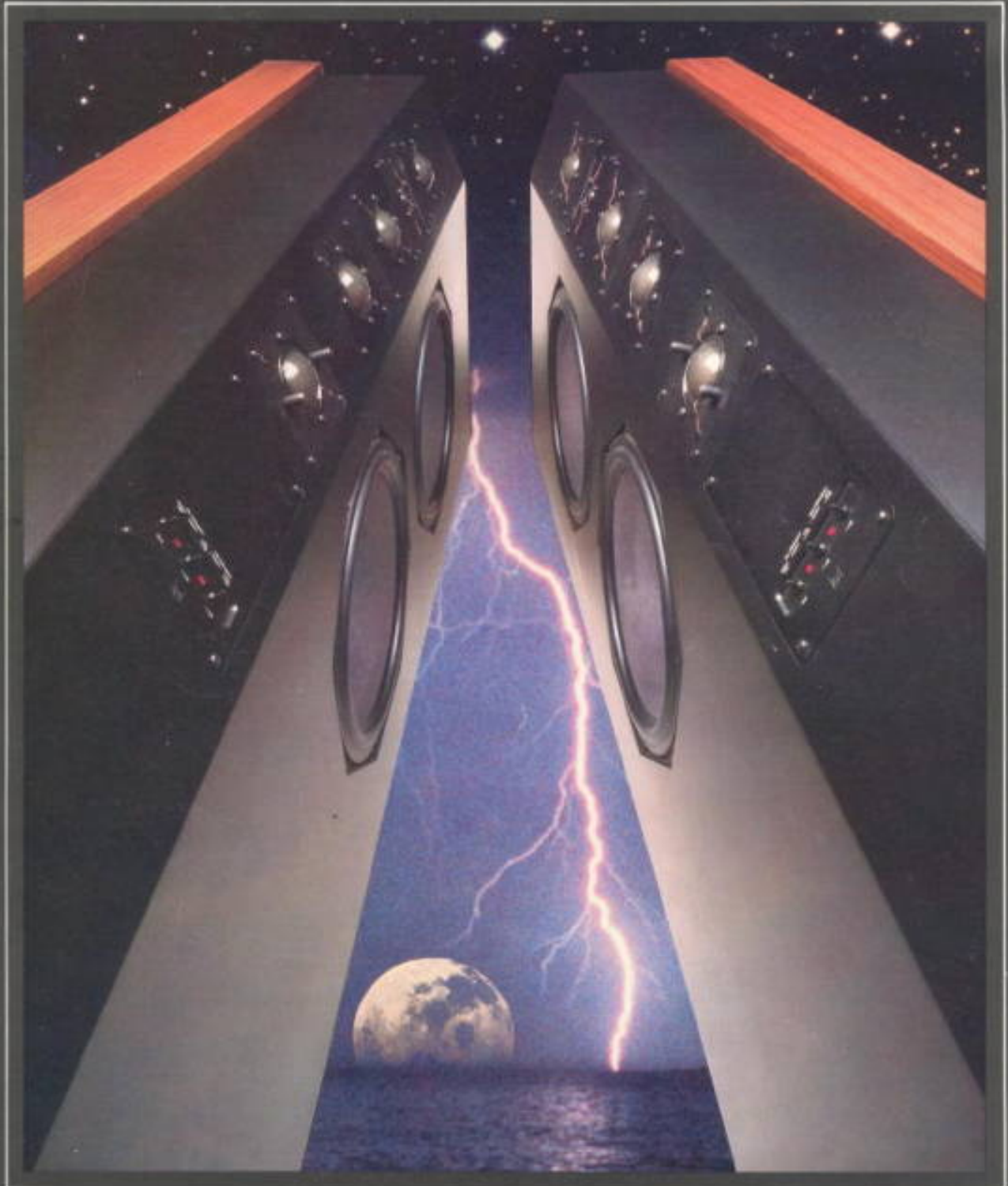


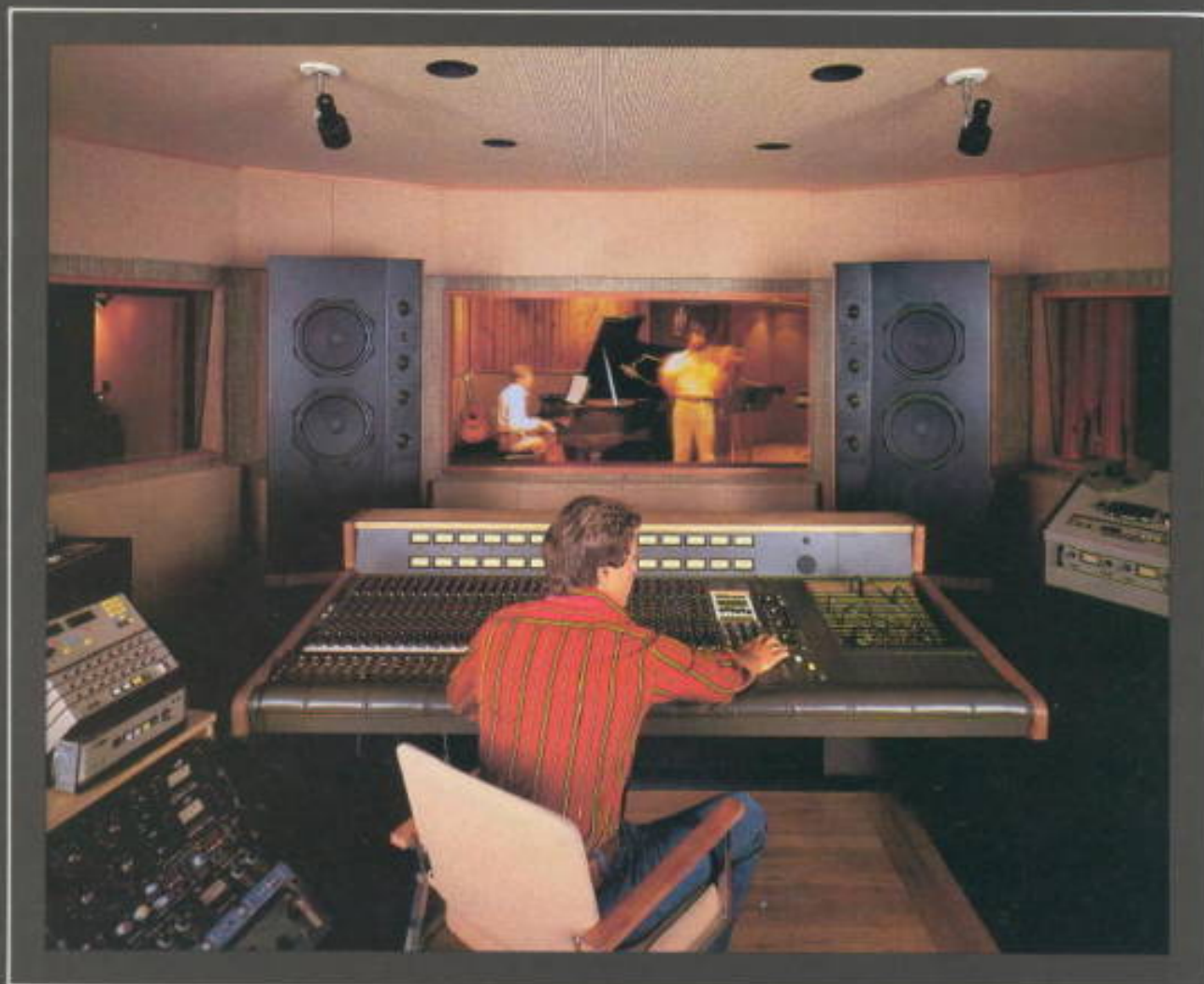
ADS L2030

Professional Monitor





The largest, most ambitious speaker ever to carry the ADS name, the L2030's prodigious performance necessarily redefines the state of the art. Never before has such incredibly wide frequency and dynamic range been available with such exacting sonic accuracy.



ADS L2030

A Monitor Standard for the Eighties and Beyond

The ADS L2030 is a professional-standard speaker system which literally sets new industry standards for *dynamic realism* in sonic reproduction.

