

Paradigm[®]



INTRODUCING MONITOR SERIES 7 SUBWOOFERS: **SUB 8, SUB 10 & SUB 12**



- A compact footprint (check out the diminutive SUB 8) without compromising bass output or bass extension.
- Trickle-down Paradigm Reference technology ... despite cone size, the NLC™ non-limiting corrugated Santoprene® surrounds help cones move huge volumes of air for bass so loud and so deep it will send the cat running for cover.
- State-of-the-art room-tuning technology. Don't worry about perfect placement, put the sub where it *looks* best and let Paradigm's Perfect Bass Kit™ (sold separately) dial in perfect bass.
- Go wireless! Paradigm's PT-2 transmitter (sold separately) can be used with up to four Monitor subwoofers simultaneously.
- The clean, modern aesthetic matches the new Monitor Series 7 speakers.
- Monitor Series 7 subs were designed, engineered and manufactured in our state-of-the-art Toronto, Canada facility.

PBK[™]
R E A D Y

Under a cubic foot,
our smallest subwoofer ever!



Monitor SUB 8



Monitor SUB 8



Monitor SUB 10

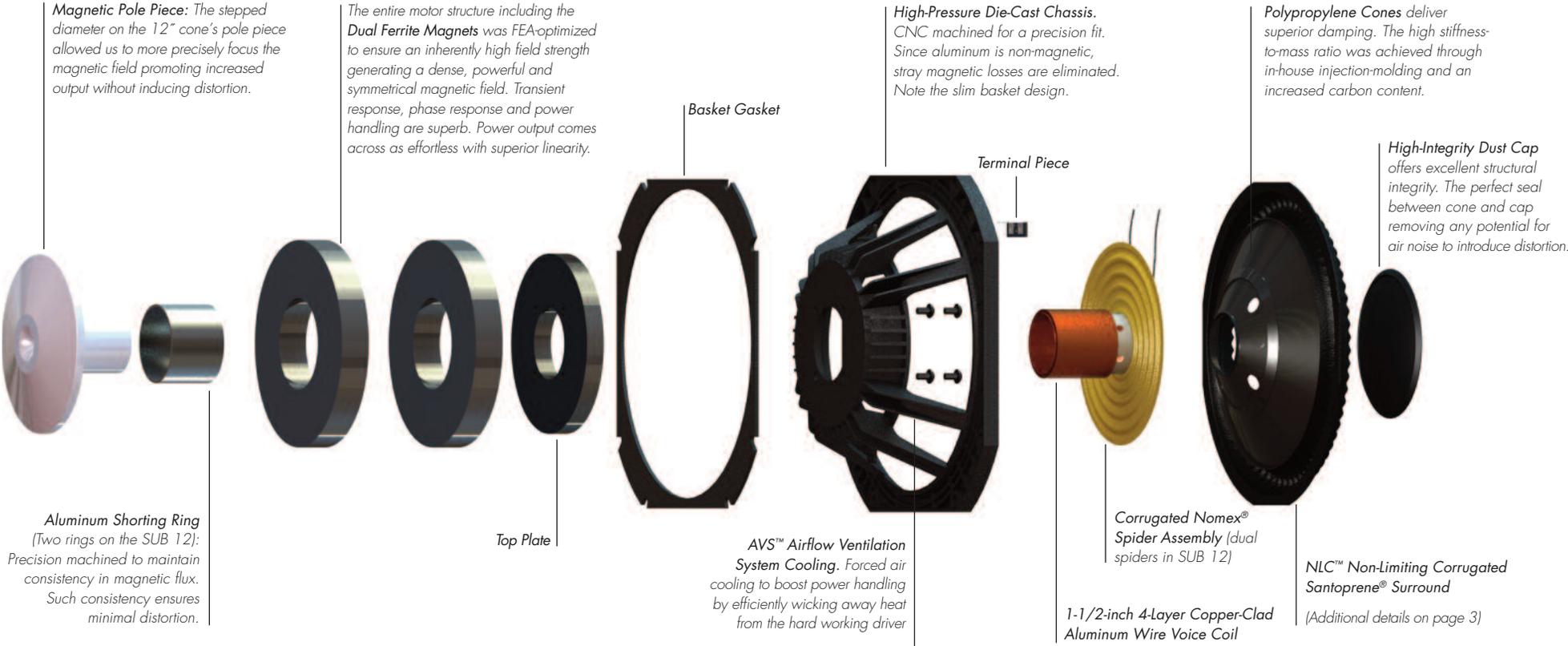


Monitor SUB 12

THE DIFFERENCE BETWEEN A GOOD SOUNDING SUBWOOFER AND A GREAT SOUNDING SUBWOOFER IS IN THE DESIGN: **PARTS, POWER, PRECISION**

