NL530 - Conditioner (4-channel)

CONDITIONER

NL530

GAIN — OFF

● **1** ●

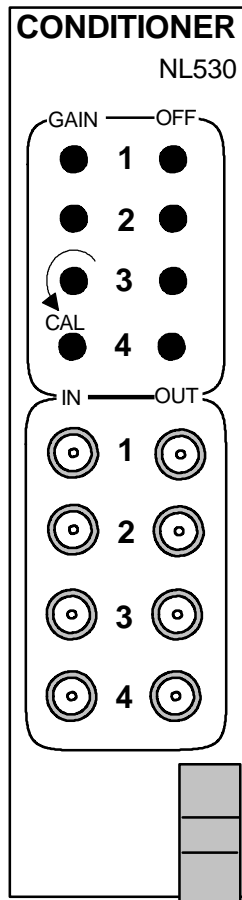● **2** ●

● **3** ●

CAL

● **4** ●

IN — OUT

⊙ **1** ⊙

⊙ **2** ⊙

⊙ **3** ⊙

⊙ **4** ⊙

Introduction

A single width module designed to give Gain and Offset set-up controls when interfacing signals to the Analog-to-Digital Converters (ADCs) of PCs.

The module contains four channels each with independently adjustable Filter settings and front panel Gain and Offsets presets. There is also a Master ADC offset control to allow Unipolar ADCs to be used with Bipolar signals.

As ADC boards have a precise input range (outside of which damage may occur) the module features on-board preset controls to set all channels to 'CLIP' (or limit) at independently set positive and negative (or zero) levels.

Specifications of each independent channel

Input:	Front panel Lemo socket
Abs. Max. Input:	±100V
Input Impedance:	20k ohms
* Gain:	Off; x0.1; x0.2; x0.5; x1; x2; x5; x10
Ø Variable Gain:	x1 (cal.) to x2.5 (nom.)
Ø Offset control:	±1V or ±5V
* Offset range:	±1V or ±5V
* Filters:	100Hz, 1kHz, 10kHz, none
Bandwidth:	DC - 100kHz
Crosstalk:	less than -56dB between channels
Output:	Front Panel Lemo socket
Output range:	±11V minimum
Output impedance:	<5 ohms (for up to 10mA load)

Output = (Input * Gain) + (ADC + Variable) Offsets
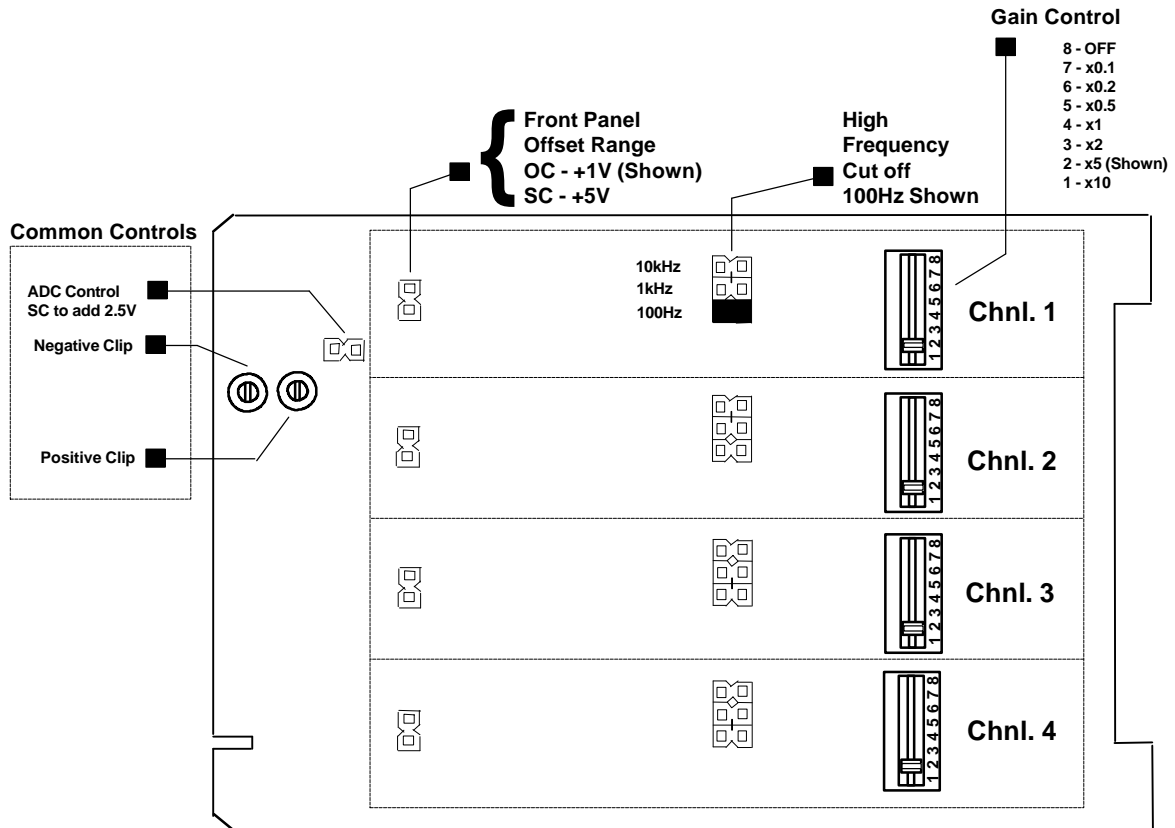
Specifications common to all channels

