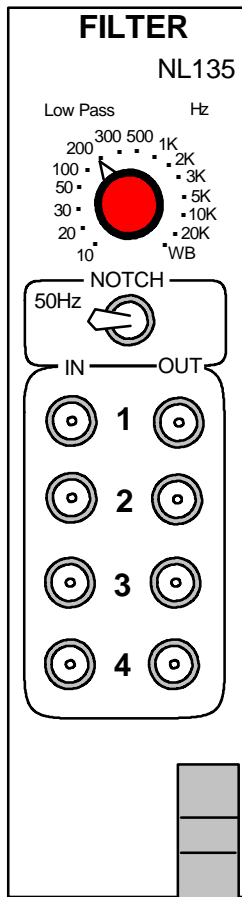


NL134/135/136 - Filters (4-channel)

**Introduction**

The NL134/5/6 FILTERS are 4-channel, second order (two-pole) low-pass with mains frequency Notch reject (NL135/6 only) filter modules. They are ideal partners for the NL820 Isolated Amplifier system with its 2/4-channel AC (NL822/824) or DC (NL832/834) pre-amplifiers and the NL530 4-channel Conditioner module.

The filter settings have been selected for most Electrophysiological and Clinical protocols but other frequencies can be factory set to order. The design is implemented using low noise active linear circuitry and does not suffer any of the aliasing problems that are encountered when cheaper methods are used. A rotary switch selects the 14 frequency settings giving repeatability over a wide range with 12dB/octave [40dB/decade] attenuation above the selected frequency value. The 'WB' (wide-band) switch position by-passes the filter sections completely (both LP and Notch).

The active Notch filter provides rejection of line frequency [50Hz (NL135) or 60Hz (NL136)] interference when switched in. (No switch is fitted on the NL134).

Specification Summary

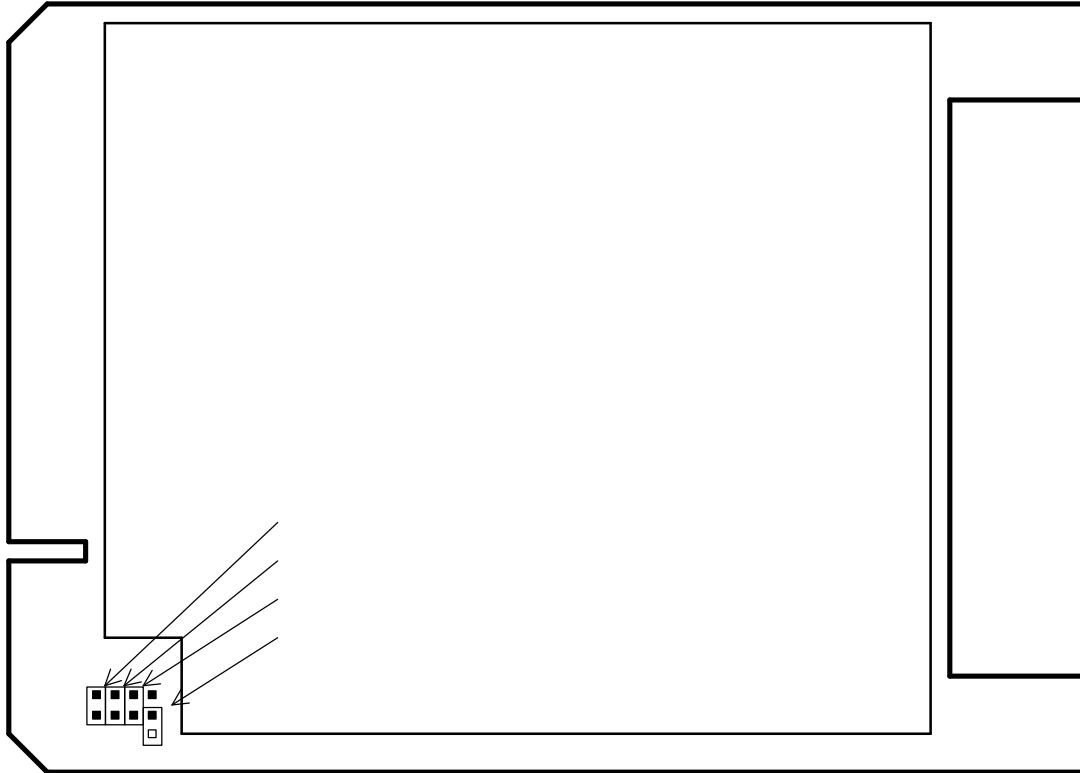
Input voltage range:	±15V max. >±10V operating
Input impedance	1MΩ
Filter settings (-6dB)	10, 20, 30, 50, 100, 200, 300, 500, 1k, 2k, 3k, 5k, 10k, 20k - Hz and WB
Cut-off accuracy	±2% + ±1.25Hz <630Hz ±2% + ±62.5Hz >630Hz
Gain before cut-off	+1.0
Attn. beyond cut-off	40dB/decade, 12dB/octave
Notch Attenuation	>50dB
Notch Width (-3dB)	20Hz
Crosstalk	better than -60dB
Noise	<100μV rms.
Output DC offset	<±10mV
Output voltage range	±10V
Output impedance	<600Ω

Rear connections to the motherboard allow Input and Output interconnections of all four channels between this and (newer) NL820 and NL530 modules without the need of front panel cables.

