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The frequency modulation distortion resulting from 0.21 inch diaphragm excursion at 50 cycles per second can be highly irritating. See my short article "Subjective Effects of Frequency Modulation Distortion", JAES Vol. 6, No. 2, P 143 April 1958, (Shall we have this reprinted for you?)

In 1931 E.W. Kellogg proposed 1/16 inch diaphragm excursion as a limit for good quality. This seems prophetic in view of the fact that frequency modulation distortion did not become a subject in Audio literature until 1943.

To produce 115 decibels peak intensity in a 3000 cubic foot room of 0.8 second reverberation time required one acoustic watt of speaker power output; Frank Massa indicates this as the peak sound pressure needed for realistic music reproduction. To produce this power down to the extreme bass limit with only 1/16 inch excursion would require a direct radiation diaphragm of 66 inches diameter.

Our big horn will produce one acoustic watt at 33.7 cycles per second with 1/16 inch cone motion. We aver this represents transient response, peak power response and lower distortion of all types which are superior to what can be achieved with any other speaker at any price.

Our CORNWALL, deriving some power output below 50 cps from the back of the cone, can produce 1/5 watt output at 45 cycles per second. By contrast, contemporary small speakers would be limited to 0.0005 -- half a thousandth -- of a watt output if the cone motion is limited at which low levels of modulation would occur.

You have known for years that our speakers are the best. The above may be useful as a partial explanation.

Last month we offered a MODEL H for the best name. So far we have had only 4 (a few) replies -- can it be our "DOPE FROM HOPE" goes unread? We extend the offer to 1 July, 1961; Please give us your ideas -- if you have a second or third idea send them along, too. Read the rules in Vol.2, No.6.

Paul W. Klipsch, Editor

THE DOPE FROM HOPE