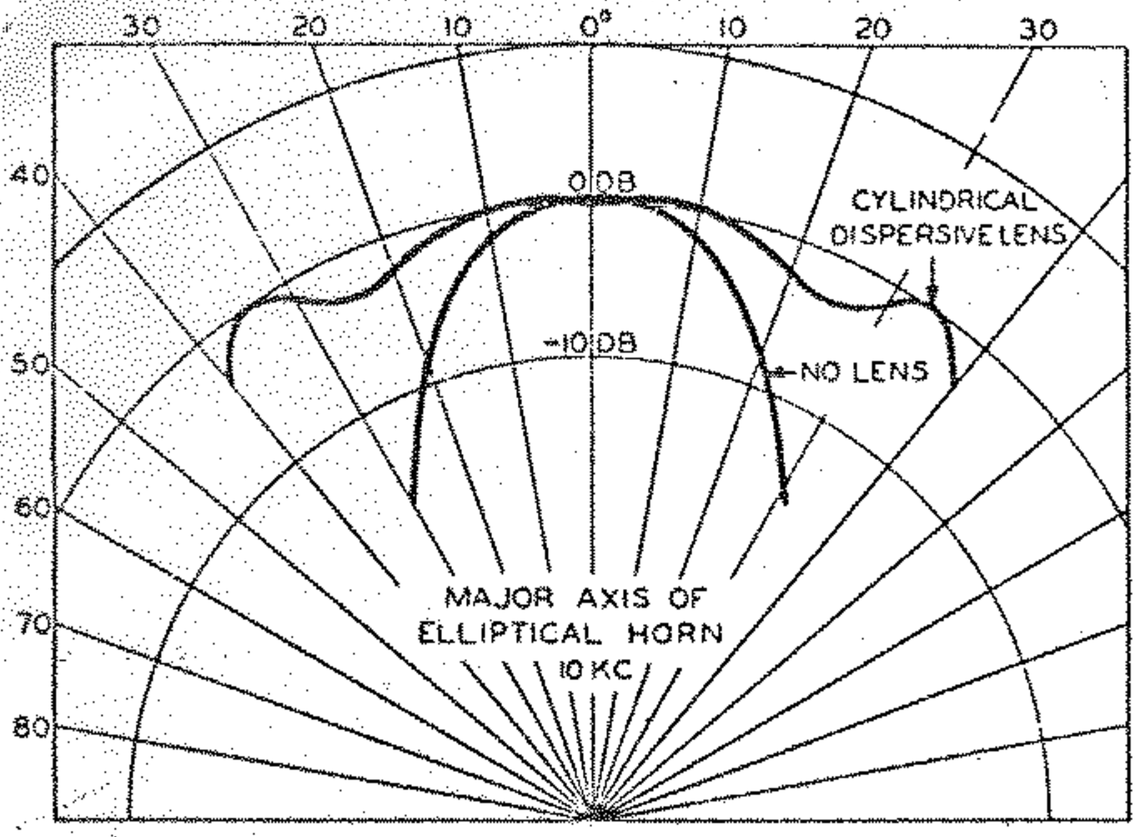

Fig. 4. Effect of acoustic lens on horizontal distribution.

