



Ultimo Installation Guide

Ultimo SCX

SCX102
SCX122

Dear Customer,

Thank you for choosing the Morel Ultimo SCX Subwoofer Series!

The Ultimo SCX series has been developed for listeners who want powerful, accurate bass reproduction without compromising musical detail and control. Combining Morel's advanced subwoofer technology with premium-grade materials and precision engineering, the Ultimo SCX delivers a dynamic listening experience with deep low-frequency extension, excellent transient response, and impressive overall output capability.

Designed for high-performance car audio systems, the Ultimo SCX subwoofers are engineered to provide impactful bass while preserving the smooth, natural character that is central to the Morel sound philosophy. Their balanced performance makes them equally capable in sound quality-focused systems and installations seeking elevated output and energy.

With strong power handling, optimized motor control, and durable construction, the Ultimo SCX series is built for reliable long-term performance in a wide range of enclosure applications. Whether installed in a compact sealed enclosure or a high-output vented design, the Ultimo SCX is engineered to deliver engaging, controlled bass reproduction with exceptional consistency and musicality.

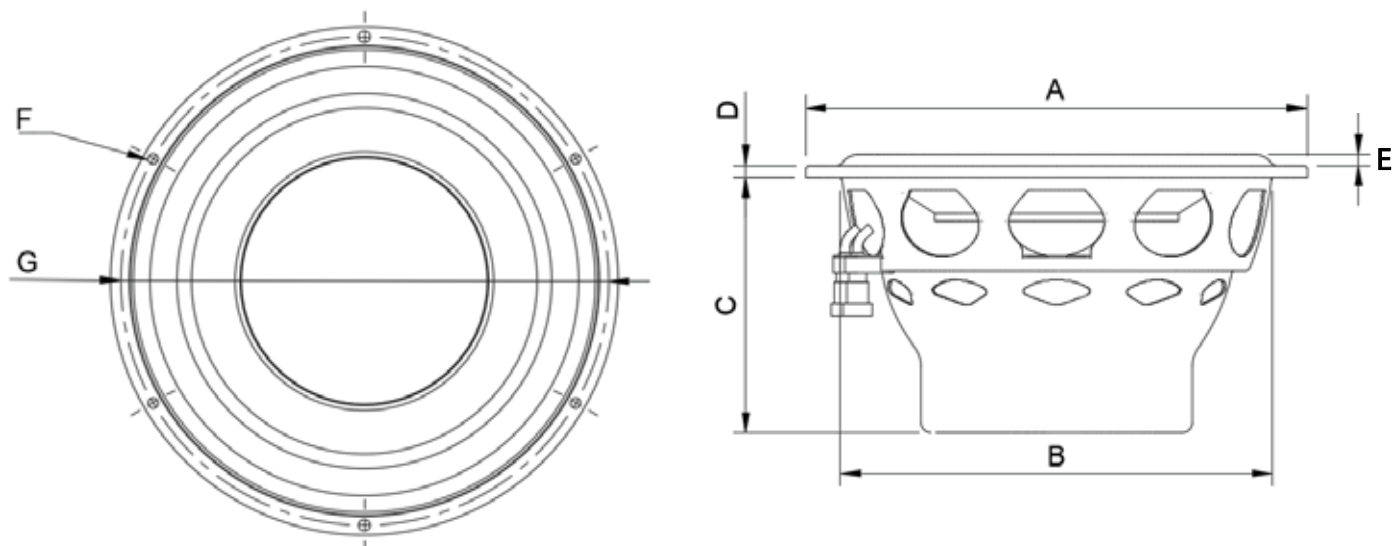
If you need assistance with installation or system setup, please contact your authorized Morel retailer or reach out to our support team:

info@morelhifi.com

info@morelamerica.com

We hope you enjoy the performance and musical enjoyment of your Morel Ultimo SCX subwoofers for years to come.

