

SECTION 1

GENERAL DESCRIPTION

1.1 INTRODUCTION

The Model 3500 Filter, shown in Figure 1, is a variable, electronic band-pass filter that operates at frequencies from 20Hz to 200kHz. The filter consists basically of an input amplifier, a variable high-pass section, a variable low-pass section, and an output amplifier. The high-pass and low-pass sections are connected in series. The overall gain of the Filter is unity(0db). The cutoff frequencies of both the high-pass and low-pass sections can be adjusted independently over the full frequency range of 20Hz to 200kHz.

An optional rack-mounting kit, (Part No. RK-38) is available from Krohn-Hite, for installing the unit in a standard 19" rack spacing.

1.2 GENERAL SPECIFICATIONS

Frequency Range

Continuous coverage from 20Hz to 200kHz for both high cut-off and low cut-off frequencies independently. Frequency range is covered by separate calibrated dials and four-decade band switches. Center frequency and width of pass band in band-pass mode are continuously adjustable over the entire frequency range.

BAND	MULTIPLIER	FREQUENCY (Hz)
1	1	20 - 200
2	10	200 - 2,000
3	100	2,000 - 20,000
4	1K	20,000 - 200,000

Frequency Dials

Each dial is engraved and individually hand-calibrated with a single logarithmic scale reading directly in cycles per second, from 19 to 210. Dials are 2 inches in diameter with an effective scale length of 6 inches per band, giving a total effective scale length of 24 inches for the range of 20Hz to 200kHz.

Accuracy of Cut-off Frequency Calibration

±10% with "Response" switch in "max-flat" (Butterworth) position; less accurate in "Low Q" position. Relative to mid-band level, the filter output is down 3db at cut-off in "max-flat" position, and approximately 12db in "Low Q" position.