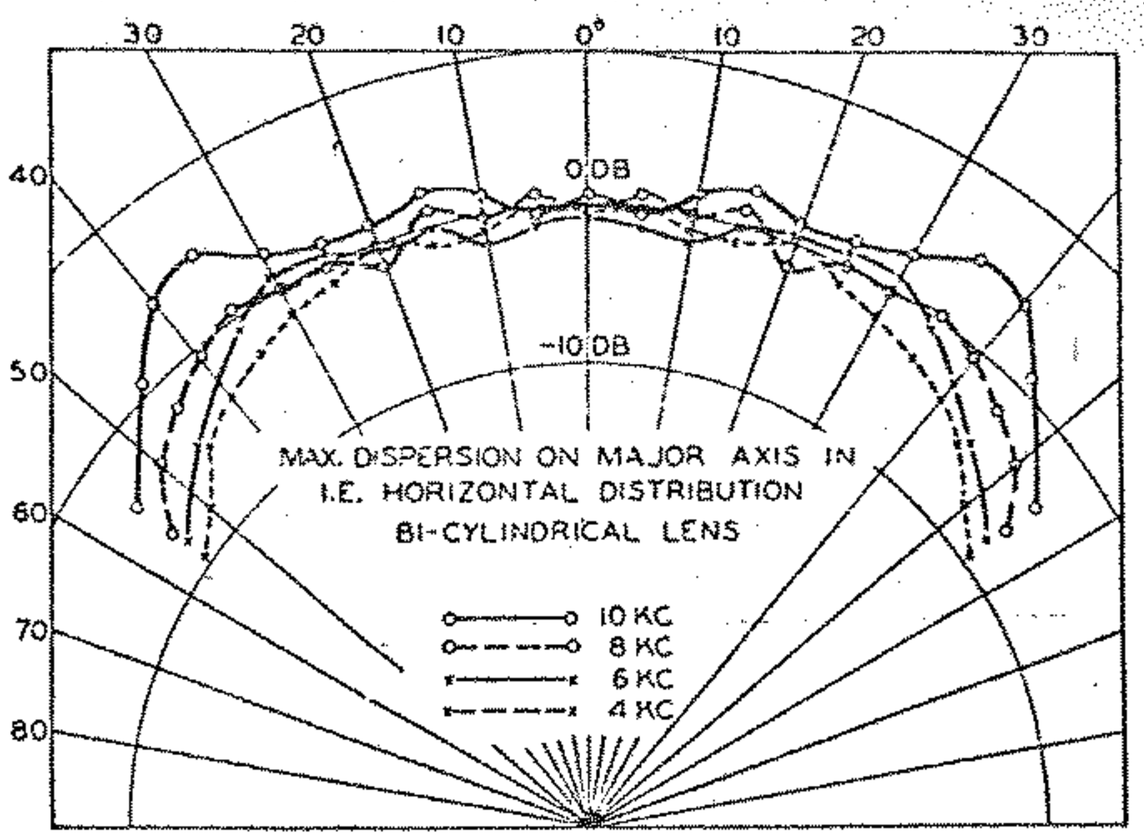

Fig. 5. Horizontal distribution of slant-plate acoustic lens assembly — open-air measuring conditions.

