"... transparent imaging, timbral accuracy, depth, precision and SHEER POTENCY..."

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by Éric Lavoie

The New STUDIO/20
(Improved over version reviewed for even better sound.)

More than any other Canadian speaker manufacturer, Paradigm Electronics is well on its way to carving out a niche in the international Home Theater market because of the value it places on the research and development of its products.

At the last Sound and Image Festival in Montréal, attendees were given a demonstration of the impressive Paradigm® Reference line of speakers, and they could see that the company's expertise easily rivals other big international names.

For this review, Paradigm gave us a complete set of Paradigm® Reference speakers that are sure to please the uncompromising Home Theater lover who demands serious surround sound with spectacular, ultra-low bass, and who refuses to give up sound quality or have his listening room invaded by huge boxes. This system uses a pair of small Studio/20s and a center-channel CC-450 for the fronts, a pair of ADP-450 surrounds for rear effects and a Servo-15 powered subwoofer.

Unusually, the surround speakers cost more than we'd normally expect. Until now, with Dolby® Pro Logic, surround channels were neither discrete nor did they utilize a full bandwidth. To date it has been rare to see the price of the surrounds surpass that of the fronts. This is, however, the case here, and recent developments in the digital encoding and decoding of movie soundtracks seem to justify the price difference—with the advent of AC-3 and DVD players, surrounds that aren't bandwidth-limited merit as much attention as the fronts. This kind of price shift will likely become the norm as movie sound engineers make more use of DVD's surround potential.

"The dialogue was crystal clear, the spatial representation was superb with a heightened sense of realism, and this system never left an impression of overloading or confusion, even in passages bursting with sound."

The ADP-450 surrounds are a pair of 2-way, 4-driver adapted dipole speakers. An identical pair of drivers is placed in the front and the back of the enclosure, ensuring a much more dispersed and reverberant soundfield than can be achieved with a front radiating speaker. This configuration also makes the speaker much harder to detect by ear. The two types of drivers in the CC-450 are also the same as the ones in the fronts—this similarity between elements, combined with these surrounds, makes for hyper-realistic effects that seamlessly travel from front to back.

The three fronts look sharp, have impeccable finishes, and are available in a number of laminate and wood veneers. To the left and right sit the Studio/20s, on optional elegant metal stands. Their companion, the CC-450, responsible for dialogue, is a magnetically shielded center-channel speaker that is designed horizontally to prevent the formation of standing waves that can color sound. Just like the Studio/20, the CC-450 is a 2-way speaker but it adds a supplemental bass/midrange driver.

Like all Paradigm® Reference speakers, the Studio/20 and CC-450 are timbre matched. They use similar drivers, similar crossover points and the same enclosure construction. The high-frequency driver has a 25-mm aluminum dome with treated textile suspension that uses a ferro-fluid cooled aluminum former and good-sized magnets. The driver's aluminum chassis dissipates heat while promoting wide sonic dispersion. The bass/midrange driver's cone, suspended in a robust aluminum chassis, is made of mica-loaded polymer (giving it low mass and high stiffness). This assembly uses an oversized magnet and a high-temperature, multi-layer voice coil. The enclosure is made from high-density hardboard and forms a very rigid reinforcing structure filled with damping material. Finally, it's worth noting that all these speakers come equipped with two pairs of superb-quality "five-way" binding posts that permit bi-wiring and bi-amplification.

The New STUDIO/CC
(Improved over version reviewed for even better sound.)

" … the extraordinary Servo-15, whose low-frequency extension makes a movie not only a visual and aural experience, but also a physical one."

SERVO-15

Our test system arrived with the Servo-15 active subwoofer, the newest Paradigm® Reference speaker. Brought to market in the early part of 1997 it has an internal volume of 97 litres, is powered by a 400-watt RMS amplifier and has a 15″ driver that risks waking up the neighbours. In fact, it's capable of reproducing bass down to an unbelievable 14 Hz at a level of 90 dB. Not for the faint of heart! The Servo-15 takes its name from the "Servo Controller Comparator Circuit" system that checks the output of the subwoofer against the input signal and makes the necessary corrections. The circuit acts directly and instantaneously on the speaker cone to enable more precise bass reproduction and to eliminate audible distortion. Finally, contrary to what you normally find in this type of system, the Servo-15 relies on an external control unit, the X-30, with three controls. The first allows phase correction, the second sets the crossover frequency, and the third changes the subwoofer level according to the listener's taste and the type and the size of the listening room.

The New STUDIO/ADP
(Improved over version reviewed for even better sound.)

All it takes is a few minutes to get a good idea of the acoustic and imaging qualities of this system. The stand-out has to be the extraordinary Servo-15, whose low-frequency extension makes a movie not only a visual and aural experience, but also a physical one. You feel the explosions in your chest … more so than in the theater! Furthermore, for transparent imaging, timbral accuracy, depth, precision, and sheer potency, these speakers performed far beyond what they cost. The dialogue was crystal clear, the spatial representation was superb with a heightened sense of realism, and this system never left an impression of overloading or confusion, even in passages bursting with sound. This is, without a doubt, a high-end system that offers tremendous value over the competition—it is destined for a brilliant future.