Dimensions

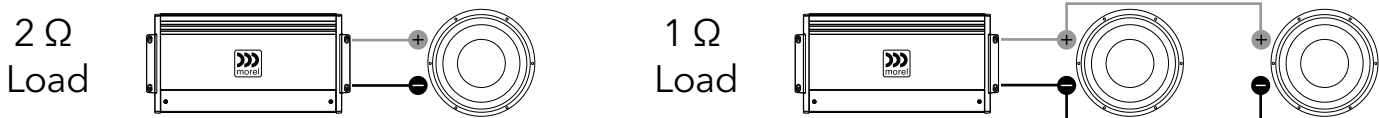


	SCX102	SCX122
A	10.35" (263 mm)	12" (305 mm)
B	7.87" (200 mm)	10.4" (264 mm)
C	4.48" (114 mm)	5.571" (141.5 mm)
D	0.19" (5.0 mm)	0.24" (6.2 mm)
E	0.31" (7.95 mm)	0.45" (11.5 mm)
F	0.22" (5.5 mm)	0.24" (6.2 mm)
G	9.96" (253 mm)	11.49" (292 mm)

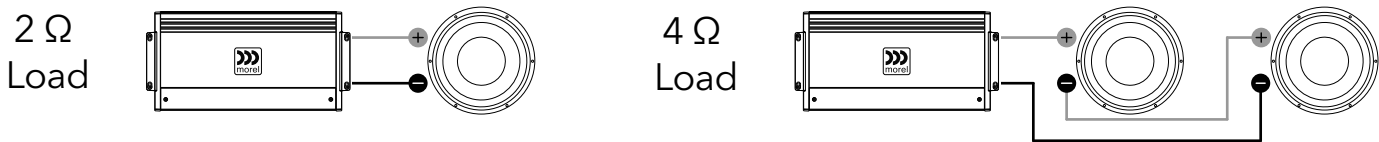
Recommended Power

MODEL	MINIMUM	RATED POWER
SCX102	300 w	600 w
SCX122	300 w	600 w

Voice coil wired in parallel (1-2 woofers)



Voice coil wired in series (1-2 woofers)



Enclosure Recommendations

The Ultimo SCX subwoofers are engineered to deliver outstanding performance in both vented (ported) and sealed enclosures, giving you the flexibility to optimize your system for the space and sound you want. Choosing the right enclosure depends on your goals: if you're looking for the strongest overall output and the most dynamic low-frequency extension, a vented enclosure is the preferred choice. If vehicle space is limited and a compact design is necessary, a sealed enclosure will provide excellent control, accuracy, and smooth, natural bass in a smaller footprint.

Below are the recommended enclosure designs for the Ultimo SCX series. These configurations are optimized to achieve a balanced, linear in-car bass response while ensuring reliable power handling and long-term performance. For custom enclosure designs—including multi-subwoofer systems or unique vehicle constraints—please reach out to the Morel technical team at info@morelamerica.com or tech@morelamerica.com

Enclosure Construction Guidelines

Use 3/4" (1.9 cm) or thicker MDF (Medium Density Fiberboard) when building the enclosure, and be sure to seal all joints with silicone to maintain an airtight seal. For improved rigidity and to minimize panel vibration, interior bracing is strongly recommended. A simple and effective method is to install triangular braces between each large, unsupported panel. When adding internal bracing, the displacement of these braces must be accounted for in the net internal air volume, as the recommended enclosure dimensions do not include bracing displacement.

Port Clearance Recommendations

Do not position the port opening against any solid surface, such as an internal brace, back panel, vehicle trunk wall, seat, or other interior surface. The port opening must remain completely unobstructed to perform properly.

To ensure this, take the smallest internal dimension of the rectangular port (P1 in our enclosure designs) and multiply it by 1.5. This number represents the minimum distance the port opening should be from any solid surface.

Custom Enclosure Designing

If you are designing your own enclosure, refer to the recommended airspace ranges in this manual for best performance. Following the optimal design will result in the most efficient use of space and maximize sound quality.

Note: Enclosures with less airspace than recommended may negatively affect low-frequency extension and power handling.

All airspace measurements listed in this manual already include the displacement of the subwoofer.

Port Displacement Calculation (for Vented Enclosures)

For vented enclosures, the displacement of the port must also be calculated and added to the internal airspace to determine the total (gross) enclosure volume.

Most commonly, a rectangular port is used for ease of construction. If calculating the displacement of the port:

1. Account for port wall thickness between the width (W) and height (H) dimensions. Example, if using 3/4" (1.9 cm) MDF, add this thickness where applicable.

