The signal conditioning equipment is required to perform line processes such as amplification, attenuation, integration differentiation, addition or subtraction. They are also require non-linear processes such as modulation, demodulation, s filtering, clipping and clamping, squaring and linearising or multiplication by another function. These functions require selection of components and faithful reproduction of the final condition for the presentation stage.

The signal conditioning of data acquisition equipment is in many cases an excitation and amplification system for a transducer or an amplification system for active transducer. In both cases, the transducer’s output is brought to the required level it useful for conversion, processing, indicating and recording.
The transducer is connected to one arm of the bridge and the signal is transferred to an instrumentation amplifier after calibration.

Instrumentation amplifier is followed by a filter, which is used to eliminate noise from the signal.

Source: http://mediatoget.blogspot.in/2012/03/signal-conditioning-system.html