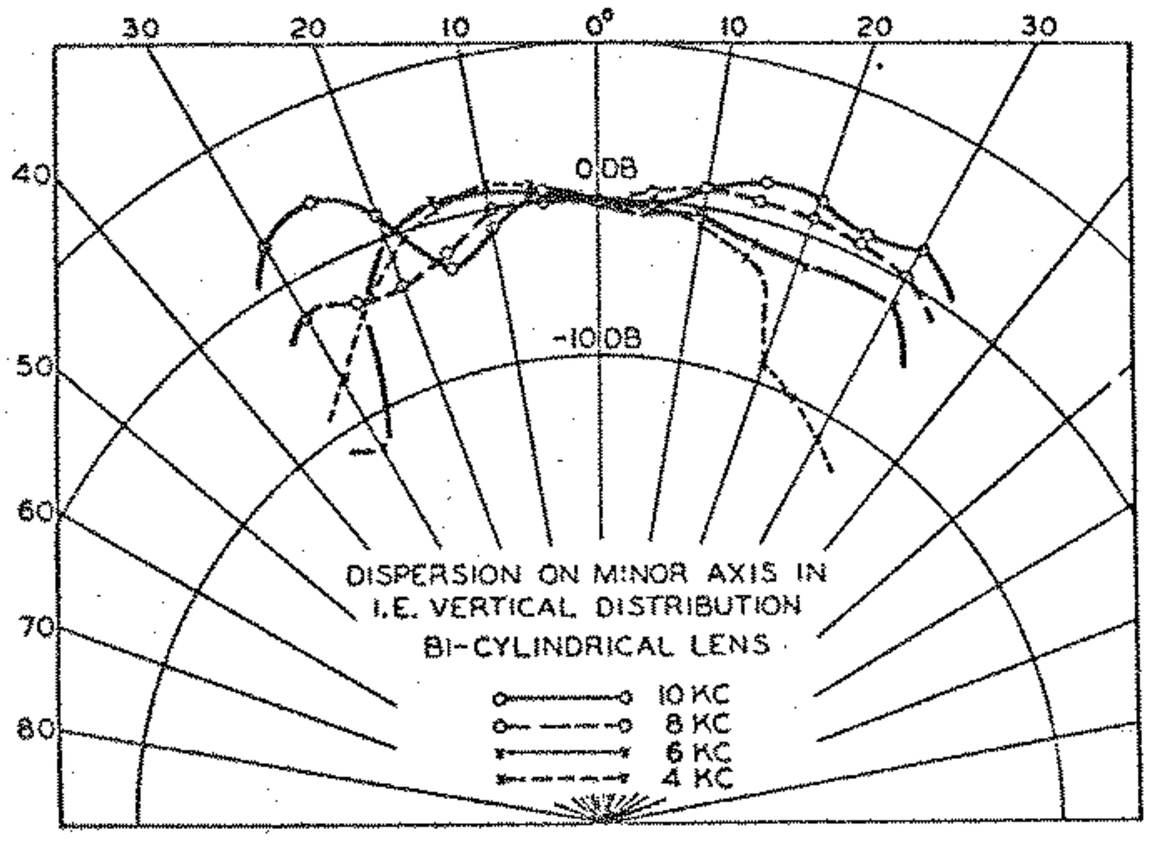

Fig. 6. Vertical distribution of slant-plate acoustic lens assembly — open-air measuring conditions.