A "monitor", by simple definition, is a speaker system chosen for use in recording and broadcast studios to enable producers and engineers to evaluate the sound being put on tape, disc or the air waves. A true monitor speaker must thus possess certain basic qualities. These include a useful frequency range spanning the entire audible spectrum, a wide dynamic range, predictable and reliable performance. Although these requirements seem straightforward, modern sound recording is undergoing a technological revolution—better, quieter electronic components, advanced noise reduction systems, digital recording and processing, and highly sophisticated disc cutting/production techniques—which tests the frequency and dynamic range of monitor speakers as never before.

The L2030 was designed in cooperation with some of the industry's most demanding professionals to meet the extreme requirements of modern state-of-the-art sound recording. The L2030 employs bold, new dynamic driver technology to reproduce the full frequency spectrum with complete authority. The L2030's uncommonly high efficiency and phenomenal power handling capability ensure "true-to-life" dynamic range, a characteristic so often lacking in other so-called reference monitor systems. The design of the L2030, however, goes beyond these "basics" to include considerations of spectral and transient accuracy, distortion, stereo imaging and dynamic linearity. It is engineered for musical subtleties as well as extremes. It is a transducer truly ready for the sonic revolution of the decades to come.

The Drivers

ADS manufactures all of the drivers used in its speakers. This fact alone distinguishes ADS from a large majority of speaker system manufacturers, who must purchase most or all of their drivers from bulk suppliers. ADS thus maintains total control over system matching, quality and engineering improvements. Proper design and manufacture of the drivers obviate the need for highly complex, inefficient cross-

over networks typical of many "sophisticated" speaker systems, which represent nothing more than valiant attempts to match inherently incompatible drivers. Each ADS driver, furthermore, embodies the most advanced design, materials and manufacturing techniques in the industry.

The Incredible ADS Samarium Cobalt 1" Soft-Dome Tweeter

The L2030 features one of the most impressive high-frequency drivers ever produced. This unique 1-inch acoustic suspension soft-dome tweeter represents the world's first successful application of *Samarium Cobalt* magnet technology to a dome-type driver. Simply stated, no other high-frequency transducer can match its combination of smooth, extended response, ultra-high efficiency, uniform hemispherical dispersion, low distortion and high power-handling capability.



The tweeter's unusually small diaphragm and special slope ensures wide, uncommonly uniform sound dispersion. It is constructed of a feather-weight fabric-like material coated with a proprietary "sticky" damping compound. It exhibits none of the "ringing" and other resonance-related distortions common to most tweeter diaphragms. Though soft to the touch, the diaphragm features special dome geometry which renders it a perfectly stiff piston through its operating range. ADS' soft-dome technology thus ensures low distortion and coloration, and delivers effortlessly clear, "airy" high-frequency reproduction, a hallmark of all ADS speakers.

ADS tweeter voice coils feature a sophisticated high-density single-layer winding. (Most similar tweeters have double-layer voice coils.) This permits use of an extremely narrow gap in the magnet/pole-piece structure. Although difficult to execute, this technique yields an incredibly high force-to-mass ratio through lowered moving mass and increased magnetic flux density. (Halving the magnetic gap *quadruples*



the effective field strength!) Further aided by the deceptively powerful Samarium Cobalt magnet, which develops an unheard-of *22,000 Gauss* of flux density at the voice coil, Samarium Cobalt, while very expensive, contains more than 6 times the magnetic energy of barium ferrite. The L2030's tweeter boasts superb high-frequency extension, flawlessly uniform amplitude response, excellent transient response, extremely low distortion and high efficiency.

The all-metal voice coil assembly features a unique high-thermal-conductivity design unsurpassed in dissipating heat. The narrow-gap magnet structure, moreover, promotes efficient thermal transfer for highly effective cooling of the voice coil during high-current drive. This ultra-high-precision "air-cooled" voice coil is far more efficient than "liquid-cooled", ferrofluid-filled systems. It should not be surprising, therefore, that very few tweeters, including those with voice coils of larger diameter, can handle as much power as the ADS 1-inch soft-dome tweeter.

All ADS soft-dome tweeters, furthermore, feature airtight cavities behind the diaphragm. In effect an independent miniature air suspension system, the tweeter enjoys total acoustic isolation; and, equally important, the trapped air acts as a highly linear diaphragm restoring force which does not deteriorate with age.

