



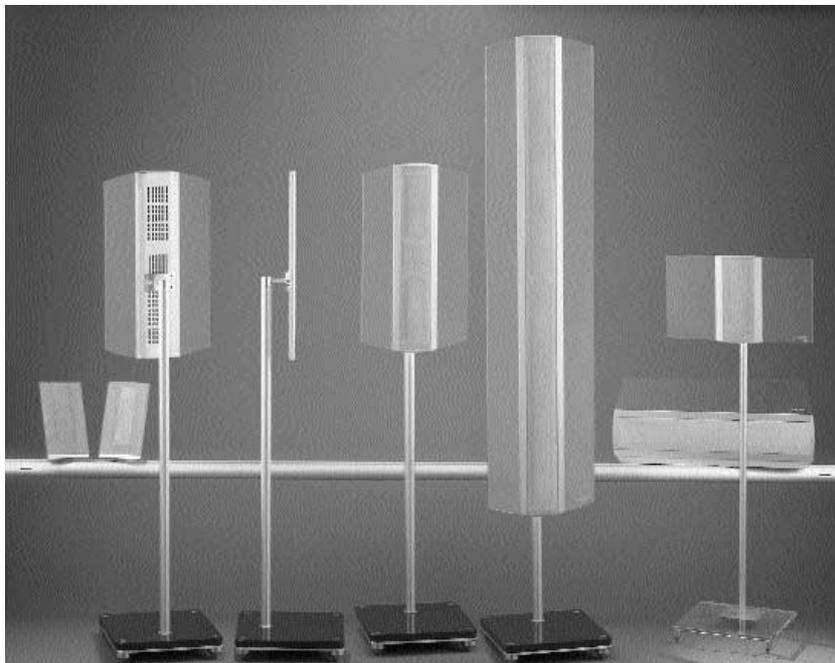
NEOPLANAR A High Performance, Planar Magnetic Transducer

NeoPlanar™ is a thin film magnetic transducer, which can be built as thin as 1/8" or less. It is the first planar-magnetic (ribbon) transducer that uses an innovative, proprietary high-tech polymer diaphragm structure.

Even though planar magnetic transducers have been in existence for decades and widely considered to be among the finest signal conversion technology available, they have been expensive, heavy, inefficient, and fragile.

The previous problems with planar magnetics have had little to do with a full understanding of the theory of operation but rather the materials available to make their operation practical. This is the area in which ATC has made major advances.

By maintaining a very wide awareness of the most recent developments in various materials including metalized polymer films, high speed and low cost conductive metallization etching techniques, high performance adhesive systems and their application, and the most cost effective sources of the strongest magnetic materials now available, ATC has created planar drivers that are:



1. Manufacturable in volumes previously believed impossible at costs less than 20% of previous designs.

2. More durable and reliable than any alternative technologies.

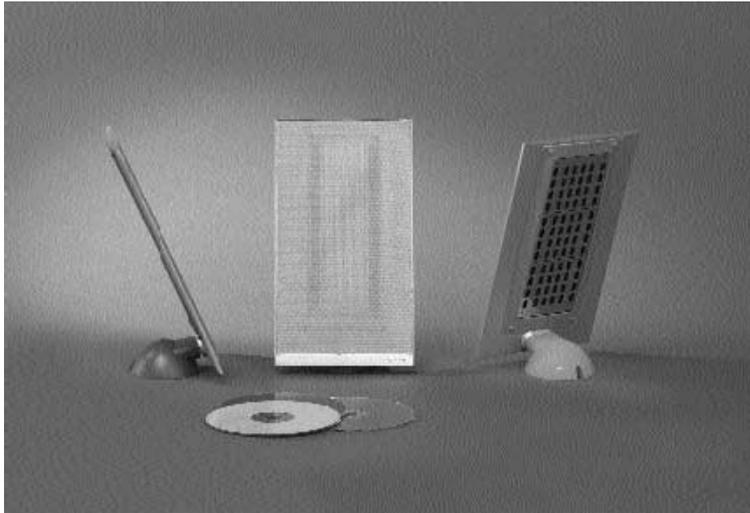
3. Thinner and lighter than any other design types, planar or non planar.

4. Wider and more extended frequency response for a given size than any other speaker technology.

As a result, NeoPlanar has superior sound quality and both higher sensitivity, requiring lower wattage power amplifiers, and higher power handling capabilities for higher sound pressure level capability.

Careful design and unique assembly technology of NeoPlanar allows less distortion and higher dynamic range than other planar drivers of a similar size. It is also unique in meeting the extended high frequency output demands of the new Super Audio compact disks by performing beyond 50 kHz in bandwidth.

For the first time this super low distortion technology is available to a great variety of markets that have desired it for over 50 years but thought it unaffordable and unreliable. The materials combinations and improvements in design are patent pending and the only source for the most critical part of the loudspeaker has assigned ATC as it's sole representative for their specialized products for audio use worldwide.



NeoPlanar has a single-ended magnetic system that has been designed with the help of Finite Element Analysis software to achieve optimum efficiency -vs- cost performance. It uses the very newest grades of Neodymium - the magnet material with the highest magnetic energy available in the world today.

The extremely light weight, novel polymer diaphragm with etched planar aluminium conductor is suspended in the magnetic field and is uniformly driven by electromagnetic force providing accurate reproduction of the input signal.

There are no heavy voice coils, spiders, glue joints, paper cones, or surrounds as required with traditional cone speakers.

Hence the technology does not exhibit the break-up resonance, phase incoherency or signal smearing distortions and bandwidth

limitations which are commonly found in conventional drivers.

With NeoPlanar there is no traditional speaker cone between the electrical signal and the sound emitted in the air - just an almost weightless thin film diaphragm driven by the force of high energy magnetics with substantially equal force over its entire low mass diaphragm area. This combination allows the NeoPlanar to deliver clean, airy, transparent sound which is inherently natural and musically correct.

Virtually no other commercially available loudspeaker transducer combines this level of high performance with such minimalistic construction and size.

Besides the inherently low cost of the technology, the purely resistive impedance of NeoPlanar makes it a very easy load for the amplifier driving it and reduces the cost requirements of that amplifier.

The magnet system is inherently shielded as required for safe implementation in multimedia and AV systems.

NeoPlanar is a very high performance, versatile, and cost effective driver. Its applications are limited only by designer imagination.

NeoPlanar is concentrated on the extremely large O.E.M. Automotive and Multimedia markets but also opened to all retail but also design applications potentially willing to embed a quality sound in its devices.

Summary of NeoPlanar Benefits

- _ Purely resistive amplifier load
- _ Very high power handling capacity
- _ Superior sound pressure levels
- _ Flat, thin form factor
- _ High performance -vs- cost ratio
- _ Standardized sizes for ease of use across multiple applications
- _ No break-up resonances
- _ Superior phase coherency
- _ Reduced distortion
- _ Clean, airy, transparent, and natural sound