DualMags

In any day and age, speaker systems have always evolved in the pursuit of high quality sound reproduction.

By focusing strictly on this eternal, basic concept, a magnetic circuit that defies conventional thinking was created.

DualMags embodies the "quest for better sound" in its truest form, as Kenwood believes it should be.

This where you can discover the story behind DualMags.



CONCEPT

Endless quest for better sound

At Kenwood, in order to solve the problems that have existed with speakers in the past, we developed a totally new magnetic circuit — the DualMags magnetic circuit.

The eternal goal in speaker development is, needless to say,
the reproduction of good sound. However, this is actually more
difficult than it seems because "good sound" is a subjective
decision that can be affected by personal preference.

This is where Kenwood took note of the electrical distortion in the magnetic circuit. As speakers relied on the magnetic circuit and electrical current as the elements to produce sound, electrical distortion was long considered unavoidable.





In all the frequency ranges used to express sound — from a clear high range and natural vocals (middle range) to a powerful low range — a common and objective key point for the production of quality sound is low distortion.

muddied sound, a speaker will be able to reproduce sound that is much clearer overall. Hence, the necessity to create a magnetic circuit that would greatly reduce electrical distortion. This is where the DualMags project, aimed at creating a new speaker technology that will far surpass conventional types, got its

start.

TECHNOLO

Magnetic circuit that goes beyond the conventional in car speakers

In conventional speaker design, steel based parts such as the top plate and yoke were considered absolute necessities for the rials inherently disrupted the magnetic force in the magnetic circuit and produced electrical interference, thereby adversely affecting this, Kenwood undertook extensive research into a magnetic circuit that would allow a dramatic reduction in the amount of metal result of these efforts was the compact, resistant magnetic circuit, called DualMags.

As the first point, in order to reduce the amount of steel materials, it was necessary to reduce the size and weight of the magnetic

Since the amount of force applied to the voice coil in order to move the diaphragm is proportional to the size of the magnetic field, using a magnet with stronger magnetic energy will enable the size of the voice coil and magnetic circuit to be reduced.

That is why we decided to use the neodymium magnet, which boasts the highest magnetic power available. The neodymium magnet produces

approximately 10 times more magnetic energy as compared to conven-

tional magnets (such as strontium ferrite or barium ferrite). 🖊



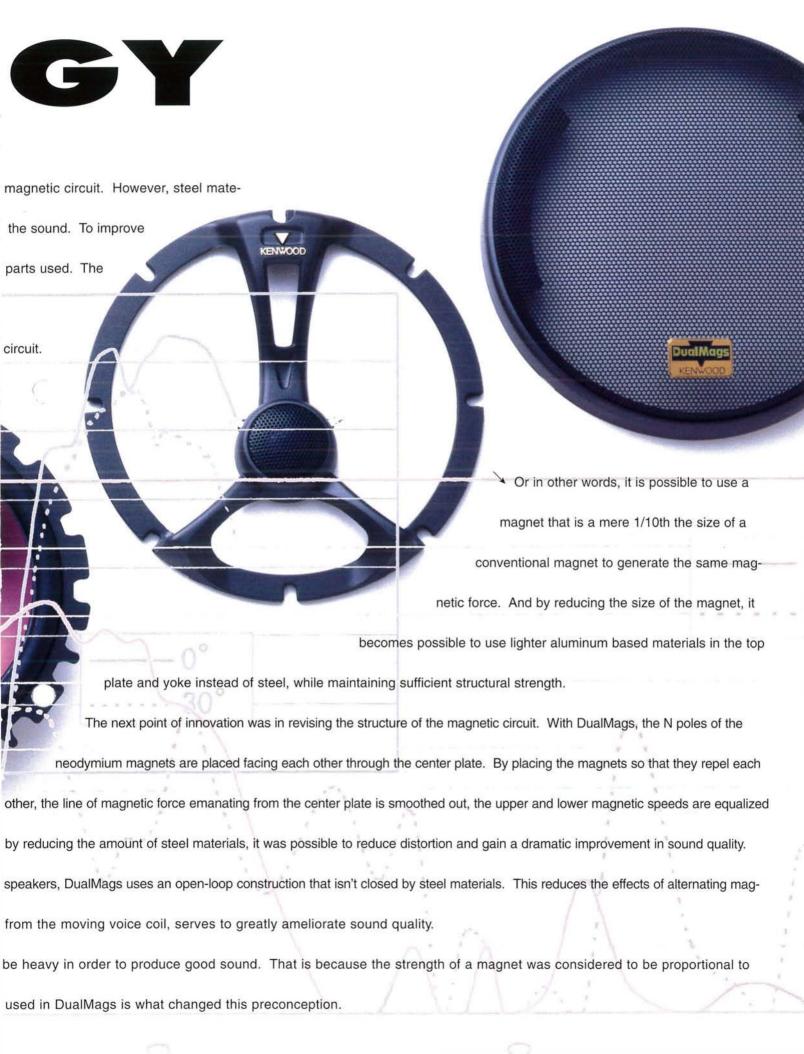
and a uniform magnetic speed density is attained. As a result,

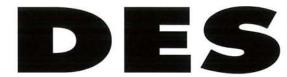
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Furthermore, as opposed to the closed-loop construction used in conventional netic speed from the voice coil, and by minimizing the electrical distortion According to conventional thinking in speaker technology, a speaker had to

the weight of the magnet — the heavier the stronger. The neodymium magnet





Materials and construction for better sound

For any speaker, the construction of each unit devoted to handling a certain frequency range is important.

Depending on their materials or positioning, the final sound can be affected. Our new Coaxial type models for 1999 meet and indeed surpass these challenges in terms of materials and design.

First, for materials, we used a UFLC soft dome tweeter because of its favorable directionality characteristics. UFLC (Urethane Film Laminated Cloth) is basically the polyester surface used in conventional soft dome diaphragm but is laminated with a polyurethane film.

Compared to conventional polyester diaphragms,

UFLC can be made approximately 10% lighter, and thanks
to its damping characteristics it also reduces distortion.



GN

In terms of design, we used a thinner arm with a smooth-curvature bridged round fitting to support the tweeter. And to keep it from covering the center of the woofer, it was mounted in a coaxially offset position. Moreover, using a soft dome tweeter allowed the size of the tweeter case as well as the overall area of the bridge to be reduced, thereby minimizing masking effects and avoiding peak dips in the frequency characteristics. e DualMags magnetic circuit is a technological breakthrough without a doubt, but aside from that, through every aspect of our speakers from design to