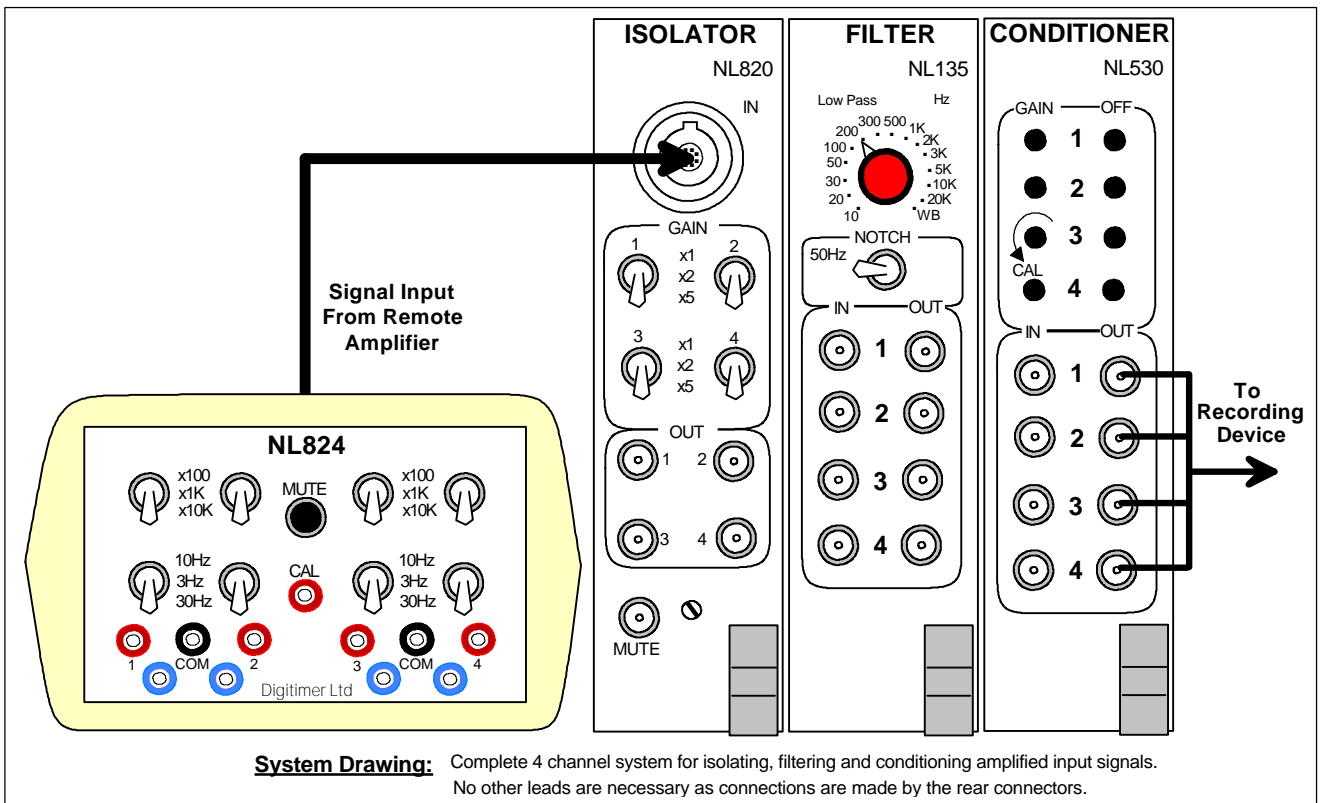
NB: This module must NOT be placed adjacent to a Counter module in the **NeuroLog™** rack.

Rear Connections and jumpers

The rear edge connector in the NL900 rack allows adjacent modules to be connected together without the need of front panel leads. This module has the output signals permanently connected to the rear connector for automatic routing to the module on the immediate right. The input signals can be disconnected from the outputs of the module on the immediate left if they are inappropriate. This is done by removing one of the jumpers, in the lower rear corner of the PCB, for each channel to be disconnected. The jumpers can be 'parked', so that they are not lost, by placing them on just one of the pins (as shown for channel 1).



We reserve the right to alter specifications and price without prior notification.



Last Revision: March 4, 1998

File Reference: N:\DOCS\COMPANY\MANUALS\NEUROLOG \NL134-6.SAM