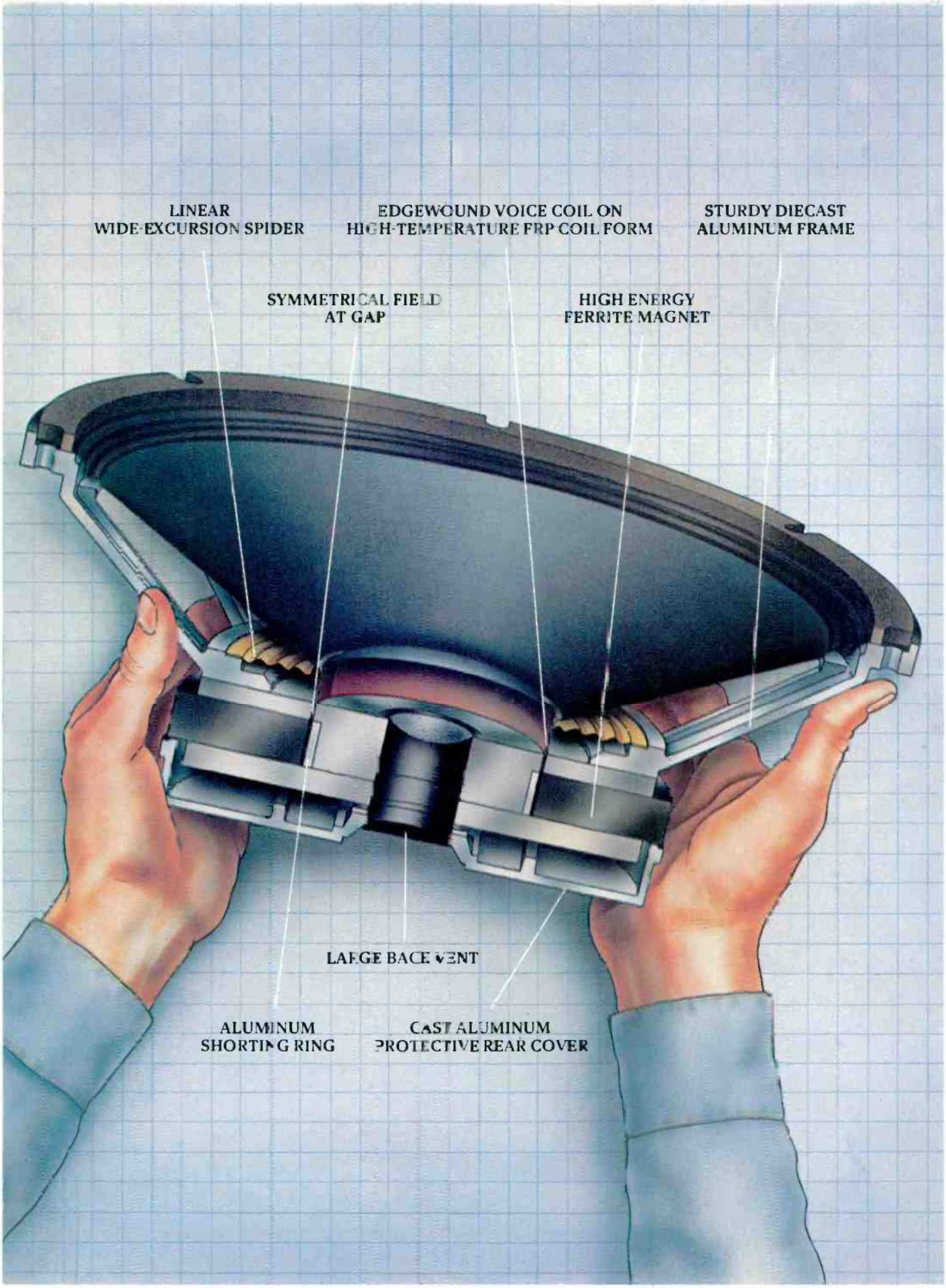
HOLD IT BEFORE YOU BUY SPEAKER COMPONENTS.

Buying professional speaker components has been a fairly standard procedure. Load up with your favorite standard and relax.

We want to make you a little nervous about that. Because staying with the standards could be a mistake.