PARTS

In today's market, the call is for subwoofers in much smaller form factors but without any sacrifice in performance. Part of Paradigm's success in this area is our proprietary design, our commitment to high-quality materials and a process known as Finite Element Analysis (FEA). FEA allows us to analyze the movement of the cone, monitor magnetic flux, evaluate heat dissipation and perform stress analyses on both component parts and the enclosure. We can enact "what if" scenarios, making virtual material substitutions or design changes and observing their effects on the magnet/motor structure before we even start building a sub. This ability to experiment is what has allowed us to achieve such incredible performance from a form factor as small as that of the tiny Monitor SUB 8.

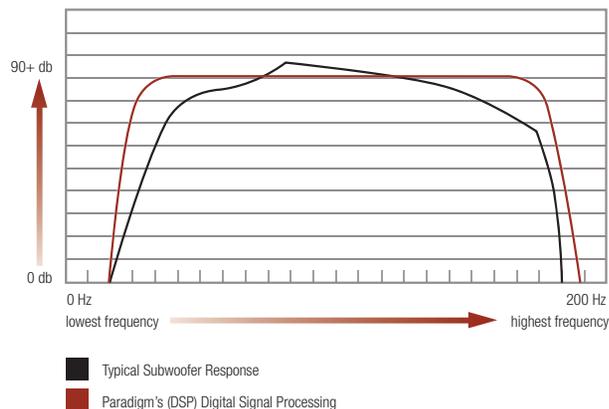
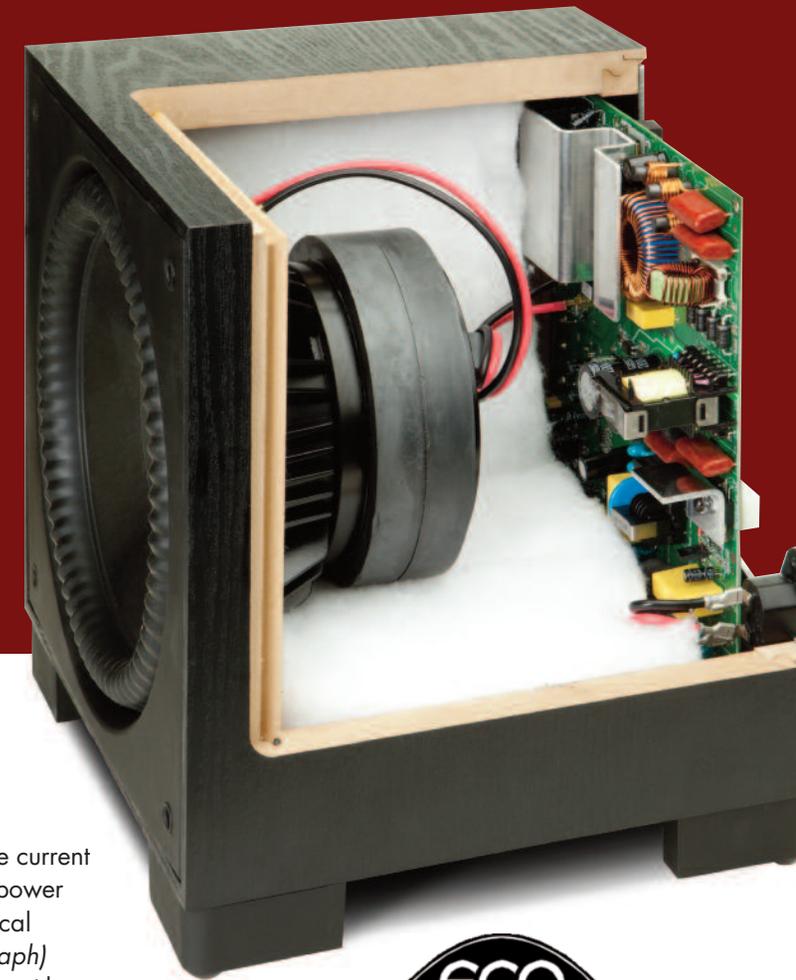


