

The Digital Drive™ 1812™ Signature Edition



**“When Velodyne announces a new subwoofer,
the earth trembles — literally.”**

Stereophile’s Guide to Home Theater

The First New Subwoofer Design of the 21st Century

Introducing Velodyne’s new flagship product, the Digital Drive™ 1812™ Signature Edition. The Digital Drive™ 1812™ Signature Edition is the industry’s first two-way, all digital, High Gain Servo™-controlled subwoofer. Featuring 18” (15.2” piston diameter) and 12” (9.7” piston diameter) custom-designed drivers, and powered by 2500 watts RMS, this new benchmark in subwoofer technology is also the first to incorporate Velodyne’s patent pending Digital Drive™ room analysis and correction system.

Digital Drive™ 1812™ Signature Edition Concepts and Goals

A good subwoofer should have high definition to create realism, low frequency extension to or below 20 Hz for authoritative bass you can feel, and excellent transient response (attack) to ensure plenty of excitement. Due to shockingly high distortion, most subwoofers sound muddy, boomy and unrealistic due to their severe lack of definition and clarity, especially at higher output levels. The final challenge is overcoming peaks and valleys in frequency response that are exacerbated in every room and are amplified by the high energy needed to recreate bass frequencies. To reproduce bass accurately, these room anomalies must be corrected.

The engineering goal of the Digital Drive™ 1812™ Signature Edition project was, quite simply, to make the world’s finest subwoofer. This has been achieved by the introduction of two major design breakthroughs: the first two-way, bi-amplified subwoofer, and Velodyne’s patent pending Digital Drive™ room analysis and correction system.

The Best of Both Worlds: 18” AND 12” Drivers

To maximize detail without sacrificing depth and output, Velodyne engineers have developed the first two-way, bi-amplified subwoofer. Utilizing a smaller 12” woofer to reproduce the upper bass frequencies and a massive 18” driver to recreate the lowest frequencies, this unique approach marries the speed, detail and definition of the finest 12” woofer to the visceral, room-shaking capabilities of a massive state-of-the-art 18”. Both are further controlled and their outputs corrected by Velodyne’s latest generation of its patented High Gain Servo™ System.

Room Management Technology: Digital Drive™

The Digital Drive™ 1812™ Signature Edition features Velodyne’s new, revolutionary Digital Drive™ technology that takes subwoofer room equalization to a new level. This latest Velodyne innovation allows the subwoofer’s frequency response in any room to be measured using a supplied microphone, digitally corrected, and stored in the unit’s memory to assure ideal performance in the consumer’s listening area. No additional equipment is needed. This is accomplished with an on-screen graph of the system’s actual frequency response, and on-screen feedback as the user makes digital adjustments to subwoofer equalization, phase, and crossovers. The consumer or custom installer can also modify additional over-laid curves to realize optimum performance for various source materials such as action/adventure movies, rock, pop, jazz, or classical music, or through custom settings to match the consumer’s taste.

Energy Recovery Amplifier™ and High Gain Servo™ Technology

The Digital Drive™ 1812™ Signature Edition employs Velodyne’s patented Energy Recovery Amplifier (ERA)™ and High Gain Servo™ technology. Using two 1250 watt RMS ERA amps for a total of 2500 watts RMS (6,000 watts of Dynamic power), the Digital Drive™ 1812™ Signature Edition incorporates more usable power than any subwoofer in history. The 1812 also employs the latest generation of Velodyne’s exclusive and patented High Gain Servo™ control system that provides the highest definition and lowest distortion (less than .5%) available in a subwoofer. The result is the ultimate in subwoofer accuracy and impact.

Velodyne®

Innovative Technology, Unequaled Performance!

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Driver Technology: Dual Tandem Voice Coil and Carbon-Fiber Cones

The high technology drivers used in the Digital Drive™ 1812™ Signature Edition feature the revolutionary 3” Dual Tandem Voice Coil and carbon-fiber cones. Each Dual Tandem Voice Coil is actually two large 3” voice coils surrounded by gigantic 380 and 310 oz. magnet structures for the 18 and 12, respectively. In addition, both the 12” and 18” drivers feature incredibly light, stiff, low resonance carbon-fiber cones, formed by sandwiching a ROHACELL® foam layer between two layers of carbon fiber. The result is a more rigid and lightweight cone that increases transient response, lowers distortion, provides more linear pistonic motion, and increases efficiency. The drivers also feature custom designed variable thickness EPDM surrounds and unique new die-cast aluminum baskets.

Cabinet Design

The 1812’s massive drivers and electronics are housed in a new state-of-the-art computer-designed cabinet. The real maple or cherry veneers and the lustrous black lacquer finishes are visually stunning, as are the aluminum painted trim pieces that grace the enclosure’s front and back panels. The cabinet has been engineered to eliminate resonance and create stability through extensive internal interlocking bracing that adds additional rigidity to the 1” MDF sides and 1.5” MDF front baffle and real panel. Each driver is installed in its own sealed, acoustically damped enclosure, and both the front and back baffles are layered with vibration-isolating material. Finally, two sets of solid aluminum acoustically isolated feet are included for use on either bare floors or carpets.

Specifications

Amplifiers (Class D)	2500 watts RMS, 6000 watts peak
Woofers	18” forward firing (15.2” piston dia.) 12” forward firing (9.7” piston dia.)
Voice Coils	3” Dual Tandem push-pull
Excursion	2” max. peak-to-peak
Magnet Structures	690 oz. (57.5 lb) total
Cones	Carbon-fiber laminate with ROHACELL® center layer
Crossovers	High and Low pass, woofer-to-woofer, all digitally controlled and infinitely variable
Room Equalization	Yes, Digital Drive™
Sonic Presets	6, digitally controlled, adjustable
Anti-clipping	Yes, digitally controlled
Inputs/Outputs	Line, speaker, balanced input
RS-232 Interface	Yes
Frequency Response	15-120 Hz, +/-3dB
Subsonic filter	Digitally controlled, infinitely variable
Phase	Digitally controlled, infinitely variable
Remote	Included
Microphone	Included
Auto on/off	Yes, digitally controlled
Night Mode	Yes, max. output digitally controlled
High Gain Servo	Yes
Distortion	Less than 1%, all output levels
Weight	385 lbs.
Cabinet (H/W/D)	40” x 25.5” x 18.5”

Specifications subject to change without notice.



Digital Drive™ 1812™ Signature Edition Driver and Back Panel