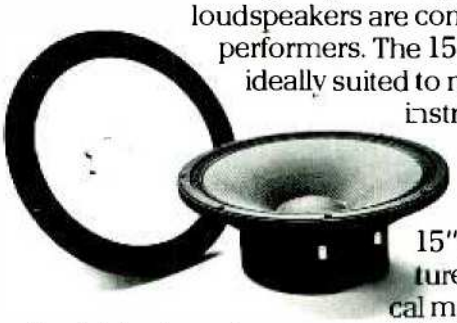
Why? Simply put, we've got better speaker components to offer you. Better in ways you may not be aware of.

Here's your chance to find out what we mean. Read through this material. Then decide whether you want to stay with the standards. Or move ahead with Yamaha.



YAMAHA WOOFERS

Representing Yamaha's high technology and careful attention to quality control, these loudspeakers are consistently top performers. The 15" JA-3881 is ideally suited to musical instrument and sound reinforcement systems. The 15" JA-3882 features a symmetrical magnetic field, ultra-high-strength magnet and low-mass cone that make it an ideal choice for horn-loaded bass loudspeaker systems.



Powerful Ferrite Magnet Maintains High Efficiency

The motor assembly (magnet, magnetic assembly and voice coil) is the heart of a good loudspeaker. Yamaha woofers utilize specially formulated ferrite magnets, created in our own metallurgical processing plants. A strong magnetic charge, plus inherently high retentivity, assure the speaker will retain its original efficiency even after hundreds upon hundreds of hours of high-power, high-temperature use.

Precision Magnet Assembly Concentrates Energy

Along with the magnet itself, the top plate, pole piece, and bottom plate constitute the "magnetic assembly." This assembly generates the magnetic field and guides the flux to the voice coil gap. Because we manufacture our speakers to precision tolerances, we are able to use narrower gaps, which concentrate more magnetic flux in the voice coil area. This ensures high efficiency so you get more sound per watt of amplifier power.

Symmetrical Magnetic Field Lowers Distortion

The JA-3882 utilizes a symmetrical field to maximize linearity (lower distortion) in high-accuracy sound systems; whereas the JA-3881 field is designed for ideal tone color in musical sound reinforcement systems.

Edgewound Voice Coils and FRP Forms for Power and Efficiency

Yamaha voice coils are edgewound and made of either copper (for its very high conductivity) or aluminum (for its low mass). The edgewound coils pack the most wire into a given cross-sectional area, and hence are more efficient than round wire designs. Yamaha's high-temperature FRP voice coil forms, which support the coils, have a low coefficient of expansion, so they are dimensionally stable. Also, unlike aluminum forms, Yamaha's are free of power-robbing eddy currents.

