



## Type E/II Loudspeaker

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■ Snell Acoustics, Inc.

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# TYPE E/II LOUDSPEAKER

## SNELL ACOUSTICS: Unexcelled Accuracy in Sound Reproduction

The design philosophy of Snell Acoustics is that a loudspeaker should not "color" the reproduction of recorded sound. Snell Acoustics was founded by Peter Snell in 1976 to develop and produce loudspeakers which would ultimately establish the world benchmark for sonic accuracy. The company's first product, the Type A loudspeaker, stunned the audio world as a result of its unique sonic transparency, but also, and just as significantly, for its unsurpassed quality, integrity, and consistency of construction.

These qualities have become the trademark of Snell Acoustics and are reflected in each and every one of its products.

An accurate loudspeaker never "colors" the signal source as it converts the *electrical* energy it receives into the *sound* energy that is heard. The ideally accurate loudspeaker will neither add nor subtract anything as it reproduces the information created by the previous components in the audio stream. A truly accurate speaker is perhaps most significantly a *timeless audio investment* because as the quality (accuracy) of the preceding audio components improves, the improvement is revealed to the listener by the total transparency of the speaker—an accurate speaker is *always* accurate. A recent example of the benefit of this additional dimension has been digital disc technology. While virtually all other loudspeaker companies have had to re-design their products to handle this dynamic source, Snell speakers were not only completely ready to take advantage of this technology but owners were not in the position of having to replace their existing speakers in order to "hear" the results of a digital disc source. Remarkable advances which have been realized in the analogue format such as direct-to-disc and half speed mastering are also more clearly revealed through the Type E/II loudspeaker due to its inherently accurate design. The one common benefit to the listener of any of these recording formats is the ability to more accurately—realistically—capture the totally unique and subtle nuances of a musical performance. However, only a truly accurate loudspeaker will be capable of realizing the extraordinary potential of these technologies by its ability to re-create in the listening room the unique timbres of true musical sound uncolored, unaltered and undistorted in any way from the original performance. The ultimate goal of enjoying the musical event rather than "listening to your speakers" is realized.

## TYPE E/II: Unexcelled Performance, Craftsmanship/Cost Ratio

The Snell Type E/II loudspeaker is an extension of the Type A design and manufacturing philosophy. The same uncompromising search for sonic accuracy, quality, and fine craftsmanship exhibited in the Type A is available in the Type E/II. Just as we hand manufacture critical internal components and the speaker cabinets for the Type A, we also manufacture the cabinets of the Type E/II. In fact, we adhere to the same exacting standards and use the same critical internal components and manufacturing processes that are found in the Type A.

## TYPE E/II DESIGN INNOVATIONS Rear Loaded Ultra High Frequency Driver

As the frequency of the signal being reproduced by a tweeter approaches the high treble region, and off-axis dispersion decreases, the driver becomes directional at those frequencies and the sound instead of being perceived as "in the room" is perceived as coming "from the tweeters." The Type E/II takes care of this important problem. In addition to the normal front mounted tweeter, the Type E/II incorporates a rear firing ultra high frequency driver which adds energy into the room at frequencies above 10KHz to compensate for the loss which occurs as the front firing tweeter approaches the highest audible limits. In fact, the rear firing "Super Tweeter" found in the Type E/II is the exact same driver used successfully in our more expensive Type C speaker. The sonic benefit of this ultra low mass soft dome tweeter is to effect accurate *room* response at extremely high frequencies so as to provide smooth total sound power response from the lowest to highest octaves. This audibly results in superior depth of soundstage and improved high frequency detail.

## The Exceptional Snell Crossover

As in other areas of loudspeaker design, Snell Acoustics has established itself on the leading edge of technical accomplishment in the design and manufacturing of crossover networks. The various drivers in a speaker design cannot properly perform their function unless they are fed the proper signals so as to yield the desired composite sonic results. Crossover networks are essential to the optimum distribution of electrical energy to the appropriate drivers and one of the cornerstones of superior loudspeaker performance. The dividing networks used in the Type E/II loudspeaker trace their heritage directly to those used in the Type A and Type C loudspeakers and have been critically acclaimed as the most sophisticated and complex in the industry. Each crossover is manufactured entirely in the Snell Acoustics manufacturing facility using such components as hand-wound precision calibrated air-core chokes, computer grade polypropylene capacitors and oxygen-free heavy gauge four conductor (TM Live Wire) copper wiring harnesses. Once manufactured, *each* dividing network in *each* Type E/II speaker system is individually *hand adjusted* by a technician while under dynamic operating conditions to the particular sonic characteristics of each of the associated drivers. This process, pioneered by Snell Acoustics in the Type A design and unique in the industry, assures a totally seamless transition from driver to driver and provides a rigidly specific frequency balance among the particular drivers. This series

of tests and accompanying fine adjustments is performed on *every* Type E/II speaker system to assure precise uniformity of sonic performance in frequency response, accuracy, and imaging. While some manufacturers brandish about high percentage quality control sampling rates, complete quality assurance can be guaranteed only by a 100% sampling rate.