(Damping material not shown in this exploded view)

POWER

900 WATTS DYNAMIC PEAK POWER / 300 WATTS RMS SUSTAINED

- **Ultra-Class-D™ Power Amplifier with Unique Switching Power Supply.**
- **BIG Power from a Compact Package:** The low-noise high-power compact transformer (0.29 lb/0.13 kg) boasts an ETD core purpose-designed for smaller applications that must have high power. Noise suppression networks and top quality MOSFETs help to achieve high current but with quiet operation. Unlike conventional Class-D amplifier designs, our design inherently rejects variations in the power supply.
- **Full-Bridge Output Stage:** Operates from split power supply rails ensuring exceptionally low distortion. Not only does the design increase the speed of switching it also dramatically increases switching efficiency.
- **Precision Driver Components and Military-Spec (FR-4-Rated) Glass-Epoxy Circuit Board:** Reference-quality component parts and a circuit board painstakingly designed by hand guarantee an enviable degree of performance and long-term reliability even under extreme conditions.
- **Unique Temperature Sensors:** Maintain a safe operating temperature even when the Monitor subwoofers are operating under maximum output conditions.
- **Superior Short Circuit Protection:** Should current through the MOSFETs exceed our internally preset limit, the Digital Signal Processing (*see below*) disables the output stage. Reaction time is typically within 10 μ s.



Digital Signal Processing: Monitors the line current and voltage so that long-term average output power remains continuous. Sophisticated mathematical algorithms shape frequency response (*see graph*) ensuring accurate, consistent and musical bass without distortion even when the subs are pounding out bass at the highest levels.



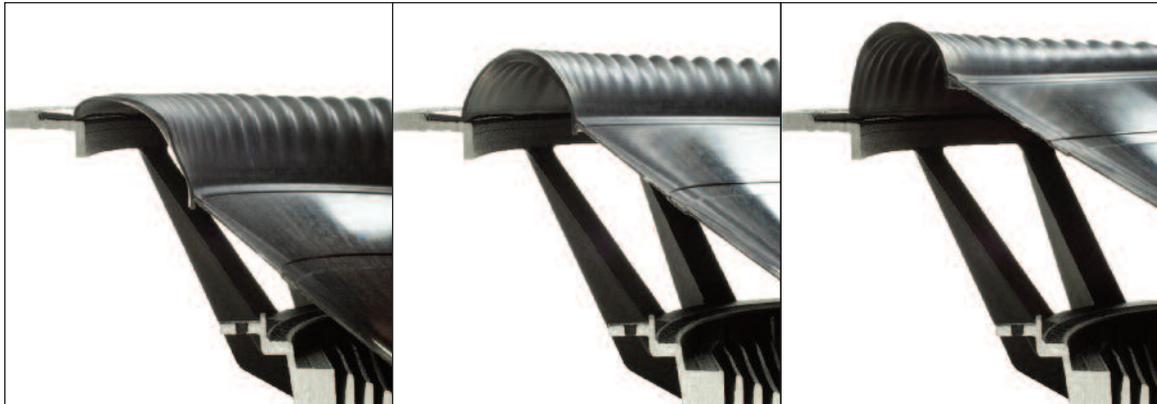
All Monitor subwoofers consume less than 1 watt in Standby mode

PRECISION

INJECTION-MOLDED CARBON-LOADED POLYPROPYLENE CONES

A high stiffness-to-mass ratio is an important aspect in a woofer's ability to deliver that loud, deep, clean and articulate bass we all desire. In this case, in-house injection-molding and a 30% carbon content made for a wonderfully stiff cone while the polypropylene, an inherently well-damped material, delivered the necessary lightness, the cone is never weighed down in its movement.

NLC™ NON-LIMITING CORRUGATED SANTOPRENE® SURROUNDS



An extreme low-density thermoplastic elastomer, Santoprene possesses the flexibility and durability of rubber but with longer life expectancy and improved tolerance for operating extremes — exactly what we want in a woofer. Building on our success with this design in our high-end Signature series, Paradigm engineers created a new 3D model for the more compact Monitor subs. We applied FEA to conquer areas of concentrated stress, verify and perfect

symmetry of motion and push the limits of excursion. The corrugations were also optimized — height, width and quantity — to assist in achieving the unbelievable one and a half inches of excursion on SUB 12 and only slightly less in its smaller siblings. Dimpling and cone wrinkling? Non-existent even at full-on output. We then molded the surround over the cone edges to ensure a superior long-lasting bond.



