



SF-4™

HIGH-QUALITY ANALOG INFRASONIC FILTER

ONE SYSTEMS®

The One Systems SF-4 is a dedicated high-order analog high-pass filter system. The SF-4 consists of four user-adjustable 4th order Butterworth high pass filters. The SF-4 is a line level device and is designed to be used in any public address or sound reinforcement system immediately prior to the main system's amplifier. The SF-4's chassis is a standard EIA 1U "19-inch" rack mount design.

High-order high-pass filters are strongly recommended in ALL public address/sound reinforcement systems. The high-pass filter may be either DSP (Digital Signal Processor) based or an analog circuit design such as the SF-4. The basic function of the high-pass filter is to limit low frequency signals that are below either the loudspeaker's tuning frequency or below the high power saturation frequency of high impedance (transformer coupled) loudspeaker systems. Filtering these low frequency signals substantially improves loudspeaker reliability, increases power handling and reduces system distortion. In addition to improving loudspeaker performance, high pass filters also substantially improve amplifier headroom by reducing the power demand associated with reproducing subsonic input signals by the amplifier. The SF-4 is a single input design that features a very high quality balanced XLR-type input and two paralleled XLR-type outputs.

The SF-4's high pass filter frequencies are 35 Hz, 45 Hz, 60 Hz, and 80 Hz. Although these frequencies were selected for optimum performance for One Systems speakers, other products can also benefit from use of the SF-4.

The input to the SF-4 can be from any piece of electronics that provides a balanced output. An unbalanced signal may be used as long as the positive signal is fed to pin 2 of the SF-4's input. It is also recommended that the negative lead of the input connector be grounded for best performance. The output of the SF-4 features two paralleled electronically balanced XLR-type connectors. It is strongly recommended that the system's amplifier has balanced XLR-type inputs, particularly if there is any appreciable distance between the SF-4 and the power amplifier. The SF-4 uses a very high performance line driver output stage so the amplifier may be located some distance away from the SF-4. The output of the SF-4 is capable of +24 dBV levels.

NOTE: The SF-4's output has +6 dB gain. The output level is always 6 dB higher than the input level. (The output voltage is always double the input voltage.)



FEATURES & BENEFITS

- » User-selectable infrasonic filter with high-quality analog circuitry
- » 4th-order, 24-dB-per-octave Butterworth filters
- » True active-balanced input and output circuitry
- » Rear-mounted controls minimizes control tampering
- » Switchable 115 / 230-volt power supply permits use nearly anywhere
- » + 6 dB output voltage ensures the capability of driving long cable runs
- » Proper infrasonic filtering maximizes speaker system performance, increases headroom and improves reliability

SPECIFICATIONS

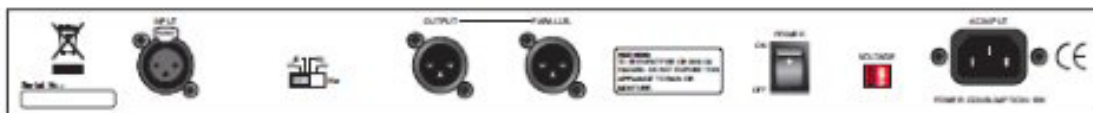
Frequency Response:	Selected HP cutoff — 20,000 Hz
Input:	Active balanced (pin 2 +)
Max Input Level:	18 dBV (8 V rms)
Output:	Active balanced (pin 2 +)
Max Output Level:	24 dBV (16 V rms)
Input Connector:	3-pin XLR-type
Output Connectors:	3-pin XLR-type
Selectable HP Filter Freq's:	35 Hz, 45 Hz, 60 Hz & 80 Hz
Filter Type:	4th Order Butterworth (24 dB-per-octave)
AC Mains Req's:	115 V ac / 230 V ac (User-selectable)
Dimensions (H x W x D) mm:	483 x 145 x 44 mm
Dimensions (H x W x D) in:	19 x 5.67 x 1.73 in
Net Weight:	1.8kg/4.0lb
Chassis Color:	Black



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RECOMMENDED SF-4 SETTINGS FOR ONE SYSTEMS MODELS:

MODEL	CORNER FREQUENCY	MODEL	CORNER FREQUENCY
103IM	80Hz	212CIM-100 (autoformer versions)	
103IM-70 (all taps)	80Hz	600 Watt tap	60Hz or 80Hz
103IM-100 (all taps)	80Hz	300 Watt tap	45Hz or 60Hz
106IM	60Hz	150 Watt tap	45Hz or 60Hz
106IM-70		212IM	45Hz or 60Hz
50 Watt tap	80Hz	212IM-70 (autoformer versions)	
25 Watt tap	60Hz	600 Watt tap	60Hz or 80Hz
12 Watt tap	60Hz	300 Watt tap	45Hz or 60Hz
106IM-100		150 Watt tap	45Hz or 60Hz
50 Watt tap	80Hz	312CIM	45Hz or 60Hz
25 Watt tap	60Hz	312CIM-70 (autoformer versions)	
12 Watt tap	60Hz	600 Watt tap	60Hz or 80Hz
108IM	60Hz	300 Watt tap	45Hz or 60Hz
108IM-70 (all taps)	60Hz	150 Watt tap	45Hz or 60Hz
108IM-100 (all taps)	60Hz	CrossField Array	80Hz
208CIM	60Hz or 80Hz	CFA-70 (all taps autoformer version)	80Hz
208CIM-70 (all taps)	60Hz or 80Hz	CFA-100 (all taps autoformer version)	80Hz
208CIM-100 (all taps)	60Hz or 80Hz	218Sub-W	35Hz or 45Hz
112IM	45Hz or 60 Hz	118Sub-W	35Hz or 45Hz
112IM-70		212Sub-W	45Hz
150 Watt tap	60Hz	112UM	60Hz or 80Hz
75 Watt tap	45Hz	115UM	60Hz
37 Watt tap	45Hz	115TW	45Hz or 60Hz
212CIM	45Hz or 60Hz	115RW	45Hz
212CIM-70 (autoformer versions)			
600 Watt tap	60Hz or 80Hz		
300 Watt tap	45Hz or 60 Hz		
150 Watt tap	45Hz or 60 Hz		

NOTE: Lower cutoff frequencies than those recommended above may be used for low impedance systems if input power levels are substantially below the system's continuous rated power handling. Maximum reliability, power handling and the lowest distortion will be realized with the recommended frequency settings or higher.

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