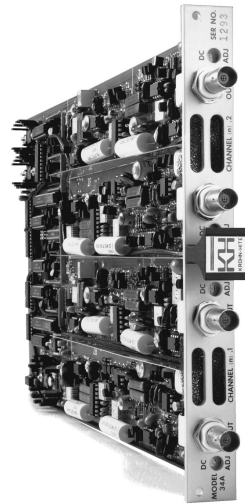


Model 34A

Dual Channel Butterworth/Bessel Plug-In Filter Card

- **Cutoff Frequency Range:** 3Hz to 2MHz
- **Attenuation:** 24dB/Octave
- **Functions:** LP/HP/BP/BR
- **Selectable Filter Types:** Butterworth and Bessel
- **Selectable Input Gain:** 0dB or 20dB
- **Selectable Output Gain:** 0dB or 20dB
- **Stopband Attenuation:** >95dB



DESCRIPTION

The Model 34A dual channel, Butterworth/Bessel, plug-in filter card is one of a family of filter cards used in Krohn-Hite Programmable Filter System Mainframe Chassis. It was carefully designed with the user in mind, providing ease of operation, reliability and price competitiveness.

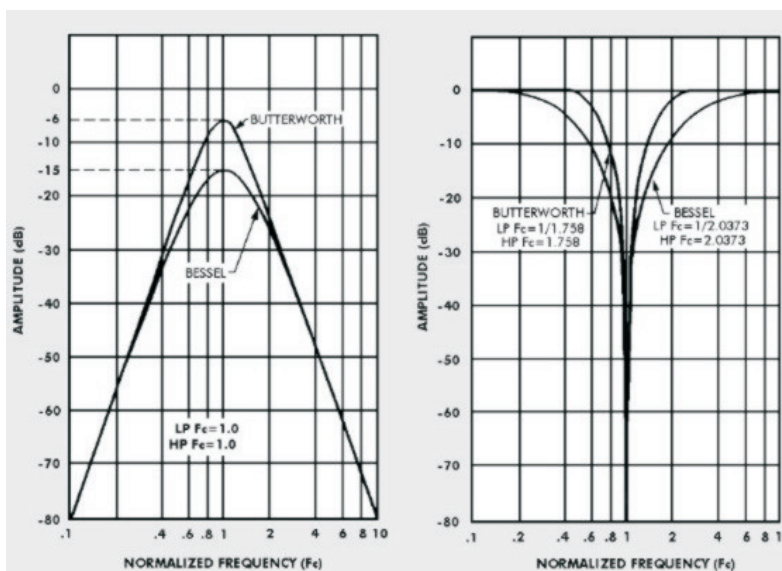
FEATURES

The 34A provides a tunable cutoff frequency range from 3Hz to 2MHz, with a frequency response characteristic of maximally flat (Butterworth) for clean filtering in the frequency domain, or linear phase (Bessel) to provide superior pulse or complex signal filtering. The passband gain is unity (standard on all Krohn-Hite filters), and the attenuation slope is 24dB/octave per channel.

The filter can be programmed to operate in the low-pass, high-pass, band-pass, band-reject or by-pass modes; or the two channels can be externally interconnected to achieve 48dB/octave high-pass or low-pass slopes. The 34A also offers input and output gains of 0dB or 20dB.

MAINFRAME CHASSIS

The 34A is a plug-in filter card for two mainframe chassis; Models 3905B/3905C and 3916B. The 3905B/C is a 3.5" high chassis, allowing up to 5 filter/amplifier cards. The 3916B allows up to 16 cards. With the Model 34A, this allows the user to configure either a 10 channel or 32 channel filter system.



SPECIFICATIONS

Specifications apply at 25°C, ±5°C.

FILTER CHARACTERISTICS

Functions: Two independent channels of low-pass, high-pass or bypass. One channel of band-pass or band-reject.

Type:

4-pole Butterworth (maximally flat)

4-pole Bessel (linear phase).

Frequency Range (fc): 3Hz to 2MHz.

Frequency Resolution: 1Hz from 3Hz to 1kHz; 10Hz to 2kHz; 100Hz to 100kHz; 1kHz to 1MHz; 10kHz to 2MHz.

Frequency Accuracy (fc): ±2% or least significant digit (which ever is greater) 20Hz to 500kHz; ±5% to 2MHz.

Relative Gain at fc:

Butterworth: -3dB.

Bessel: -7.58dB.

Bandwidth: dc to fc, dc coupled; 0.2Hz to fc, ac coupled (low-pass); fc to 10MHz (high-pass).

Attenuation: 24dB/octave per channel.

Stopband Attenuation: >80dB.

Insertion Loss (0dB Input/ Output gain): ±0.5dB to 2MHz.

INPUT CHARACTERISTICS

Gain (pre-filter): 0dB or 20dB ±0.2dB.

Coupling: ac or dc.

Impedance: 1M ohm in parallel with 100pf.

Maximum Signal (at 0dB gain): ±4.5V peak at fc <1MHz; ±4V peak at 2MHz.

Maximum DC Component: ±200V in ac coupled mode.

OUTPUT CHARACTERISTICS

Impedance: 50 ohms.

Gain (post-filter): 0dB or 20dB ±0.2dB.

Maximum Voltage: ±6.5V peak into ≤500 ohms; ±1.3V peak into ≤50 ohms.

Maximum Current: ±25mA.

Distortion: -80dB at 1kHz at 1Vrms.

Noise: <200µV with 2MHz bandwidth detector.

DC Offset: adjustable to 0V.

DC Stability: Typically ±0.5mV/°C; ±1mV/°C max.

GENERAL

Input/Output Connectors: BNC.

Weights: 1.75 lbs (0.8kg).

Accessories: Operating manual.

OPTIONS

002: Lowers cutoff range to 0.3Hz to 200kHz.

Extended 1 Year Warranty: Part No. EW34A.

Specifications subject to change without notice.

NOTE: Model 34A Series plug-in filter/amplifier cards must be used with 3905B/3905C or 3916B/3916C chassis.