

## Operating Instructions—AA 501A

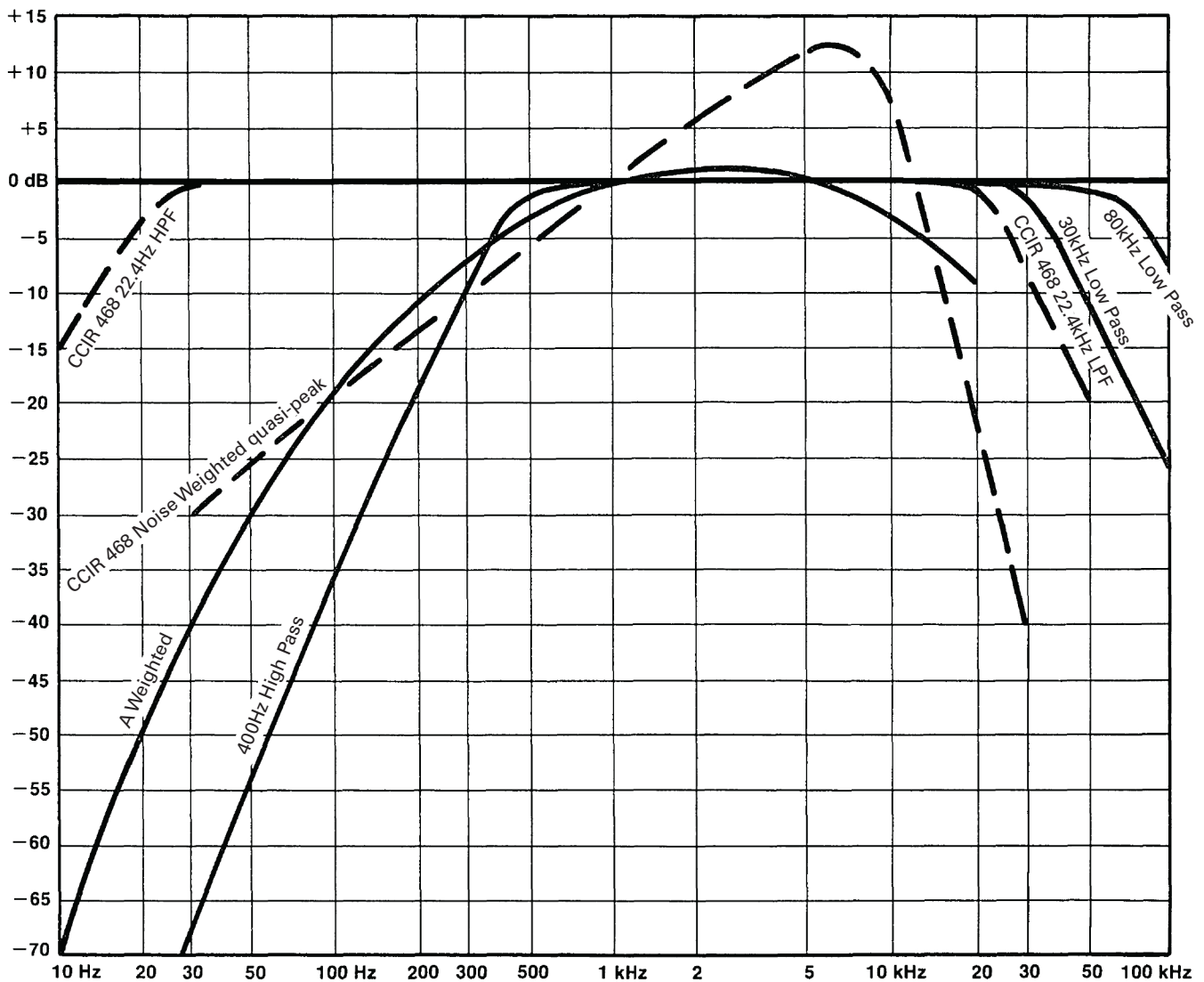


Fig. 2-9. Response curves for AA 501A filters.

The 400 Hz HI PASS filter is used to reduce the effects of hum on the measurement. Although the differential input and common mode rejection of the AA 501A reduce the effects of ground loops, extremely bad measurement conditions may require use of this filter. The device under test may also generate an undesirable amount of hum, limiting the noise and distortion residuals obtainable. This filter may be used when measuring harmonic distortion of signals at about 400 Hz or greater, but should not be used when measuring levels at frequencies less than 1 kHz, nor when measuring intermodulation distortion.

The 30 kHz LO PASS filter provides bandwidth limiting for broadcast proof of performance testing. It is also useful for unweighted noise measurements on audio equipment, providing an equivalent noise bandwidth of 31.5 kHz. When

the 30 kHz filter is used, the 80 kHz filter is disabled. It may be desirable to modify the 30 kHz filter so that it conforms to the 22.4 kHz IEC standard for audio noise measurements. This may be performed by qualified service personnel as described in the Service section of this manual.

Use of the 80 kHz LO PASS filter reduces the effects of wideband noise and permits measurement of lower THD+N for input signals up to 20 kHz. For 20 kHz inputs, it allows measurement of harmonics up to the fourth order. Do not use this filter if harmonic components above 80 kHz are of interest. When checking noise, the 80 kHz filter may be used to reduce the measurement bandwidth. However, for most noise measurements, the AUDIO BANDPASS or WEIGHTING filters are recommended as they correlate better with the perceived noise level.