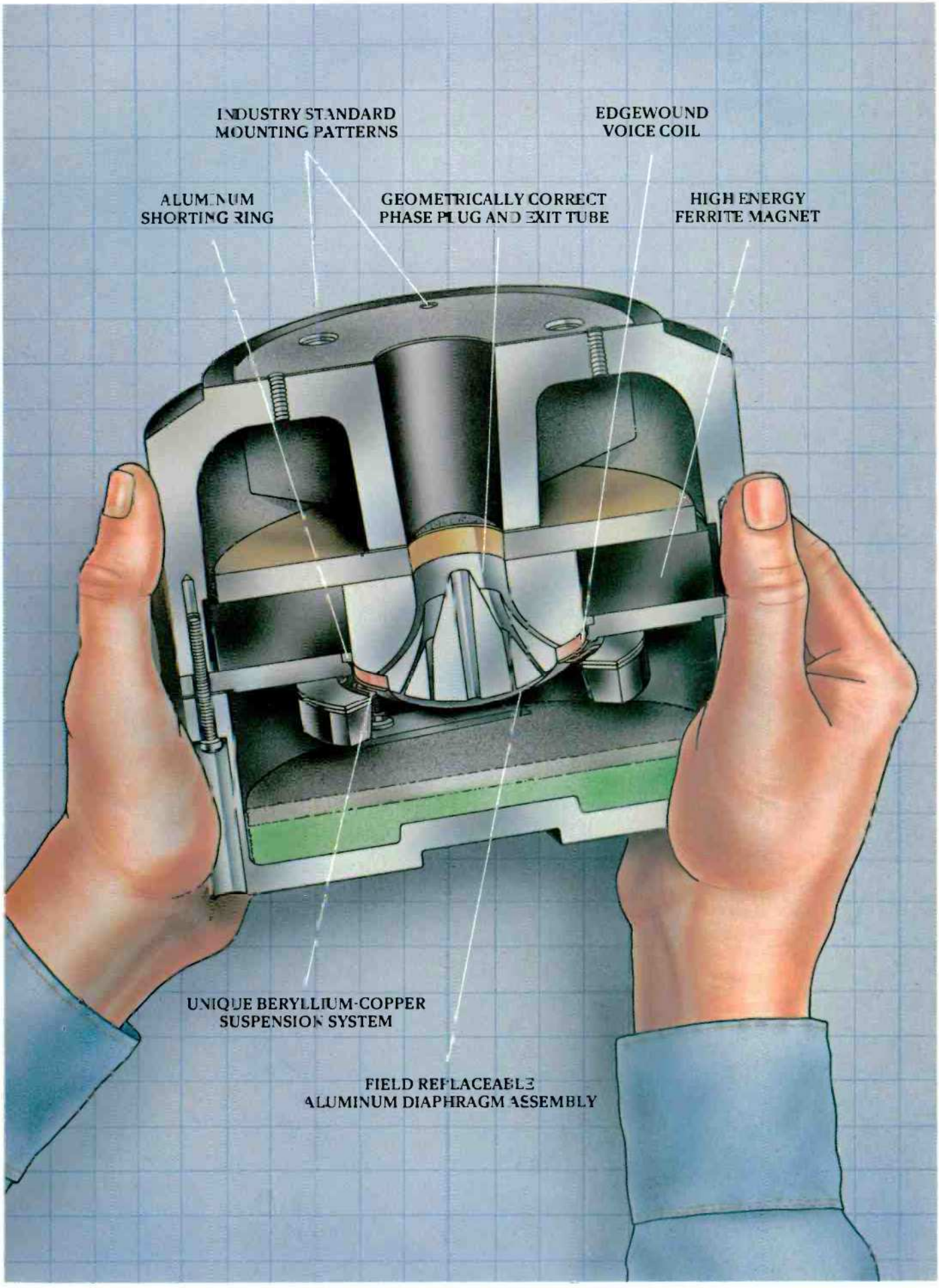
Cone and Suspension Linear Over Wide Dynamic Range

For greatest linearity and power handling capacity, the suspension (spider and surround) centers the cone in the voice coil while maintaining uniform tension at all times. This is achieved by carefully bonding to the cone a sine-wave patterned spider and a saw-tooth patterned surround—each made of a different fabric and impregnated with a different resin.

Diecast Aluminum Frame and Cover for Structural Integrity

Yamaha's rigid and structurally secure frame keeps the cone, voice coil and magnetic assembly in precise mechanical alignment. Even under the rugged conditions of a concert tour, the frame will not warp, twist or resonate. A large back vent relieves air pressure behind the cone cap and also improves cooling for sustained high-power handling.

YAMAHA

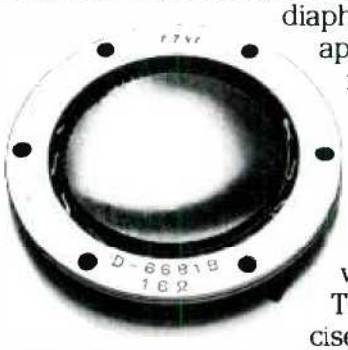


YAMAHA HIGH FREQUENCY COMPRESSION DRIVER

Yamaha's advanced technology, backed by decades of experience in the music industry, has produced the JA-6681B high frequency compression driver, a product with seemingly subtle improvements that make a not-so-subtle improvement in performance. The JA-6681B may be used as the mid or mid/high frequency component in two-way or multi-way sound systems.