2. Multiply:

$$\text{Width} \times \text{Height} \times \text{Length} = \text{Port Volume in in}^3$$

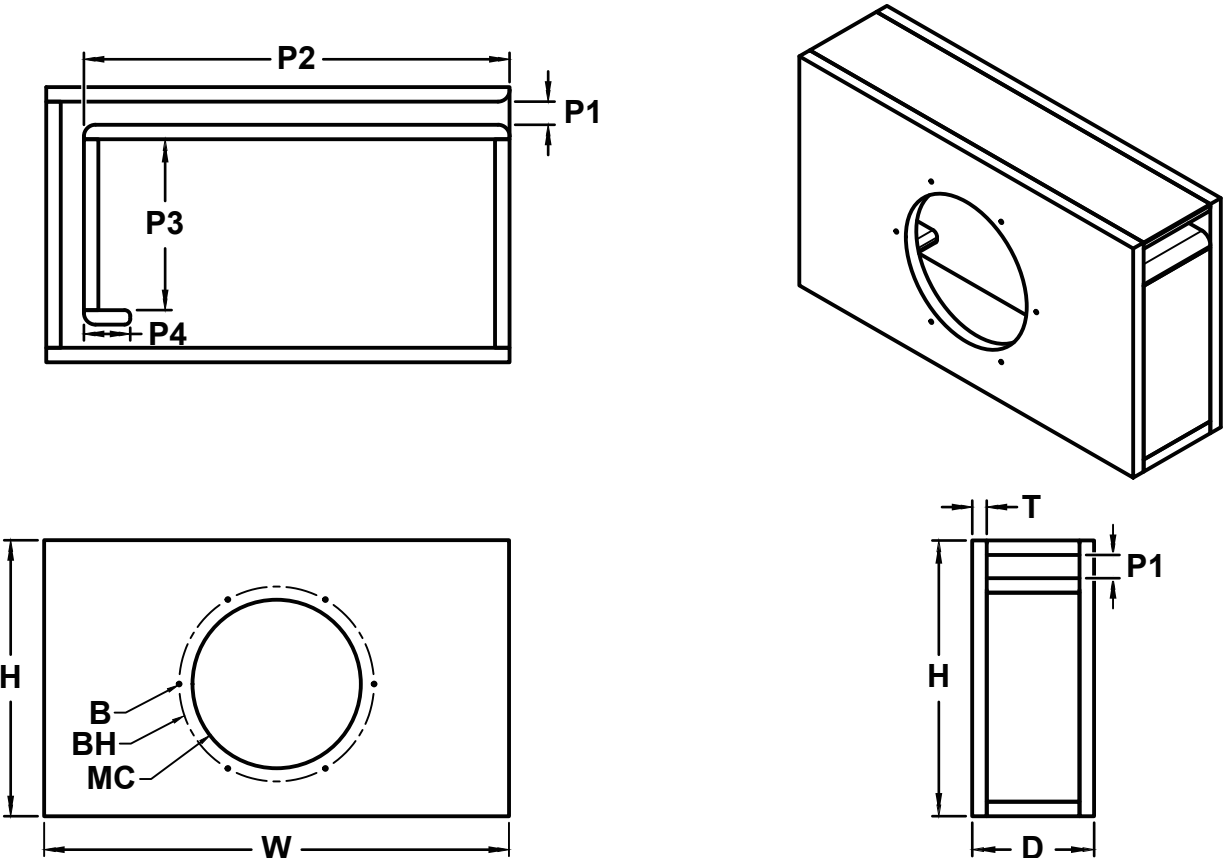
3. Convert the result to cubic feet:

$$\text{Port Volume (ft}^3\text{)} = \frac{\text{in}^3}{1728}$$

4. Add the port volume to the subwoofer's required airspace to determine the gross total enclosure volume.

Recommended (Vented) Ported Enclosure

MODEL	VOLUME NET	VENT	TUNED TO
SCX102	1.1 cuft 31.1 L	W 8" x H 1.125" x L 23.3" W 203.2mm x H 28.6mm x L 591.8mm	29 Hz
SCX122	1.3 cuft 36.8 L	W 8.75" x H 1.375" x L 25.75" W 222.3mm x H 34.9mm x L 654.3mm	29 Hz