## High Efficiency + Accurate Sound

The Type E/II's high efficiency rating (93db) means that the speaker system converts a relatively large amount of the electrical energy supplied to it by the amplification source into sound energy. Up until this time highly efficient loudspeakers have typically been very inaccurate (colored). Relatively accurate designs, on the other hand, have been typically very inefficient, meaning that they require abnormally large amplification sources to produce even a moderate loudness level; additionally, they were often extraordinarily expensive. The Type E/II for the first time combines in one loudspeaker the best of both worlds: *High efficiency*, which gives dynamic performance with relatively small power sources, and *unexcelled accuracy*, which delivers to the listener every fine detail and nuance of today's advanced sound sources.

## Drivers/Cabinet Design Integration

The Type E/II utilizes a remarkably high performance low frequency driver. It has a polymer treated curvilinear cone that gives superb midrange clarity and natural tonal balance. The combination of a "precision tuned" two-cubic foot enclosure and a high efficiency long throw 203mm woofer provides the listener with very extended and accurate low frequency reproduction (only -3db at 37Hz) *without* the use of expensive separate subwoofer systems. The bass driver is optimally matched with the cabinet enclosure and accompanying high frequency driver resulting in extended dynamic range from effortless crystal clear high frequencies down to a deep, ultra-high definition bass. Carefully aligning *each* crossover to its associated drivers also results in a totally "seamless" transition from driver to driver.

The 25mm soft dome tweeter produces extremely fast transient response and smooth, wide dispersion characteristics. The dome's small diameter combined with the rear mounted ultra high frequency driver results in unexcelled uniformity of dispersion to the highest audible limits. Additionally, a vertically adjustable base is incorporated into the Type E/II's floor standing design allowing the listener to optimize driver alignment.

## From Perfect Timber to Perfect Timbre

The solid construction of a loudspeaker cabinet is a cornerstone of superior speaker design. It is an essential principle on which all elements are supported as a speaker system builds towards exceptional performance. The finest drivers in the world cannot realize their potential unless they are firmly attached to a structure which is as solid as possible. This extraordinary level of cabinet quality is entirely produced in Snell's cabinet manufacturing facility. Construction of the cabinet from raw materials through cutting, assembly, hand sanding, natural oiling, and hand polishing is accomplished by trained craftsmen, resulting in cabinets of rare integrity and unique quality. The walnut and oak veneered cabinets are selectively matched in sequential pairs. In fact, speakers start out as pairs from the moment when cabinet parts are milled from the same sheet of veneer. Each cabinet is internally braced to insure minimal transmission of acoustic vibrations.

## Product Specifications

The following measurements were conducted in average *home* listening environments rather than under unrealistic anechoic chamber conditions.

Frequency response	±1.75db 39Hz to 22KHz
Crossover frequency	2300Hz
Nominal impedance	8 ohms
Unit-to-unit efficiency variation	less than .5db
Sensitivity	93db (at 1 meter 2.8v pink noise)
Power requirements	Minimum 15 watts per channel Maximum 150 watts per channel
Dimensions	33"H x 14"W x 11"D
Weight	48 pounds
Drivers	203 mm woofer 25 mm tweeter, 18 mm ultra high frequency tweeter
Finishes	Sequentially matched, hand sanded, oiled, select veneer pairs in oak with dark brown grill cloths or walnut with black grill cloths.

The Type E/II loudspeaker provides uniquely accurate natural sound reproduction. The sonic benefits are: Superior focus and depth of imaging combined with a rate ability to recreate a three dimensional soundstage; natural timbre of musical instruments with pristine clarity throughout the frequency spectrum; effortless dynamic range. These sonic qualities combined with unexcelled quality of construction and extraordinarily high efficiency results in a timeless loudspeaker capable of extracting the full potential of both today's and tomorrow's advanced technology sound sources.

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Manufacturing Loudspeakers of unexcelled accuracy since 1976.