Aluminum Diaphragm and Beryllium-Copper Suspension System

Yamaha's exclusive suspension consists of beryllium-copper fingers bonded to an aluminum diaphragm. The diaphragm is a pneumatically-formed aluminum dome whose rigidity and light weight provide optimum high frequency response with low distortion. The Be-Cu fingers precisely center the voice coil in the gap, a unique suspension which permits wide diaphragm excursion for high power handling, while maintaining excellent linearity for low distortion. Because severe high-power pulses do not cause the suspension to "take a set," the sound quality remains excellent throughout the life of the component.



Powerful Ferrite Magnet Maintains High Efficiency

Created in our own metallurgical processing plant, a custom formulated ferrite magnet provides the strong field essential to the driver's high efficiency. The magnet's inherently high retentivity ensures that the original strength will endure hundreds upon hundreds of hours of high-power, high-temperature use.

Aluminum Shorting Ring for Lower Distortion

The JA-6681B has a pure aluminum ring around the pole piece. The ring "short circuits" the local electrical currents (eddy currents) that invariably are induced due to the voice coil's rapidly changing magnetic field. Without a shorting ring, the flux density of the magnetic assembly would be "modulated" by the sound, causing distortion. The shorting ring therefore reduces distortion to a minimum.

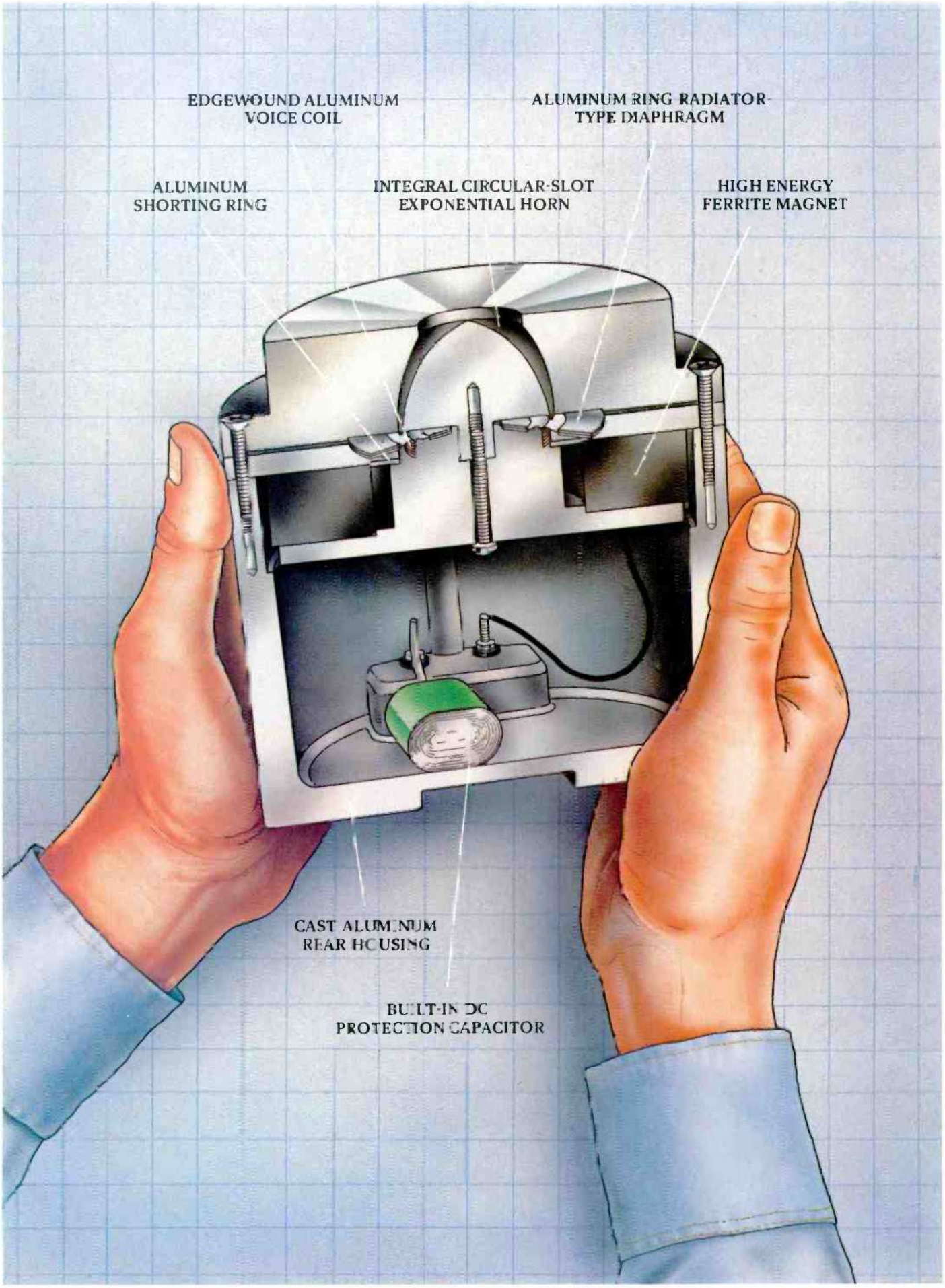
Geometrically Correct Phase Plug and Exit Tube

