ SR-FE CERAMIC DOUBLE MAGNET

The Strontium Ferrite ceramic double magnet system used on the X-Treme T6 woofer models sports a FEA optimized gap geometry for high efficiency and low distortion.

### ■ POLYCARBON CO-INJECTION CONE

The X-Treme T6 woofers deploy a co-injection cone, where radially embedded carbon fibers increase the stiffness. The choice of polycarbon co-injection material combined with the chosen cone geometry results in high stiffness ratio for ultra low cone flex.

### ■ BUTYL RUBBER SURROUND

Surrounds made of butyl rubber guarantee a long service life and a wide temperature operating range, where butyl rubber retains its material properties for excellent micro / macro dynamics and minimized influence on the linearity of cone movement.

### ■ NOMEX™ SPIDER

The spider made of Nomex™ material prevents mechanical parameter shift and progressive breakdown of suspension by its unique material properties.

### ■ POLYIMIDE VOICE COIL FORMER

Voice coil formers made of Polyimide, better known as Kapton™ (formerly made by DuPont) are chosen for the non-magnetic and high temperature resistance properties.

### ■ 4-LAYER COPPER VOICE COIL

4-layer wound copper voice-coils on either 2.5" or 3" formers stand for very high thermal power handling and high B/L product in the air gap.

### ■ EXTENDED CENTER POLE/CENTER POLE VENT

The back pole plate with center pole are cold forged, retaining the desired magnetic properties of low carbon steel. Adding to this, the center pole is extended to linearize the field in the air gap, while the large center pole vent provides forced air cooling enhancing power handling.

### ■ RUBBER FRONT GASKET

The rubber front gasket design allows these X-Treme T6 woofers to be mounted both ways, i.e. behind a panel or the standard way into a cut-out of a cabinet, for unlimited mounting flexibility.

### ■ SURELOK SCREW TERMINAL

The oversized screw terminal deployed on the X-Treme T6 woofers allow large diameter copper wires to be used, while the terminal construction itself provides low electrical contact resistance for wires that carry the amplified signal to the woofer.

## TECHNICAL SPECIFICATIONS:

Usable Frequency Response\*  
Nominal Power Handling\*  
Nominal Impedance  
Voice Coil Diameter  
Voice Coil Winding Height  
Magnetic Gap Height  
Total Weight of Magnet

\*Exact performance data depending upon actual enclosure!

### THIELE - SMALL PARAMETERS

Free-Air Resonance (Fs)  
DC Resistance (Re)  
Electrical Damping (Qes)  
Mechanical Damping (Qms)  
Total Damping (Qts)  
Equivalent Volume of Compliance (Vas)  
Moving Mass incl. Air Load (Mms)  
Electrically Limited Cone Excursion (Xmax)  
Effective Cone Surface (Sd)  
Volume Displacement of Cone (Vd)  
Efficiency @ 2.00V (RefSPL)

## EX10-T6

25 – 100 Hz  
500 Wrms\*  
4 Ohms  
2.5"/65 mm  
32.0 mm  
12.0 mm  
98 oz. / 2'778 g

## EX12-T6

20 – 100 Hz  
700 Wrms\*  
4 Ohms  
3"/75 mm  
32.0 mm  
12.0 mm  
129.5 oz. / 3'671 g

33 Hz  
3.9 Ohms  
0.40  
6.95  
0.38  
22.3 l  
173.2 g  
20.0 mm (p-p)  
346 cm<sup>2</sup>  
692 cm<sup>3</sup>  
85.0 dB/1W/1m

33 Hz  
3.4 Ohms  
0.39  
2.67  
0.34  
40.7 l  
219.2 g  
20.0 mm (p-p)  
514 cm<sup>2</sup>  
1028 cm<sup>3</sup>  
87.5 dB/1W/1m



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## MOUNTING DIMENSIONS

Mounting Cutout Diameter  
Rear Mounting Clearance (Mounting Depth)

### EX10-T6

228 mm  
157 mm

### EX12-T6

275 mm  
168 mm

## ENCLOSURE SUGGESTIONS

EMPHASER Laboratories recommend to use the X-Treme T6 woofers in combination with sealed, vented or bandpass enclosures. To obtain the best possible performance of this woofer in your car audio setup make sure to follow the stated basic enclosure suggestions as listed. If the provided suggestions are not applicable to your system or vehicle, contact your authorized EMPHASER dealer to ask for further assistance.

### SEALED ENCLOSURE

Net Volume:

25 l

32 l

### PORTED ENCLOSURE (BASS EXTENSION)

Net Volume:

35 l

55 l

Inner Diameter of Port:

1 x 10 cm

1 x 10 cm

Length of Port:

25 cm

16 cm

### BANDPASS ENCLOSURE

Net Volume Ported Chamber:

21 l

28 l

Net Volume Sealed Chamber:

19 l

20 l

Inside Diameter of Ports:

1 x 10 cm

2 x 10 cm

Port Length:

19 cm

21 cm each

## ENCLOSURE CONSTRUCTION / CABINET DAMPING / BREAK-IN INFO

→ Always use at least 19 mm MDF or 18 mm birch plywood to build the bass enclosure. Make sure all joints are well sealed, since a woofer can only reach optimum performance when mounted to an airtight cabinet.

→ The enclosures should be lined with damping material according to their function principle: The sealed enclosure must be loosely filled with polyfill (bonded acrylic fiber). The inner walls of the ported enclosure should be lined out with egg crate PU-foam. The sealed chamber of the bandpass enclosure has to be lined with PU-foam, while the ported chamber usually remains free of any damping material.

→ Loudspeakers need time to break-in. Out of the box, the suspension system of any car audio woofer is quite stiff. To achieve optimum bass response, consider two weeks of daily playing at medium playback levels. After that period of time, the suspension system has reached its equilibrium and will remain stable for the entire life-span of the product.

## WARRANTY

EMPHASER Inc. Wyoming, Michigan U.S.A. warrants this woofer to be free of defects in materials and workmanship for two years from the original date of purchase at retail, contingent upon installation being performed or approved by an authorized EMPHASER dealer. EMPHASER Inc. will at its own discretion repair or replace any mechanically defective woofer at no charge, during the warranty period. This warranty is limited to the **original purchaser**.

Should your EMPHASER woofer require warranty service, please return it to the retailer from whom it was purchased.

Please do not send any product to EMPHASER Inc., Wyoming, Michigan U.S.A. Should you have difficulty in finding an authorized EMPHASER dealer or service center, details are available from the national distributor in the country of purchase.

**Abuse** of this loudspeaker is **not covered under warranty**. The warranty **does NOT cover**:

- Woofers that have been exposed to electrical input exceeding the rated power handling
- Any kind of freight damage
- Woofers damaged due to amplifier clipping
- Woofers exposed to water, oil, solvents or excessive heat
- Repair attempts by unauthorized individuals
- Install damage (i.e. screwdriver holes)