

Ultimate[®]

Titanium Subwoofers

**TS124
TS124DVC**

**TS104
TS104DVC**



Installation and Operation Guide

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I. Introduction

You have purchased a very sophisticated subwoofer manufactured by **Ultimate® Sound**. Founded in 1975, **Ultimate® Sound** makes speakers for every car audio application, speakers for marine environments, enclosed speaker systems, amplifiers, accessories and other products. Our tradition of leadership and innovation in the audio industry continues with innovative products like **Titanium Subwoofers**.

We recommend you have your new **Titanium Subwoofers** installed by a professional. Professional installation shops have the equipment to do the job correctly, and the experience to recommend the best mounting locations in your vehicle.

Please use your new **Titanium Subwoofers** responsibly. Very loud music can cause permanent hearing loss.

TITANIUM SUBWOOFER FEATURES:

- **Titanium cone formula-** for strength, durability and stability during high power operation at extreme temperatures.
- **The Butyl Rubber Surround** has superior damping characteristics and will last longer than foam surrounds
- **Kapton® Voice Coil Former-** Higher power handling than aluminum voice coil formers.
- **4 Layer voice coil windings** keep more wire in the magnetic gap for more output..
- **Vented, extended pole piece-** keeps the voice coil cool during long excursions at high power.
- **Bumped back plate-** makes sure the voice coil never bottoms out.

II. Package Contents

- 1 **Titanium Subwoofer**
- Instruction manual and warranty card.

III. Specifications

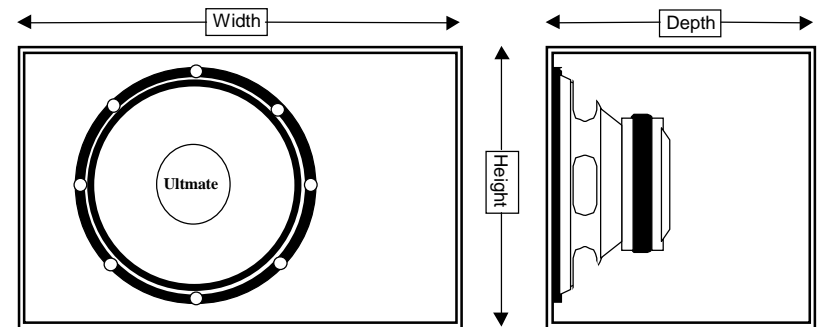
Model	TS124	TS124DVC	TS104	TS104DVC
Size	12"/305mm	12"/305mm	10"/254mm	10"/254mm
Impedance	4Ω	Dual 4Ω	4Ω	Dual 4Ω
Frequency Response	24Hz-500Hz	24Hz-500Hz	27Hz-800Hz	27Hz-800Hz
Voice Coil	2"/ 50.8mm	2"/ 50.8mm	1.5"/ 38mm	1.5"/ 38mm
Magnet	55 oz.	55 oz.	40 oz.	40 oz.
Fs	29Hz	24z	32Hz	31Hz
Vas-ft ³ /Liter	2.4ft ³ / 68 Liters	4.9ft ³ / 140 Liters	1.38ft ³ / 39 Liters	2.08ft ³ / 59 Liters
Xmax	0.3"/7mm	0.3"/7mm	0.3"/7mm	0.3"/7mm
Qts	.37	.36	.40	.41
Sensitivity	91.7dB	91.8dB	90.5dB	90.7dB
Power-RMS	250 Watts	250 Watts	200 Watts	200 Watts
Power-MAX	500 Watts	500 Watts	400 Watts	400 Watts
Cone	Poly-propylene	Poly-propylene	Poly-propylene	Poly-propylene
Surround	Butyl	Butyl	Butyl	Butyl
Frame	Steel	Steel	Steel	Steel
Mounting Depth(In.)	5.2"	5.2"	4.5"	4.5"
Mounting Depth(mm)	130mm	130mm	114.3mm	114.3mm

Dual voice coil parameters are with voice coils connected in parallel for 2Ω impedance. Coils may be wired in series without significant change in box volume requirements.

IV. Installation- Sealed Enclosures

- Sealed enclosures provide excellent performance with **Titanium II Symetec Subwoofers**. They are the simplest enclosures to design and build. We recommend you choose a sealed design if you have not built subwoofer enclosures before. Remember to glue and screw all joints, using enough glue to make sure all joints are air tight. Loosely fill the enclosure with fiberglass, poly-fill, or cotton damping material.

Recommended Sealed Enclosures			
TS124/ TS124DVC	Recommended Internal Volume	Driver Displacement	Total Internal Volume
Optimum	0.82ft ³ /23.2L	0.14ft ³ /4.08L	0.96ft ³ /27.28L
Minimum	0.35ft ³ /9.9L	0.14ft ³ /4.08L	0.49ft ³ /13.98L
TS104/ TS104DVC	Recommended Internal Volume	Driver Displacement	Total Internal Volume
Optimum	0.65ft ³ /18.4L	0.08ft ³ /2.27L	0.73ft ³ /20.67L
Minimum	0.3ft ³ /8.5L	0.08ft ³ /2.27L	0.38ft ³ /10.77L



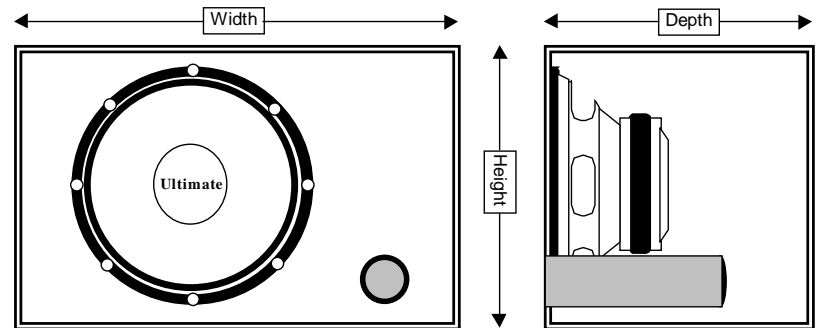
$$\text{Internal Volume(ft}^3\text{)} = \frac{(\text{in Inches})\text{Internal Width X Depth X Height}}{1728}$$

$$\text{Internal Volume(L)} = \frac{(\text{in Centimeters})\text{Internal Width X Depth X Height}}{1000}$$

V. Installation- Ported Enclosures

1. Ported enclosures use a tuned vent to get additional output at the tuning frequency. Smaller ports than recommended may cause noise from air turbulence. Flared ports will produce less turbulence and noise. Remember to glue and screw all joints, using enough glue to make sure all joints are air tight.
2. Make sure there is at least 2" between the end of the port and the adjacent wall of the enclosure.

Recommended Vented Enclosures	
Optimum Volume TS124/TS124DVC	
Volume	1.78ft ³ / 50.41L
Driver Displacement	0.14ft ³ / 4.0L
Port Displacement	0.03ft ³ /0.85L
Total Enclosure Volume	1.95ft ³ / 55.2L
Port Diameter	3"/76mm
Port Length	7.8"/198mm
Tuning	33Hz
F₃	35Hz
Optimum Volume TS104/TS104DVC	
Volume	1.2ft ³ / 33.98L
Driver Displacement	0.08ft ³ /2.27L
Port Displacement	0.05ft ³ /1.42L
Total Enclosure Volume	1.33ft ³ / 37.67L
Port Diameter	3"/76mm
Port Length	11.7" / 297.2mm
Tuning	33Hz
F₃	34Hz



See the supplied warranty card for service information

Call 888-909-9988 for technical assistance.