Yamaha's machined and diecast zinc-alloy phase plug gathers sound over the entire area of the diaphragm, bringing it together, in phase, at precisely the right point to form a coordinated wave front at the exit end of the driver. The exit tube couples the sound from the end of the phase plug to the beginning of the horn/adaptor assembly. The JA-6681B exit tube exactly matches the driver to the H-1230 horn, or to any other properly designed horn.

Cast Aluminum Housing

Yamaha's rigid diecast aluminum housing acts as a compression chamber which properly loads the diaphragm assembly. A combination of felt and foam damping material inside the housing avoids unwanted resonances. The housing also protects the diaphragm and magnetic assemblies from corrosion, dust and accidental damage.

YAMAHA



YAMAHA SUPERTWEETER

The Yamaha JA-4281B is a ring radiator-type compression tweeter. (The compression tweeter is a specialized compression driver with an integral diffraction horn.) At very high frequencies, a conventional dome would tend to break up and resonate, reducing the sound output and increasing distortion. Yamaha's JA-4281B substitutes a rigid aluminum ring for the dome, and thus produces high sound power at very high frequencies with low distortion.

Powerful Ferrite Magnet Maintains High Efficiency

A custom formulated ferrite magnet provides the strong field essential to the driver's high efficiency. The magnet's inherently high retentivity ensures that the original strength will endure hundreds upon hundreds of hours of high-power, high-temperature use.

Precision Magnet Assembly Concentrates Energy

This assembly generates the magnetic field and guides the flux to the voice coil gap — the relatively small area in which all the magnetic energy is needed. Because we manufacture our components to precision tolerances, we are able to use narrower gaps, which concentrates more magnetic flux in the voice coil area. This ensures high efficiency so you get more sound per watt of amplifier power.

The JA-4281B has a pure aluminum ring around the pole piece. The ring "short circuits" the local electrical currents (eddy currents) that invariably are induced due to the voice coil's rapidly changing magnetic field. The shorting ring therefore reduces distortion to a minimum.

Integral Diffraction Horn Matches Ring Radiator to the Acoustic Environment

The pneumatically formed aluminum ring radiator, with its anti-fatiguing aluminum compliance, is rigid and lightweight for the best frequency response and lowest distortion. The JA-4281B voice coil is edgewound and made of aluminum (for its high conductivity and low mass). The edgewound coil packs the most wire into a given cross-sectional area, and hence is more efficient than round wire designs.