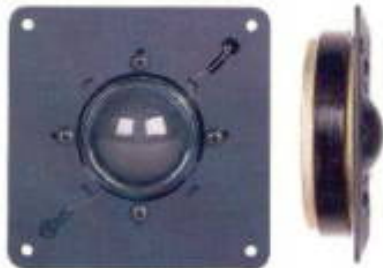
The Acoustically Suspended Midrange Drivers

Midrange drivers come in many shapes, sizes and types, and while some perform better than others, none comes close to matching the remarkable capabilities of the ADS acoustic suspension soft-dome midrange driver. Like the 1-inch soft-dome tweeter, each of the L2030's four 2-inch midrange drivers features an ultra-



lightweight damped diaphragm, a powerful magnet assembly, a single-layer high-thermal-conductivity metal voice coil, narrow gap construction and acoustic suspension loading. Unlike conventional cone drivers, ADS' soft-dome midrange boasts extremely wide and uniform dispersion throughout the critical midrange frequencies.

The L2030's superb midrange drivers are capable of resolving very fine detail with high efficiency and extremely low distortion. Also coated with ADS' proprietary damping compound, the soft-domes are totally free of spurious resonances, which frequently occur in other designs and cause sonic "smearing" and coloration. The drivers' neutrality and transparency are evident in their uncannily accurate reproduction of difficult midrange material, such as human voice, piano and reed instruments. The highly coherent wavefront produced by the dome geometry further ensures stable and precise stereo imaging.



The "Weighted" Midrange Line Source

The four 2" soft-dome midrange drivers in the L2030 may appear identical to one another, but closer inspection will reveal one *main* unit and three *auxiliary* units. The main midrange driver is more efficient than the other three by virtue of a specially designed, more powerful magnetic system. When the L2030 is operated in its "point-source" midrange mode, the main unit is the sole source of mid-frequency information. In the "line-source" midrange mode, the auxiliary units work together with the main unit.

The "point-source" mode highlights the analytical capabilities of the L2030. The close proximity of the main midrange driver and tweeter approximates a single point-source for important mid/high-frequency information. The resultant reproduction is highly phase coherent and thus provides the recording engineer with a means of critically evaluating imaging and detail, especially in near-field (close to the speaker) monitoring. Home users, too, will find the L2030's "point-source" mode useful for near-field critical listening.

For general monitoring and everyday listening, however, the L2030 truly comes into its own when used in the

"line-source" mode. Line source designs have been frequently praised for their extremely spacious sound—a heightened sense of "air" around musical instruments, an enhanced stereo stage with great depth, and increased "presence". Although these are generally desirable qualities, they cannot, in ADS' view, justify gross distortion of stereo image and perspective. The L2030's "line-source" mode, therefore, is a unique adaptation of the traditional line source propagation concept. The application, first, is limited to midrange frequencies because the extremely short wavelengths at higher frequencies cause annoying multi-source interference effects. Second, the L2030's "line-source" retains much of the imaging accuracy of the "point-source" because the greater efficiency of the *main* midrange driver makes it the *dominant* source of mid-frequency information. Since the main midrange driver remains the primary source, the direct information from the L2030 contains sufficient psychoacoustic "clues" to enable the human brain to reconstruct an accurate stereo image.

The L2030's "weighted" midrange line-source, in effect, gives the listener "the best of both worlds"—the coherency and detailed imaging of a point-source radiator and the spaciousness of a line-source propagator. It is also worth noting that the addition of three auxiliary midrange drivers significantly increases the speaker's midband power handling capability and reduces mid-frequency distortion for any given acoustic output.

The Dual Bass System

The L2030 features ADS' largest, most sophisticated bass drive system. Each L2030 has two 14-inch diameter woofers loaded by physically separate acoustic suspension chambers. Together they act as a single 20-inch diameter piston, but they are faster, better damped and handle more power than other high-fidelity bass systems of remotely similar piston area. A technological tour-de-force, the L2030's bass system produces clean, powerful energy to frequencies below 20 Hz. Such prodigious bass performance is largely the result of ADS' demonstrably superior driver technology.