* Clip limits:	Positive: +4V to +11V min.
	Negative: -11V min to 0V
* ADC Offset:	Zero (0 volts) or +2.5V

Ø = screwdriver adjustable single turn front panel preset

* = on-board controls

Board Presets, Switches and Jumpers

The figure below, shows the Presets, Switches and Jumpers that alter the parameters of independent channels or all channels.

NOTE: The NL530 conditioner will automatically receive input from the module placed directly to the left of it through the rear connectors. There are no jumpers present on the NL530 to prevent this.
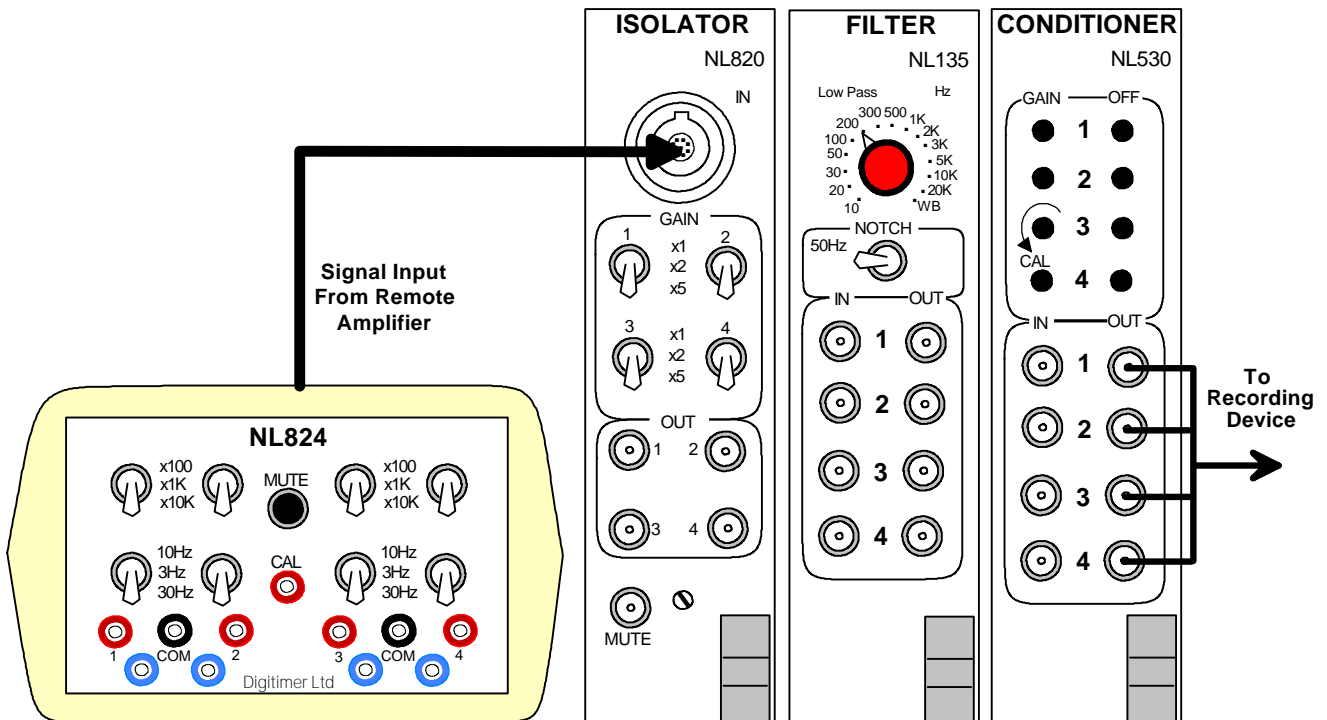
System Drawing: Complete 4 channel system for isolating, filtering and conditioning amplified input signals. No other leads are necessary as connections are made by the rear connectors.

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