

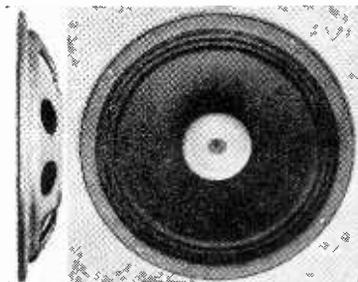
SOUND REPRODUCTION

Loudspeakers. — In the highly competitive field of loudspeaker units for broadcast and television receivers the centre-pole type of magnet continues to hold its own for flux densities up to 10,000 gauss. With the active material concentrated in a compact lump and surrounded by a return path of "soft" steel, this design is not only economical, but has a very small external field and does not cause deflection in adjacent C.R. tubes. For high-powered P.A. and quality loudspeakers requiring fluxes above 10,000 gauss, ring-type magnets using anisotropic materials are favoured. More manufacturers are introducing shallow designs with the moving coil reversed and the magnet contained inside the angle of the cone diaphragm.

In the R. & A. "700" series the leads from the voice coil consist of beryllium-copper strips sandwiched between corrugated fabric centring diaphragms.

A new 12-inch speaker by Acoustic Products makes use of two independent diaphragms with separate voice coils.

Notable examples of heavy-duty loudspeaker were shown by Goodmans and Truvox. Goodmans were also showing a matched pair of loudspeakers consisting of a 12in unit for bass and 8in for treble.



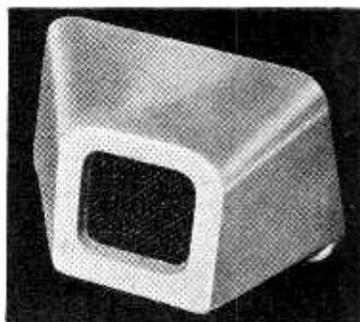
B.C.C. "Disc" loudspeaker.

The Truvox 12in heavy-duty loudspeaker is available with either copper or aluminium speech coil, the former giving balanced reproduction up to 8,000c/s and the latter up to 11,000c/s.

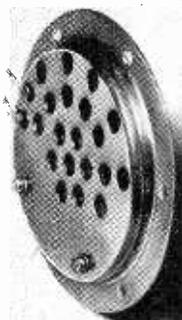
At the other end of the scale several interesting miniature loudspeakers were noted. The B.C.C. 2½in "Disc" speaker Model M21 weighs 2oz and is only ¾in thick. Even shallower is the Cosmocord

(Acos) RE5, which is driven by a bi-morph crystal and is suitable for incorporation in miniature "personal" portables. A neatly designed midget cabinet speaker (Model CT117) was seen on the Celestion stand. The dimensions are 6¼in x 4¼in x 2¾in, and the Bakelite case is available in a variety of colours.

To meet the demand of Continental radio-gramophone manufacturers for a 12in loudspeaker at a low price, Celestion have also introduced the Model 44 which is suc-



Celestion Midget loudspeaker.



Cosmocord Model R.E.5. piezo-electric loudspeaker.



Ferranti ribbon pickup.



Garrard Model S.A.1 record player with radial tracking mechanism.

cessfully meeting foreign competition. The Model 44 has a 1½in voice coil and will handle 10 watts.

Makers: Acoustic Products, Brit. Communications Corp., Brit. Rola, Celestion, Electro Acoustic Industries, Goodmans, Plessey, Reproducers & Amplifiers, Resound, Tanioy, Teledictor, Truvox, Vita-vox.

Gramophone Equipment. — The trend of design of pickups continues to move in the direction of even lighter moving parts and the use of permanent sapphire styli. Pickup manufacturers are keeping ahead of the requirements of wide frequency range recordings by designing ribbon movements capable of reproducing up to 18 or 20 kc/s.

A notable newcomer in this field is the Ferranti ribbon pickup which requires a vertical weight of only 5 gm (0.18 oz). The moment of inertia referred to the stylus tip is equivalent to a mass of 2.5 milligrams, and it is claimed that the pickup will track under accelerations of 1,000g. The stylus tip is elliptical and it is calculated that it will trace with low distortion wavelengths as short as 0.002in, corresponding to a frequency of 17kc/s at 78 r.p.m. and 5in diameter. An output of 3mV per cm/sec is obtained in 0.1MΩ. Naturally a pickup of this nature requires careful handling and an ingenious push-button mechanism has been devel-