ADS woofers feature cones made of a unique material known as *Stiffite*. An unusually thick material (formed of air-filled, randomly-oriented pulp fiber in a proprietary "sandwich" construction), *Stiffite* has high structural rigidity (a consequence of its thickness) and very low mass (because much of its bulk is air). The *Stiffite* structure also damps unwanted resonances to an unprecedented degree. (You can prove it to yourself by tapping an ADS woofer

cone with the eraser-end of a pencil. A properly designed cone should emit dull thuds rather than sharp, "live" sounds.) The ADS *Stiffite* woofer cone thus satisfies three crucial design parameters better than any other cone material known. It has low mass, an essential ingredient for well-damped, hangover-free bass. It is also "dead"—it has high internal damping—and does not impart its own character to the reproduced sound. And, finally, it is incredibly stiff, a "must" for minimizing distortions caused by cone "break-up" and other non-piston-like behavior.

Coupled to each cone are a low-mass high-temperature metal voice coil at one end, and a highly flexible and uniform rubber surround at the other. The high-density voice coil features two layers of windings (where most other woofers use four), and it is precision-aligned into a deep, narrow magnetic gap. The result is a surprisingly light moving system (less than 60 grams—a figure lower than the mass of many competing voice coils *alone*) with excellent thermal transfer characteristics. The woofer suspension components are manufactured and aligned to tolerances unheard-of in the industry. The L2030's bass drivers are thus capable of extremely long, linear excursion. Their powerful Barium Ferrite magnets and their low moving mass ensure high efficiency and damping. They have exceptional power handling capability thanks to their high-thermal-conductivity voice coil assemblies. The bass system's efficiency and power-handling are key to the L2030's generous dynamic range.



The Crossover Network

Many speakers have crossover networks with numerous power-robbing, distortion-inducing components, which are needed to correct driver performance anomalies and match grossly different driver efficiencies. ADS' networks, thanks to ADS' advanced driver technology, avoid excessive complexity and have the lowest power loss and distortion figures in the industry.

The L2030's crossover characteristics and frequencies have been selected through computer analysis, exhaustive acoustic measurements



and extensive auditioning. The network components, furthermore, are of the finest quality. All critical capacitors, for example, are computer-grade metallized polyester-film rather than the more common and less expensive electrolytic variety. The bass section inductor is heavily "over-designed" with extra-heavy-gauge copper wire and special low-saturation, low-dynamic-distortion ferrite cores. All midrange and high-frequency inductors are pure air-core designs. The coils, as a result, are completely linear over the system's operating range and have the lowest measured DC resistance among modern production loudspeakers. The L2030's crossover network thus provides seamless transition from driver to driver with maximum damping and minimum distortion throughout the speaker's entire frequency and dynamic range.

Advanced Acoustic Suspension Design

All enclosed ADS speakers employ the acoustic (air) suspension principle for two basic reasons. First, it is ADS' belief that a properly designed acoustic suspension system offers the best, most consistent bass performance for a given size and cost, for the widest range of applications. Second, since acoustic suspension provides a highly linear diaphragm restoring force (trapped air) which is not dependent on the mechanical suspension of the driver, it delivers the most stable performance over years of use.

ADS' acoustic suspension designs, however, go far beyond these basic considerations. ADS' superior drivers and networks ensure the highest system efficiency. The L2030 is considerably more efficient than other acoustic suspension systems of comparable bass performance. Surprisingly, it is also more efficient than most bass reflex systems of comparable internal volume and bandwidth, even though theory dictates the reverse. (Most bass reflex systems lose their theoretical efficiency advantage to poor drivers and/or networks.) This enables the L2030 to be driven to startling sound levels with amplifiers as small as 10 Watts per channel! (Higher-powered amplifiers are recommended, of course, to take advantage of the L2030's ultra-wide dynamic range.) ADS acoustic suspension design, furthermore, ensures maximum bass accuracy and extension. All parameters are carefully chosen to maximize system damping and provide a smooth, gradual bass rolloff. The L2030 thus delivers incredible amounts of deep, "tight" bass, but only when called on to do so by the musical program.