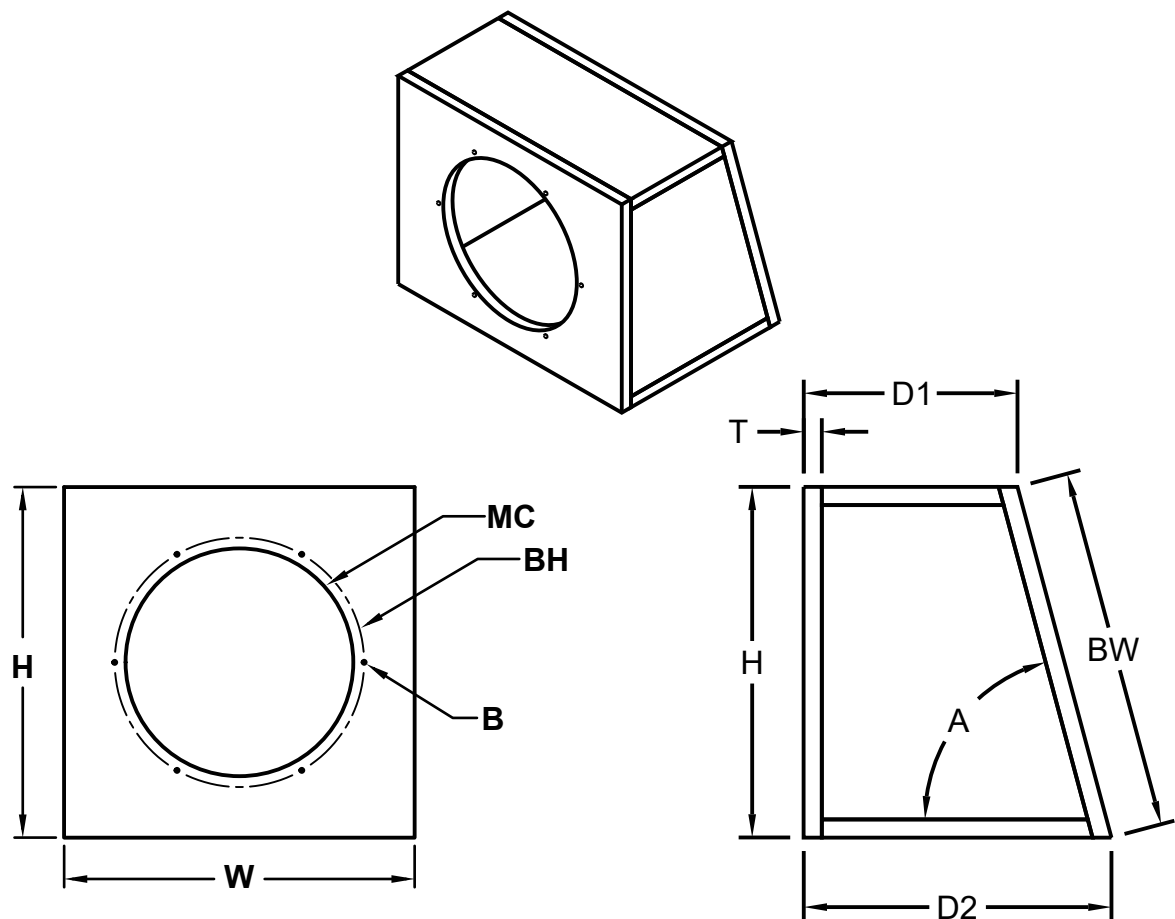
	SCX102	SCX122
H	14.5" (368.3mm)	15" (381mm)
W	22.75" (577.8mm)	25.75" (520.7mm)
D	9.5" (241.3mm)	10.25" (260.3mm)
MC	Ø8.98" (228 mm)	Ø10.47" (266mm)
BH	Ø9.96" (253mm)	Ø11.49" (291.8mm)
B	6x Ø0.125" (3.18mm)	6x Ø0.125" (3.18mm)
P1	1.125" (28.6mm)	1.375" (34.9mm)
P2	20.875" (530.2mm)	23.625" (669.9mm)
T	0.75" (19 mm)	0.75" (19 mm)

★ Images of the enclosures are for reference only and may not accurately represent the actual shape or dimensions.