Recyclable Santoprene® rubber has a gentle impact on the environment.

BLACK ASH ... A NEW DEEPER, RICHER WOOD GRAIN

You first saw this grain on Monitor Series 7 speakers. To ensure seamless cosmetic system matching the finish has been chosen for Monitor Series 7 subs.

PARADIGM PERFECT BASS KIT



Shown: PBK in a 7.1 setup with primary listening position marked

Paradigm's Perfect Bass Kit (PBK) is a derivative of the critically acclaimed Anthem[™] Room Correction (ARC) system, based on research conducted by the National Research Council (NRC). The NRC's goal was to identify the correct "in-room" target response for a loudspeaker (in this case, the subwoofer) and then develop a way to achieve that same response in any listening room. Using proprietary processing, PBK measures your subwoofer's frequency response and then computes the target response to yield optimal bass performance in your room. Each PBK can be used with up to four Monitor Series subwoofers.

How Does PBK Do What it Does?

The process begins when your computer signals the subwoofer to play the test signal, which is then picked up by the individually calibrated microphone. The system puts the subwoofer through a frequency sweep to highlight problem areas and determine necessary adjustments. It asks you to position the microphone in at least five different locations. Configurations are then saved on the connected PC. The optimized solutions are calculated, then uploaded to the subwoofer and the calculated room corrections are put in place. An audiophile solution to the problem of "the room"!

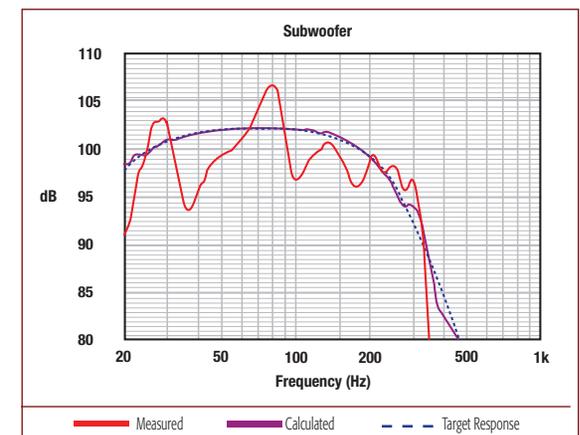
Even when your Paradigm subwoofer is ideally placed, the room can still have a dramatic impact on bass performance. Room dimensions, dead spots, archways, and even furniture placement can turn a room into an additional instrument, playing alongside musicians or movie scores with unwanted contributions of coloration and resonance. Bass can sound bloated or boomy, with poor definition. Paradigm's Perfect Bass Kit is the answer ...

- **PBK is unlike anything else!** This state-of-the-art "bass perfecting" system analyzes the subwoofer's response in your room, then sets the correct equalization parameters to attain optimal sound. The frequency response of each microphone is measured and the data is used to create the microphone's calibration file included on the software disk.
- **PBK applies Super-Efficient Infinite Impulse Response (IIR) Filters in addition to Custom Filter Topology:** This minimizes delay and reduces processing gain noise. The combined approach of limiting the width of IIR filters and applying custom topology means that any artifacts that might have resulted from the filtering process are inaudible.
- **PBK allows for Multiple Microphone Measurements:** Most room EQ methods work from a single point source, taking one measurement at the primary listening position. PBK provides for multiple user-selected measurement points (we suggest a minimum of five, but up to ten positions can be measured).
- **Unlike many room EQ systems, PBK applies correction to Peaks (modes) and dips (anti-modes):** Tackling both allows us to achieve a more accurate, natural room response. And to limit the demands on the amplifier as well as maximize signal-to-noise ratio, PBK applies appropriate limits to this correction.
- **PBK is Ultra-Accurate:** The connected PC's 64-bit floating-point processor calculates the correction curves, which minimizes the rounding errors of a less sophisticated "calculator".
- **It's Easy-to-Use (at least your part is!):** Three years of intensive research and development on our part have made it a snap to attain "Perfect Bass" performance in any room! All that's required is a PC running Windows XP or Vista, two USB ports and the Paradigm Perfect Bass Kit. Paradigm even includes the two USB cables you'll need: one for the PBK microphone and one for the subwoofer.

