"... good looking ... good sounding ...WELL ENGINEERED..."

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WIDESCREEN REVIEW

"Astounding output levels that will equal or exceed any competitive product for home theater and competent musical performance too. . . . This thing can REALLY WOOF!"

by Richard Hardesty

The Paradigm Reference Servo-15 is the big Kahuna of Paradigm's powered subwoofer line. It is one of the larger subwoofers in this review, but is attractively styled with a large bevel down the fore-to-aft sides of the top and a nicely curved lower edge on the black, cloth-covered grille. The enclosure comes finished in black ash, with light cherry or rosenut veneers available at extra cost. A green LED glows through the Paradigm badge on the grille when power is on and a signal is present. The rear panel features a large heat sink flanked by the connectors and controls. On the left is a low-level input and a level control graduated in dB, and on the right is a switch to select auto-on/off, always on or always off.

SERVO-15

The Servo-15 is designed to be used with an outboard high-pass filter/subwoofer control unit called the X-30. The control unit can be placed near the other electronic components and is furnished with a 23-foot long interconnect cable to connect it to the subwoofer. The X-30 has left and right low-level inputs, two mono subwoofer outputs and three pairs of low-level, high-pass outputs with a choice of frequency. Selectable high-pass frequencies are 50 Hz, 80 Hz or 120 Hz. Controls on the front of the X-30 unit allow adjustment of: low-pass frequency —continuously variable from 40-160 Hz, subwoofer level and subwoofer phase —continuously variable from 0-180°.

The X-30 uses an external transformer power supply that attaches with a mini-plug to the back of the unit.

> *" . . . lots and lots of deep bass with good marks for tonal definition . . . Impact and slam on sound effects are simply astounding. . . . This thing kicks like a mule."*

The 15-inch drive unit in the Servo-15 is designed and manufactured by Paradigm. It has a diecast aluminum chassis, a Kevlar® reinforced composite cone and a bifilar 2+2 layer voice coil wound on an aluminum/Nomex® former that is 1-1/4-inches long, allowing 1-inch peak-to-peak linear excursion. The huge magnet assembly has focused field geometry and the computer optimized pole piece has a high velocity, low-turbulence center vent and aluminum heat dissipation rings for low distortion and high-power handling. A rigid convex mounting dome attaches directly to the top of the voice coil former for precise and stable accelerometer positioning. An instrument grade accelerometer monitors the output of the drive unit for the servo system. This driver is mounted in a second-order sealed enclosure made of heavily braced MD, and driven by a Paradigm designed and manufactured servo amplifier capable of delivering 400 watts RMS continuous power. The amplifier is a high current, hybrid-output design with an anti-clipping circuit and a toroidal transformer. The servo controller circuit compares the output of the accelerometer to the input signal and corrects for deviation.

The big Paradigm Servo-15 subwoofer produced 112 dB at 40 Hz, 110 dB at 35 Hz, 110 dB at 30 Hz, 106 dB at 25 Hz and 96 dB at 20 Hz with some mechanical noise. It was still able to deliver 90 dB at 18 Hz. This thing can really woof! This tremendous output capability can easily overload a small room, and even in large rooms care must be exercised in placement or you may get a slightly thick, heavy sound. In my room, this subwoofer needed to be away from the corners and out slightly from the wall to achieve good results, I was never able to completely eliminate a slight intrusion into the midrange that added coloration.

In listening tests, the Servo-15 gives the impression of lots and lots of deep bass with good marks for tonal definition and fair performance on rhythm and pace. I think this unit tends to slow the cadence of up-tempo music just a bit, but it sounds great on organ and full orchestral selections. The enclosure is pretty inert, but not as dead as those found on some other subwoofers. Impact and slam on sound effects are simply astounding. This thing kicks like a mule. No amount of abuse could produce a wimper of distress, even during the most aggressive action scenes. It's hard to imagine that more than one of these babies would be necessary, even in the largest of rooms.

So what do you get here for your money besides a good looking, good sounding, well engineered product? Astounding output levels that will equal or exceed any competitive product for home theater and competent musical performance too. If you want to really shake the house, the Paradigm® Reference Servo-15 powered subwoofer will surely do the job.

Music Rating	3.5
Effects Rating	5
Impact	5
Tonal Definition	4
Overhang	4
Rhythm and Pace	3
Midrange Coloration	3
Box Integrity	4
Distress	5
Subjective Deep Bass	5
105 dB @ 35 Hz?	Yes
25 Hz?	5