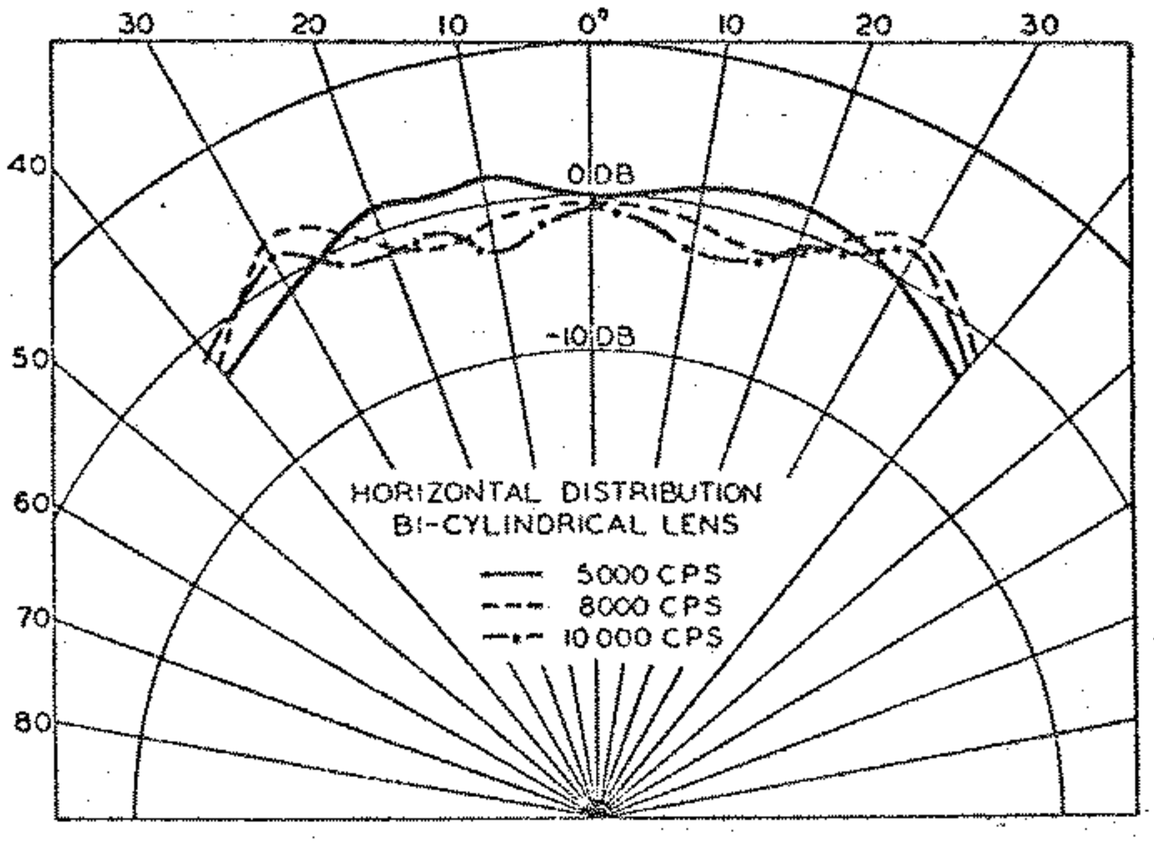

Fig. 7. Horizontal distribution of slant-plate acoustic lens assembly — measured on sound stage.

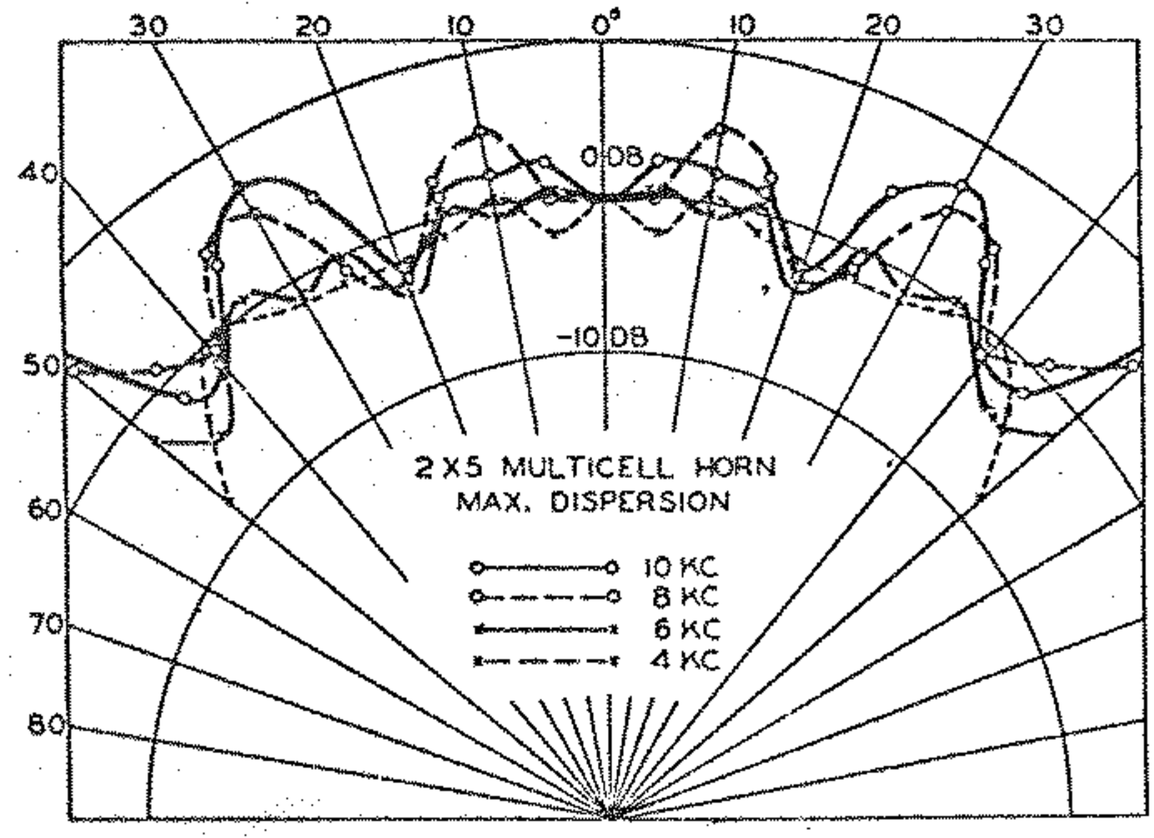

Fig. 8. Horizontal response of typical 2 × 5 multicell theater horn — open-air measuring conditions.