"Audibly better bass through science."

– Chris Martens, AVGuidea

PBK in Action



SPECIFICATIONS

	Monitor SUB 8	Monitor SUB 10	Monitor SUB 12
Design	Single driver, acoustic suspension, built-in advanced Ultra-Class-D™ amplifier, USB port for PBK equalization, removable grille	Single driver, acoustic suspension, built-in advanced Ultra-Class-D™ amplifier, USB port for PBK equalization, removable grille	Single driver, acoustic suspension, built-in advanced Ultra-Class-D™ amplifier, USB port for PBK equalization, removable grille
Amplifier: High-Current, Discrete Output	900 watts Dynamic Peak; 300 watts RMS Sustained	900 watts Dynamic Peak; 300 watts RMS Sustained	900 watts Dynamic Peak; 300 watts RMS Sustained
Amplifier Design Features	Auto-on/off, soft clipping, thermal protection	Auto-on/off, soft clipping, thermal protection	Auto-on/off, soft clipping, thermal protection
Bass Driver	210-mm (8 in) carbon-loaded polypropylene cone, NLC™ non-limiting corrugated Santoprene® surround, 38-mm (1-1/2 in) 4-layer copper-clad aluminum voice coil. Nomex® spider, 4.5 lb ferrite magnet, AVS™ die-cast heatsink chassis	254-mm (10 in) carbon-loaded polypropylene cone, NLC™ non-limiting corrugated Santoprene® surround, 38-mm (1-1/2 in) 4-layer copper-clad aluminum voice coil. Nomex® spider, 4.5 lb ferrite magnet, AVS™ die-cast heatsink chassis	305-mm (12 in) carbon-loaded polypropylene cone, NLC™ non-limiting corrugated Santoprene® surround, 50-mm (2 in) 4-layer copper-clad aluminum voice coil. Two Nomex® spiders, 6.5 lb ferrite magnet, AVS™ die-cast heatsink chassis
Low-Frequency Extension*	19 Hz (DIN)	17 Hz (DIN)	16 Hz (DIN)
Subwoofer Cut-Off Frequency	Variable 50 Hz – 150 Hz; Bypass option	Variable 50 Hz – 150 Hz; Bypass option	Variable 50 Hz – 150 Hz; Bypass option
Sub / Sat Phase Alignment	Variable 0° – 180°	Variable 0° – 180°	Variable 0° – 180°
Line-Level Input	Two RCA (L/R-Mono) for L/R line out or Sub-Out/LFE-Out of receiver/processor or other line-level source	Two RCA (L/R-Mono) for L/R line out or Sub-Out/LFE-Out of receiver/processor or other line-level source	Two RCA (L/R-Mono) for L/R line out or Sub-Out/LFE-Out of receiver/processor or other line-level source
Height, Width, Depth <i>(height includes feet; depth includes grille and amplifier)</i>	27.2 cm x 26.2 cm x 28.3 cm 10-11/16 in x 10-5/16 in x 11-1/8 in	33.0 cm x 28.3 cm x 32.4 cm 13 in x 11-1/8 in x 12-3/4 in	38.5 cm x 33.0 cm x 36.8 cm 15-1/8 in x 13 in x 14-1/2 in
Weight (unpacked)	18.2 kg / 40 lb each	24.5 kg / 54 lb each	29.5 kg / 64.8 lb each
Accessories (sold separately)	PT-2 Wireless Transmitter; Perfect Bass Kit (PBK)	PT-2 Wireless Transmitter; Perfect Bass Kit (PBK)	PT-2 Wireless Transmitter; Perfect Bass Kit (PBK)
Finishes	Black	Black	Black

Wireless Option with PT-2 Transmitter (specs apply when transmitter is used with any Monitor Series 7 subwoofer above)

RF Frequency (wireless model)	2.4 GHz
Latency (ms)	Selectable (15 / 30 / 25 ms)
Transmission Range	50 ft / 15 m
Sampling Frequency / # bits	48 kHz, 16 bits
Connectivity	Up to four Monitor Series 7 subwoofers simultaneously



PT-2 Transmitter





MONITOR SERIES 7 SUBWOOFERS:

WELCOME TO THE

**NEXT GENERATION OF
SOUND INNOVATION!**