• Operating Principles of Linear Drive

In the headphone drivers, precisely photo-etched aluminum is laminated on a 12 μm polyester film to form a flat voice coil. When current is applied to the voice coil, S and N polarities alternately reverse in magnetic blocks on either side of the coil (fig. 2) A uniform drive force is distributed across the entire radiating surface of the diaphragm, causing it to vibrate in phase throughout a wide frequency range.

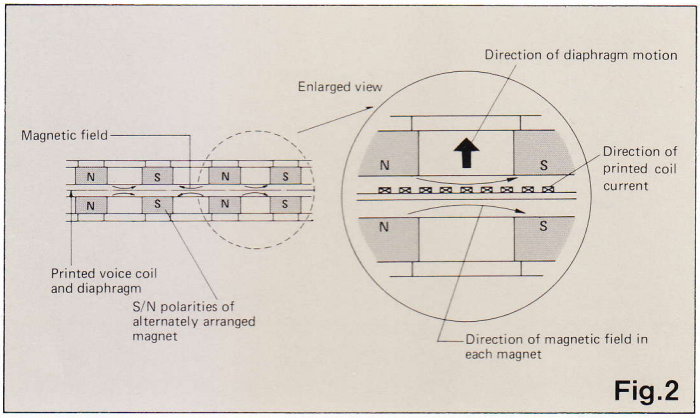

Fig.2

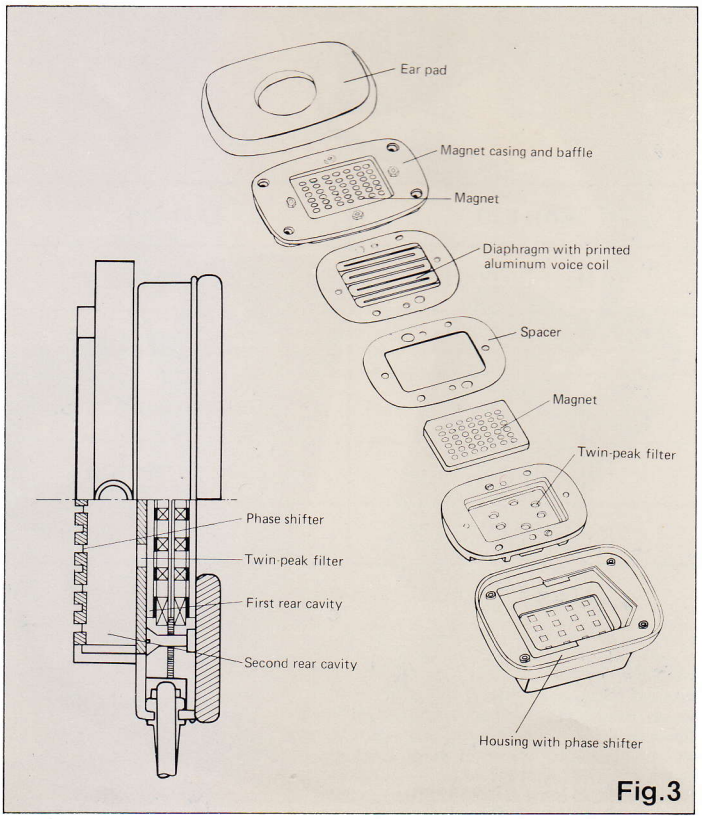

Fig.3

• Low Distortion and High Power-Handling Capacity

The Linear-Drive headphones incorporate a flat, rectangular driver system rather than a circular cone. It is embossed and damped at the center to prevent partial vibration, thus assuring wide-range reproduction, along with low distortion and high power-handling capacity. Heat is dissipated by the entire diaphragm surface. In the EAH-830, 1 mW input will produce 96 dB sound pressure level; 3 watts average input can be applied continuously for a sound pressure level of 131 dB.

• Double Cavity Creates "Natural" Response

The second peak, which in normal listening results from the diffraction of sounds by the head and external ear, is created by a rear cavity and its twin-peak filter. The desired phase response is obtained by additional acoustical circuitry, which consists of a precisely adjusted second rear cavity and phase shifter. The double cavity and associated circuitry help achieve waveform response at the eardrum which closely approximates open-environment listening conditions.

Comfortable Listening — 15° Tilt to Match the Ear

Comfort for the wearer is one of the most important characteristics of a superior headphone. Linear-Drive headphones are designed to conform to the average 15° inclination of the ear. This, along with soft supra-aural ear pads and lightweight construction allow comfortable listening for long periods.

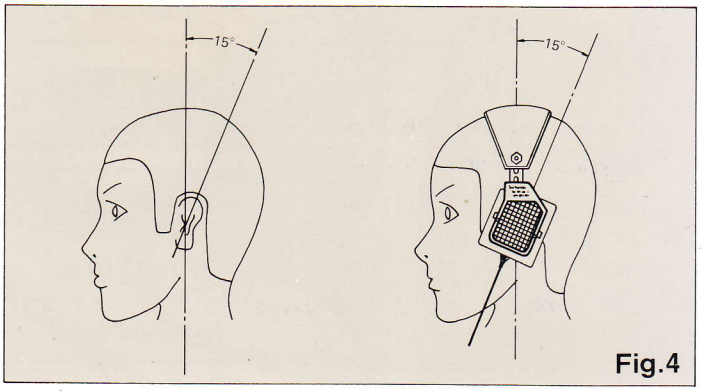

Fig.4

- **Supra-Aural Ear Pads**
  Precise fit on and around the ear gives an "open" feeling
- **Head Pad**
  Soft, wide-contact pad distributes the headphones' weight evenly over the head
- **Lightweight**
  Low weight enhances comfort through long listening periods