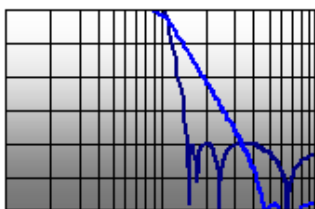


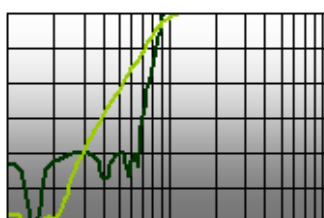
- Very versatile, easy to use
- 4 Channels from one system
- 1 Hz – 255 kHz filter range
- x 1000 (+60dB) gain
- 5 filter responses, 135 dB/Octave
- Non-volatile memory
- BNC connectors
- Signal level indication
- Built in Ethernet text interface



Lowpass (x2)



Highpass (x2)



Bandpass



The VBF44 is a top of the range filter system, with 5 built in-filter responses, 2 low pass, 2 highpass, and one bandpass.

As a compact benchtop instrument, the VBF44 is manufactured to high standards including stainless steel panels and passive cooling. Control is via an easy to use 'menu' style control with LCD panel, and selection buttons. The menu style control has a number of features to make operation and programming of each channel easy.

The VBF 44 has a wide range of gain control, x100 (+40 dB) is available before the filter, in 1,2,5... steps, after the filter there is additional gain in 1,2,5,10 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. There is a 4-level signal indicator and a signal overload indicator to aid in gain setting.

Inputs are single end or differential, with AC and DC coupling in addition to IEPE transducer source. The VBF 44 can connect 2 pairs of filters in series and parallel, this gives enormous flexibility for extracting, rejecting, or band limiting signals. Filters can be set in groups, a useful feature for setting bandpass and bandstop filters.

The VBF 44 has a built in Ethernet style interface, which accepts operating system independent text commands sent over Ethernet type hardware.

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.

## VBF44 Performance Specification

**Electronic:** (Typical specifications after 30 minutes warm up at 20°C ambient temperature.)

Channels	4 (common earth)
Tuning Modes	Individual, or group set.
Connection modes	Separate. Series, parallel. (set between channel pairs)
Filter modes	Lowpass 1, Lowpass 2, Bandpass, Highpass 1, Highpass 2.
Frequency range	1 Hz – 255 kHz
Filter cut-off resolution	255:1 in 4-decade ranges 1 Hz – 255 Hz      10 Hz – 2 550 Hz 100 Hz – 25 500 Hz   1 kHz – 255 kHz
Bandwidth	> 1 MHz, 1 volt signal, 0dB gain, filter highpass and bypass modes
Cut-off accuracy	2 % of $F_c$
Input impedance	100k $\Omega$ , 150pF
Input gain	x1 to x100 in 1,2,5,10,20,50,100 steps
Input voltage, linear	+/- 10 V
Input voltage maximum	+/- 40 V
Input modes	DC, AC, Differential, IEPE Sensor (24VDC, 4mA)
Input AC coupling	-3 dB @ 1.6 Hz
Input connectors	BNC
Output type	Single ended
Output gain	x1, x2, x5, x10
Output impedance	50 $\Omega$
Output voltage	+/- 10 V (load > 2k $\Omega$ )
Output noise	< 200 nV/ $\sqrt{\text{Hz}}$ RTI (lowpass depending on frequency, gain, and signal levels)
Output linearity	<0.03%
Output connectors	BNC
Offset voltage	<2.5 mV
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. For more detailed response and matching data contact Kemo.
Interface	Text over Ethernet, FICL II commands
Power	105-125, 210-250 Vac 50/60 Hz 40 VA
Connector	IEC 6 Amp

### Mechanical

Size and weight      150 x 165 x 385 mm, 6.2 Kg      5.9" x 6.5" x 15.1", 14 lb (hwxwl)

### Filter Responses

**Lowpass L1** Flat to  $F_c$  –80 dB at 1.5  $F_c$   
Stopband –80 dB

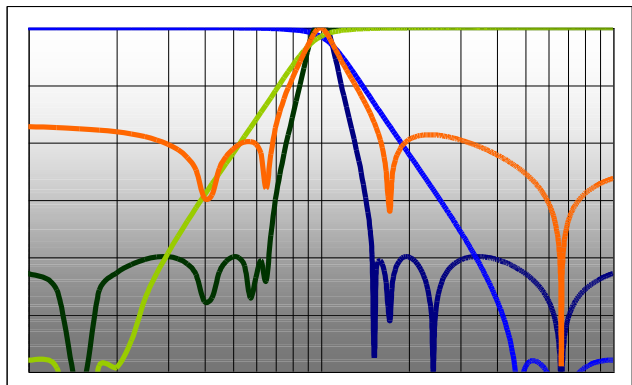
**Lowpass L2** Flat to 0.6  $F_c$  –96 dB at 4  $F_c$   
Stopband –96 dB

**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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