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## **Local Field Potential - Amplifier/Filter (LFP)**

### Product Features



- 8 amplifier channels
- Low-noise amplifier technique
- Differential input amplifier
- Individual gain settings from x50 up to x5000 (in different steps)
- Bandwidth 0.1Hz...140Hz (in different high pass filter steps)
- AC coupled input circuit
- Low noise technique
- Integrated power supply
- BNC Input and output

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GERMANY

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## Innovative Products for Neurophysiology

### Technical Data

Parameter	Data
Number of Channels	Up to 8
Gain /Channel	50/ 100/ 250/ 500/ 1000/ 2500/ 5000
Input Impedance	2.2M $\Omega$ //10pF
High Pass Filter cut-off frequency	0.1 /1 /10/20 Hz (others on request)
Low Pass Filter cut-off frequency	140 Hz (others on request)
Max. output voltage	$\pm$ 10V
Input circuit	AC coupled
Dimensions	485 x 150 x 250 mm
Weight	9kg
Power Supply	100V - 240V AC
Power Cons.	30VA



**Figure 1:** 8 channel LFP Filter/Amplifier front panel (top picture) and rear panel (bottom picture)

The TREC Local Field Potential Filter/Amplifier (LFP) is a multichannel, differential input main filter/amplifier for neurophysiological applications (e.g. extracellular recording with multiple microelectrodes). This LFP-Filter/Amplifier combines a **band pass filter with variable cut-off frequencies** and variable **signal amplification** on each channel in one instrument.

The LFP-Filter/Amplifier contains a high-gain, low-noise differential amplifier stage followed by low frequency and high-frequency filters. The amplifier has a differential Local Field Potential (LFP) bandpass filter–amplifier. The amplifier offers two levels of signal gain (x10, x100) in a first stage and 4 additional levels (x5, x10, x25 and x50) in a final amplifier stage.

The amplifier has a band pass characteristic for Local Field Potentials (LFP) 0,1Hz...140Hz. The high pass cut-off frequencies are independently selectable 0.1 , 1 , 10 and 20Hz for low pass filter the cut off frequency is fixed at 140Hz.

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