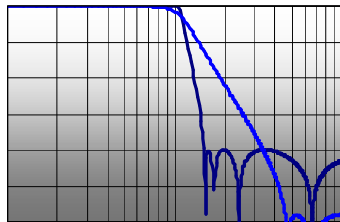
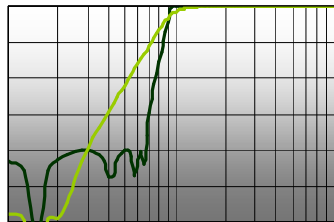


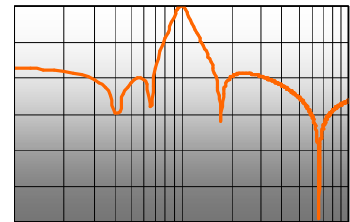
- Very versatile, easy to use
- 4 Channels from one system
- 'Stereo' and 'track' modes
- 1 Hz – 255 kHz filter range
- Low frequency version  
0.01 Hz – 10 kHz
- +70dB gain
- 5 filter responses, 135 dB/Octave
- Non volatile memory
- BNC and 'D Type' connectors
- Signal overload indication
- Built in RS 232, or GPIB interface
- Lowpass (x2)



Highpass (x2)



Bandpass



The Kemo VBF 44 is a top of the range filter system, with 5 built in-filter responses, 2 low pass, 2 highpass, and one bandpass. The VBF44 is a compact benchtop instrument, manufactured to high standards including stainless steel chassis and enhanced cooling. Control is an easy to use 'menu' style control with LED panel, selection buttons and index wheel. The simple panel interface has a number of features to make control and programming of each channel easy. The VBF 44 can store and edit 3 sets of filter settings. External control is available via the optional RS232 or GPIB interface.

The VBF 44 has a wide range of gain control. +40 dB (x 100) is available before the filter, in 20 dB (x10) steps. There is also a 10 dB (x 0.31) input attenuator. After the filter there is - 10 dB to + 30 dB of gain in 2 dB steps. This combination allows optimisation of signal levels both before and after the filter, as well as optimising output signal levels for signal analysis systems. Filters can be set in groups to 'track' a channel, a useful feature for setting bandpass and bandstop filters. The VBF 44 can connect 2 pairs of filters in series, parallel add or parallel subtract, this give enormous flexibility for extracting, rejecting, or band limiting signals.

The combination of frequency range, pre and post-filter gain, 5 filter responses, channel tracking/grouping, and compact size make the VBF 44 a very versatile, flexible, top of the range filter amplifier.

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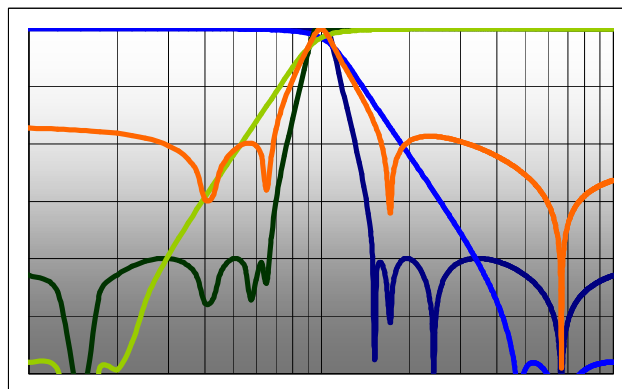
# VBF44 Performance Specification

|                           |  |                                      |
|---------------------------|--|--------------------------------------|
| Electronic Channels       | Typical specifications after 30 minutes warm up at 20°C ambient temperature.   |                                      |
| Tuning Modes              | 4 (common earth)   |                                      |
| Connection modes          | Individual, all track, group track, stereo (all settings track).   |                                      |
| Filter modes              | Separate. Series, parallel add, parallel subtract.   |                                      |
| Frequency range           | Lowpass 1, Lowpass 2, Bandpass, Highpass 1, Highpass 2.  |                                      |
| Filter cut-off resolution | 1 Hz – 255 kHz   |                                      |
|                           | 255:1 in 4 decade ranges   | (low frequency version)              |
|                           | 1 Hz – 255 Hz    10 Hz – 2 550 Hz  | 0.001 Hz – 2.5 Hz    0.4 Hz – 100 Hz |
|                           | 100 Hz – 25 500 Hz    1 kHz – 255 kHz  | 4 Hz – 1 kHz    40 Hz – 10 kHz       |
| Bandwidth                 | > 1 MHz, 1 volt signal, 0dB gain, filter highpass and bypass modes   |                                      |
| Cut-off accuracy          | 2 % of $F_c$   |                                      |
| Input impedance           | 1M $\Omega$ , 150pF  |                                      |
| Input gain                | 0 dB to +40 dB (x100) in 20 dB steps, switchable –10 dB input attenuator   |                                      |
| Input voltage, linear     | +/- 10 V   |                                      |
| Input voltage maximum     | +/- 40 V   |                                      |
| Input modes               | DC, AC, Differential   |                                      |
| Input AC coupling         | -3 dB @ 1.6 Hz   |                                      |
| Input connectors          | BNC  |                                      |
| Output type               | Single ended   |                                      |
| Output gain               | -10 dB to + 30 dB in 2 dB steps  |                                      |
| Output impedance          | 50 $\Omega$  |                                      |
| Output voltage            | +/- 10 V (load > 2k $\Omega$ )   |                                      |
| Output noise              | < 100 nV/ $\sqrt{\text{Hz}}$ (lowpass)   |                                      |
| Output linearity          | <0.03%   |                                      |
| Output connectors         | BNC  |                                      |
| Offset voltage            | <2.5 mV (RTI)  |                                      |
| Offset drift              | 200 $\mu\text{V}/^\circ\text{C}$   |                                      |
| Cross talk                | > -70dB  |                                      |
| Amplitude matching        | +/- 0.1 dB to 0.8 of $F_c$ (< 100 kHz, lowpass)  |                                      |
| Phase matching            | +/- 1° to 0.8 of $F_c$ (< 100 kHz, lowpass)  |                                      |
|                           | The VBF 44 is a complex filter, typical matching values given.<br>For more detailed response and matching data contact Kemo. |                                      |
| Interfaces                | RS 232 or GPIB (Opto isolated from signal circuits)  |                                      |
| Power                     | 105-125, 210-250 Vac 50/60 Hz 40 VA  |                                      |
| Connector                 | IEC 6 Amp  |                                      |
| Mechanical                |  |                                      |
| Size and weight           | 210 x 460 x 74 mm, 6 Kg  | 8.3" x 18" x 2.9", 14 lb             |

## Filter Responses

- Lowpass L1** Flat to  $F_c$  –80 dB at 1.5  $F_c$   
Stopband –80 dB
- Lowpass L2** Flat to 0.6  $F_c$  –96 dB at 4  $F_c$   
Stopband –96 dB
- Highpass H1** Inverse of L1
- Highpass H2** Inverse of L2
- Bandpass B1** 0 dB at  $F_c$  –35 dB at 0.67 $F_c$  and 1.5  $F_c$ ,  
Stopbands –35 dB

The combination of flexible control, range of 5 filter responses, wide gain, channel grouping/tracking, plus the connection modes make the VBF 44 an excellent, versatile top quality filter/amplifier unit.



Due to continued product development Kemo Limited reserve the right to change specification without notice.

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