The Enclosure

The L2030's cabinetry is a supreme example of ADS' attention to detail. Each enclosure is precision-crafted from extra-high-density particle board, which provides the mass, rigidity and acoustical properties necessary to keep sonic coloration to an absolute minimum. A close inspection of the L2030 reveals construction techniques, such as internal bracing dual chamber design and solid walnut edge inserts, found only in expensive hand-made musical instruments. Finished in select natural walnut, the L2030 is a beautiful addition to any living or working environment.

The real beauty of the L2030, however, lies in the acoustically uncompromised design of its cabinet, a clear sign of the system's professional heritage. All drivers are carefully flush-mounted onto the piano-finish front baffle to minimize surface diffraction effects. All vertical baffle edges are radiused, and drivers are critically positioned to minimize interference caused by cabinet-edge diffraction. The midrange drivers and tweeter are mounted on a specially angled section of the front baffle. This successfully approximates baffle-free conditions (unobstructed, free-air placement of drivers) in the horizontal plane for the critical mid/high-frequency range. The lack of baffle interference gives the L2030 an astonishingly open, "unboxed" sound quality. The L2030, furthermore, is produced in matched mirror-symmetrical pairs. With its mid/high-frequency sections directed toward the listening area, a stereo pair of



L2030s has the ability to create an uncanny sonic illusion—a wide, realistic sound stage with spatially accurate image localization.

Evolutionary Design

A pair of L2030 monitors can produce highly satisfying and, indeed, superb sound when mated with modestly-powered equipment of reasonably high quality. And yet, the L2030 can evolve to even greater heights as your requirements become more demanding. The L2030's performance can be greatly enhanced through the use of higher amplifier power and bi-amplification with the ADS C2000 Bi-Amplifier System Control.

The C2000 is a sophisticated electronic (active) crossover network with a selector position custom-tailored to the L2030. All amplitude, phase and damping characteristics have been selected to perfectly complement the speaker's bass and midrange drivers. Proper bi-amplification of the L2030 yields several immediate advantages, including lower intermodulation distortion, better bass damping and extension, improved transient response, stereo imaging, detail and dynamic impact.

The C2000 Bi-Amplifier System Control also features ADS' unique optoelectronic Dynamic Bass Extender circuit, which further extends the L2030's already deep bass response. The Extender counteracts the L2030's natural bass rolloff by boosting the low-frequency input signal. It, nevertheless, prevents distortion and protects the



drivers from excessive excursion thanks to a built-in subsonic filter and a special opto-electronic circuit which gradually decreases the boost with increasing amounts of high-level bass.

The L2030 is easily converted to bi-amplification with a special mode selector switch located on the speaker's rear access panel. A second set of heavy-duty binding posts is provided for amplifier connections in the bi-amp mode.

Professional Features

The rigors of professional use make adaptability and dependability essential in a monitor speaker. Each L2030 has a System Control Panel on its front baffle. This panel contains the point/line source mode selector, the mid-frequency and high-frequency level selectors, and two light-emitting diodes (LEDs) which indicate the status of the mid-frequency and high-frequency driver protection systems.

The mid- and high-frequency level selectors enable the user to contour the response of the L2030 by adjusting the output of the midrange drivers and tweeters, respectively, in calibrated increments (± 1.5 dB). They are particularly useful for adapting the speakers to different international monitor response standards and "correcting" for the acoustics of different monitoring environments.

The L2030's built-in self-resetting driver protection systems guard the midrange drivers and tweeter against the most common causes of damage—amplifier misbehavior (including hard clipping, protective circuitry "latching" and oscillation) and outright abuse. These systems react immediately to potentially damaging signal conditions by attenuating power to the respective drivers. Protection system activation is signalled by the two LED indicators (visible through the speaker's grille). Normal operation is automatically restored within seconds after the overload condition is rectified.

The Ultimate Investment

The ADS L2030 Professional Monitor is not inexpensive. And yet, when you consider its incredibly advanced engineering, uncompromising manufacture, timeless design and history-making performance, you will agree that it is well worth its price. When you consider that you can actually pay more—*much* more—and get so much less, you will agree that the L2030 is an exceptional value. And, finally, when you consider that no other speaker can bring you so much pleasure and entertainment for so many years, that the ADS L2030 is quite possibly the last speaker you will ever have to buy, you will agree that it is an investment of rare and priceless quality.