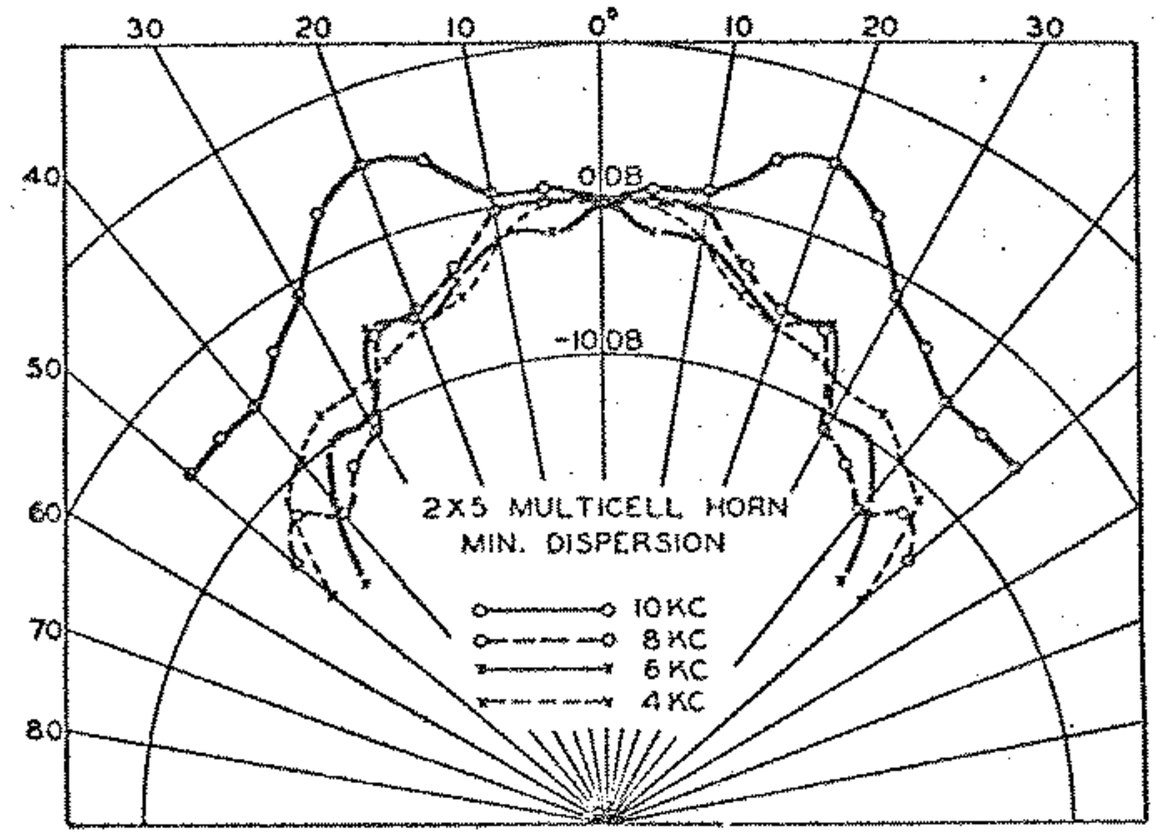

Fig. 9. Vertical response of typical 2 × 5 multicell theater horn — open-air measuring conditions.

A view of a 100-w loudspeaker system consisting of a low-frequency horn equipped with four driver units and two 80° acoustic lens assemblies is shown in Fig. 12. The response characteristic of a 50-w loudspeaker system, using two low-frequency driver units and one 80° acoustic lens system, is shown in Fig. 13. This curve represents a smoothed average of warble-tone measurements taken on the horn axis on a studio sound stage. Corrections have been applied for the characteristic of the measuring microphone and the scale is substantially similar to that used on the charts of the usual types of sound-measuring equipment.

Listening tests using program material have been very gratifying. No low-frequency resonances were observed and the high-frequency tones were exceptionally clean. The horizontal distribution was observed to be in conformance with the curves previously shown. When compared with a conventional theater loudspeaker system under A-B test conditions, the new system brought the