★★ Please note that enclosure volumes are provided as net internal volumes. Any internal bracing must be added to the net internal volume. If building a vented (ported) enclosure, be sure to add the total displacement of the vent including the construction materials used within the enclosure.

Recommended Sealed Enclosure

MODEL	VOLUME NET	F3
SCX102	0.8 cuft 22.6 L	48Hz
SCX122	1.3 cuft 36.8 L	38Hz



	PRO 104D	PRO 124D
H	12.5" (317.5mm)	14.5" (368.3mm)
W	16.75" (412.7mm)	19" (482.6mm)
D1	8.38" (212.8mm)	9.47" (240.5mm)
D2	11.73" (297.9 mm)	13.2" (336 mm)
BW	12.94" (328.7mm)	15" (381.3mm)
A	75°	75°
MC	Ø8.98" (228 mm)	Ø10.47" (266 mm)
BH	Ø9.96" (253mm)	Ø11.49" (291.8mm)
B	6x Ø0.125" (3.18mm)	6x Ø0.125" (3.18mm)
T	0.75" (19 mm)	0.75" (19 mm)

★ Images of the enclosures are for reference only and may not accurately represent the actual shape or dimensions.

★★ Please note that enclosure volumes are provided as net internal volumes. Any internal bracing must be added to the net internal volume. If building a vented (ported) enclosure, be sure to add the total displacement of the vent including the construction materials used within the enclosure.

Important Safety Warning

To ensure safe operation and protect both your audio system and your vehicle, please follow the safety guidelines below.

Continuous operation of an amplifier, speaker, or subwoofer at excessive volume—especially when the signal is distorted, clipped, or driven beyond its limits—can cause the system to overheat. This may lead to component failure, fire, or significant damage to your vehicle. Amplifiers must be installed with at least 4 inches (10 cm) of open space around them to maintain proper ventilation. Subwoofers should be mounted with a minimum of 1 inch (2.5 cm) of clearance between the front of the speaker and any nearby surface to ensure unrestricted cone movement and adequate airflow.

The Ultimo PRO subwoofers are capable of producing very high sound pressure levels. Extended listening at elevated volumes can result in permanent hearing damage. If the audio becomes uncomfortable, harsh, or physically painful, reduce the volume immediately. Practicing responsible listening habits protects your hearing and ensures your system continues to perform safely and reliably.

Specifications

ULTIMO SCX	SCX102	SCX122
Overall Dimensions	10"	12"
Power Handling Wrms	500	500
Max. Trans. Pwr Handling Wrms	1500	1500
Sensitivity (1W/1M) dB	82.8	82.9
Frequency response Hz	10-500	10-500
Resonance Freq. Fs Hz	38.8	32.1
Voice Coil Diameter mm (inch)	130 (5.1)	130 (5.1)
Voice Coil Height mm (inch)	30 (1.2)	30 (1.2)
Voice Coil Type/Former	Aluminum	Aluminum
Voice Coil Wire	Hexatech Aluminum	Hexatech Aluminum
DC Resistance (ohm) * VC in parallel	2.2	2.2
Voice Coil Induct. (mH)	0.279	0.279
Magnet System	Double Ferrite Vented	Double Ferrite Vented
HE-Magnetic Gap Height mm (inch)	12 (0.47)	12 (0.47)
BL Product/BXL	8.3	7.97
Max. Linear Ex./Xmax mm (inch)	±9mm (0.4)	±9mm (0.4)
Electrical Q Factor QES	0.96	1.03
QTS	0.64	0.7
QMS	1.89	2.13
Moving Mass MMS - gr/oz	124.2 (4.4)	149.1 (5.2)
Equiv. Can Air Load VAS - L (cu.ft³)	23 (0.81)	43 (1.52)
Effective Piston Area SD sq.cm (sq.inch)	346.3 (53.7)	430 (66.6)
Cone Type	Multi-Layer	Multi-Layer
Cone Material	Paper + Carbon Fiber	Paper + Carbon Fiber
Unit Diameter mm(inch)	263 (10.35)	305 (12)
Mounting Depth mm (inch)	133.5 (5.26)	141.5 (5.57)
Mounting Cutout	227 (8.94)	264 (10.4)

★ Morel is constantly developing new technology and processes to improve its products. Morel reserves the right to modify specifications or change product design without notice.

Wishing you many years of sound enjoyment!



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