SPECIFICATIONS ADS L2030 Professional Monitor

Frequency Response	22-20,000 Hz \pm 3 dB; 16-28,000 Hz \pm 5 dB
Impedance	8 Ohms nominal; 4 Ohms minimum
Efficiency	95 dB SPL with 2.8V RMS (1 Watt) pink noise input measured at 1 meter in typical listening room (2000 ft ³)
Driver Complement	One acoustic suspension soft-dome tweeter, 1" diameter, with samarium-cobalt magnet, single-layer, high-temperature metal voice coil magnetic flux density: 2.2 Teslas (22,000 Gauss) magnetic flux: 535,000 nanoWebers Four acoustic suspension soft-dome midrange drivers, 2" diameter, with single-layer, high-temperature metal voice coils Main midrange driver magnetic flux density: 1.7 Teslas (17,000 Gauss) magnetic flux: 1,630,000 nanoWebers Auxiliary midrange drivers (3) magnetic flux density: 1.55 Teslas (15,500 Gauss) magnetic flux: 1,450,000 nanoWebers Two long-excursion woofers, 14" diameter, with 2" high-temperature voice coils and tapered Stiffie cones magnetic flux density: 0.85 Teslas (8,500 Gauss) magnetic flux: 1,200,000 nanoWebers
Crossover	Approx. 12 dB/octave at 450 Hz and 4,000 Hz
Power Rating	300 Watts nominal 1,200 Watts max. peak program
Recommended Amplifier Power	10 Watts minimum; 1,200 Watts maximum
Dimensions	58 1/2" (H) x 27 1/4" (W) x 13 1/2" (D)
Approximate Weight	190 lb./85 kg. net
Cabinet	Select natural walnut over extra-high-density particle board, solid walnut edge inserts
Baffle	Piano black finish with diffraction-corrected flush driver mounting
Grille	Black stretch cloth over custom wood frame (removable)

Specifications and features may be changed without notice as design improvements are incorporated.



L1230

L1530

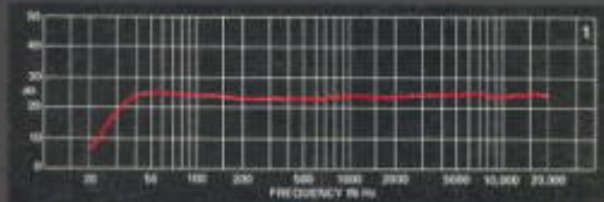
L2030

The ADS Family of Professional Monitors



C2000 Bi-amplifier System Control (Optional)

TYPICAL PERFORMANCE



1. L2030 composite on-axis response. Room boundary dependent region (bass frequencies up to 300 Hz) measured anechoically with pure sine wave tones. Frequencies above 300 Hz measured with warble-tone sine waves at 1.5 meter distance in typical listening room.

2. Tone burst response of L2030 high-frequency driver at 10 kHz.

3. Tone burst response of L2030 midrange driver at 2 kHz.

4. Tone burst response of L2030 bass driver at 200 Hz.

All tone bursts are actual oscilloscope photographs. In each frame the top trace represents the input to the L2030, and the bottom trace is the measured output. All measurements are of the entire speaker system with drivers mounted in cabinet and receiving test signal through crossover network. Excellent tone burst response over entire range ensures faithful reproduction of musical detail.

Who is ADS?

Analog & Digital Systems is an expanding young high-technology American company with roots in European craftsmanship and esthetic sensitivity. We are dedicated to innovation and leadership, but not technological novelty for its own sake. At ADS, advanced technology is always at the service of musical enjoyment, and it is firmly grounded in the sciences of physics, chemistry and acoustics. Over the years, ADS products have consistently received high critical acclaim and won coveted design and engineering awards. ADS' wide range of contributions to high-fidelity have included innovative consumer products, such as the famous ADS 2001 miniature bi-amplified mobile speaker system, and professional monitoring systems, which have been selected by some of the world's most respected recording and broadcast studios. ADS technology today extends to a complete line of home and professional speakers, bi-amplification and modular systems, ambience synthesis (digital delay) systems and automotive audio products. The L2030 is the quintessential example of ADS' engineering excellence in pursuit of better music reproduction.



Where technology serves music

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