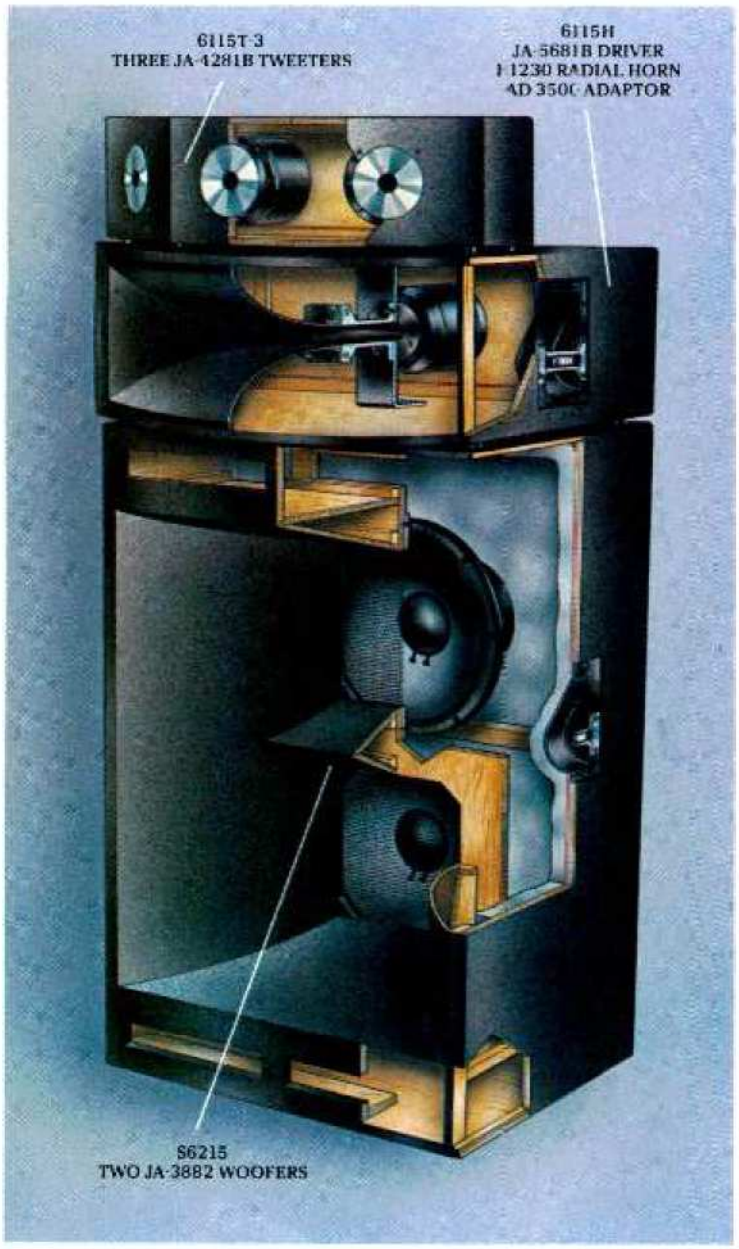
In the unlikely event of failure, the entire diaphragm assembly can be replaced in the field, in minutes, using common tools.

A circular slot-type exponential horn picks up the sound at the ring radiator diaphragm and acoustically couples it to the environment. The geometry of the diffraction slot (the exponentially expanding area between the bullet-shaped plug and the contoured front housing) permits wide coverage (120° @ 10 kHz) and properly loads the diaphragm.

Built-In DC Protection Capacitor

An 18,000 microfarad capacitor, located inside the driver, is wired in series with the voice coil. This blocks DC components from reaching the coil, thus lessening the chance of distortion or overheating in the event of amplifier malfunction. The capacitor is large enough so it does not affect response within the frequency range of the tweeter.

YAMAHA



S6215HT-3
MULTIPLE ENCLOSURE SYSTEM

Taken separately, Yamaha speaker components offer significant advantages. Put together in a Yamaha speaker system, these advantages combine to offer you professional sound that is unmatched by anything in the industry. The S6215HT-3 is an example of how these speaker components come together in a system. The system is modular, and the fully assembled enclosures are available separately.

Thiele-Small Aligned Design

The bass reflex enclosure has a computer-generated Thiele-Small aligned design giving optimum mid-efficiency and superior low-frequency loading.

Heavy-Duty, Roadworthy Features

The cabinets are made of 9-ply ¾", maple. All joints are lock-mitered and glue-blocked. All hardware on the rear panels is recessed. All handles are also recessed and are located at balance points for easy handling.

In the mid-range enclosure, the bottom, sides, and top are integrally tied to the horn and driver for maximum stiffness and light weight.

The system is loaded, painted, has feet and grilles, and is thoroughly tested and ready for high-performance sound reinforcement.

Now that you've heard what we have to say, listen to us. You'll hear what all this technology adds up to: better-sounding, more reliable speaker components and systems for your music. You'll be glad you held out until you got hold of Yamaha.

For more information, write: Yamaha, Box 6600, Buena Park, CA 90622. (In Canada: 135 Milner Ave., Scarborough, Ont. M1S 3R1).

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