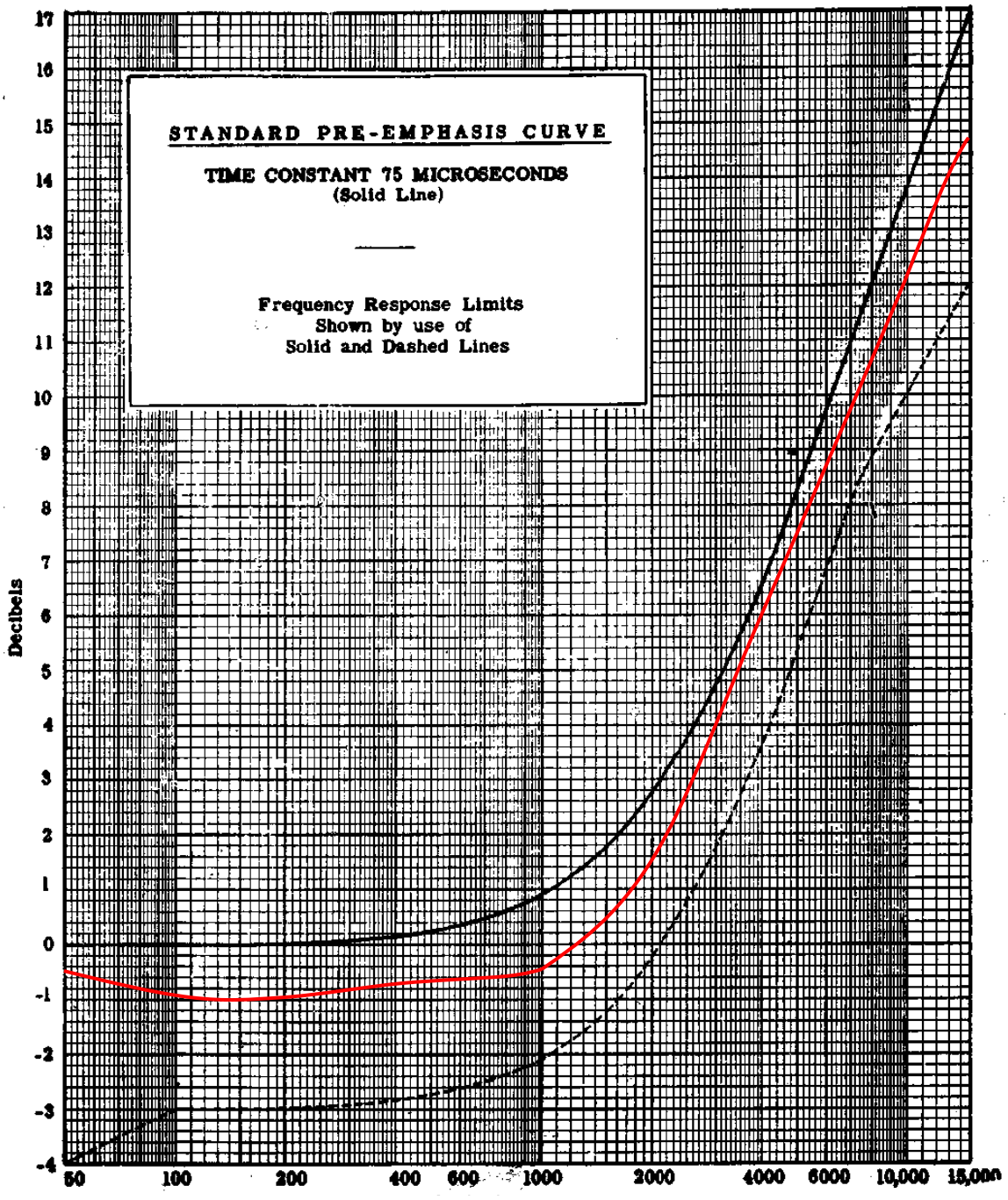
# AURAL FREQUENCY RESPONSE

The equipment configuration of Figure 1 was used. The visual and aural carriers were energized and the aural carrier was modulated by the HP 339A Distortion Measurement Set. With a modulating frequency of 200 Hz and the deviation measured to be 25 kHz, a zero dB reference level was set on the HP 339A. At each modulating frequency the input amplitude was adjusted to maintain the audio level corresponding to 25 kHz deviation. An oscilloscope was connected to the monitor port of the HP 339A to verify that noise or distortion were not materially affecting the demodulated audio levels coming from the Deviation (25mV/kHz into 75 Ohms) output of the MSI 320 Precision Video Demodulator. The following table of audio response was obtained by dividing the output level by the input level at each modulating frequency. The levels are recorded relative to the 200Hz level. A graph of this response is shown below after 1.0 dB was subtracted from each level reading to fit the data between the upper and lower limit lines.

FREQUENCY RESPONSE DATA TABLE

| Frequency (Hz) | Level (dB) | Fitted Data (Level –1 dB) |
|---|---|---|
| 50 | 0.5 | -0.5 |
| 100 | 0.0 | -1.0 |
| 200 (Reference) | 0.0 | -1.0 |
| 400 | 0.3 | -0.7 |
| 800 | 0.4 | -0.6 |
| 1k | 0.5 | -0.5 |
| 2k | 2.5 | 1.5 |
| 4k | 7.0 | 6.0 |
| 8k | 11.6 | 10.6 |
| 10k | 13.0 | 12.0 |
| 15k | 15.6 | 14.6 |

See Graph of fitted data on following page

AURAL FREQUENCY RESPONSE GRAPH WITH LIMITS