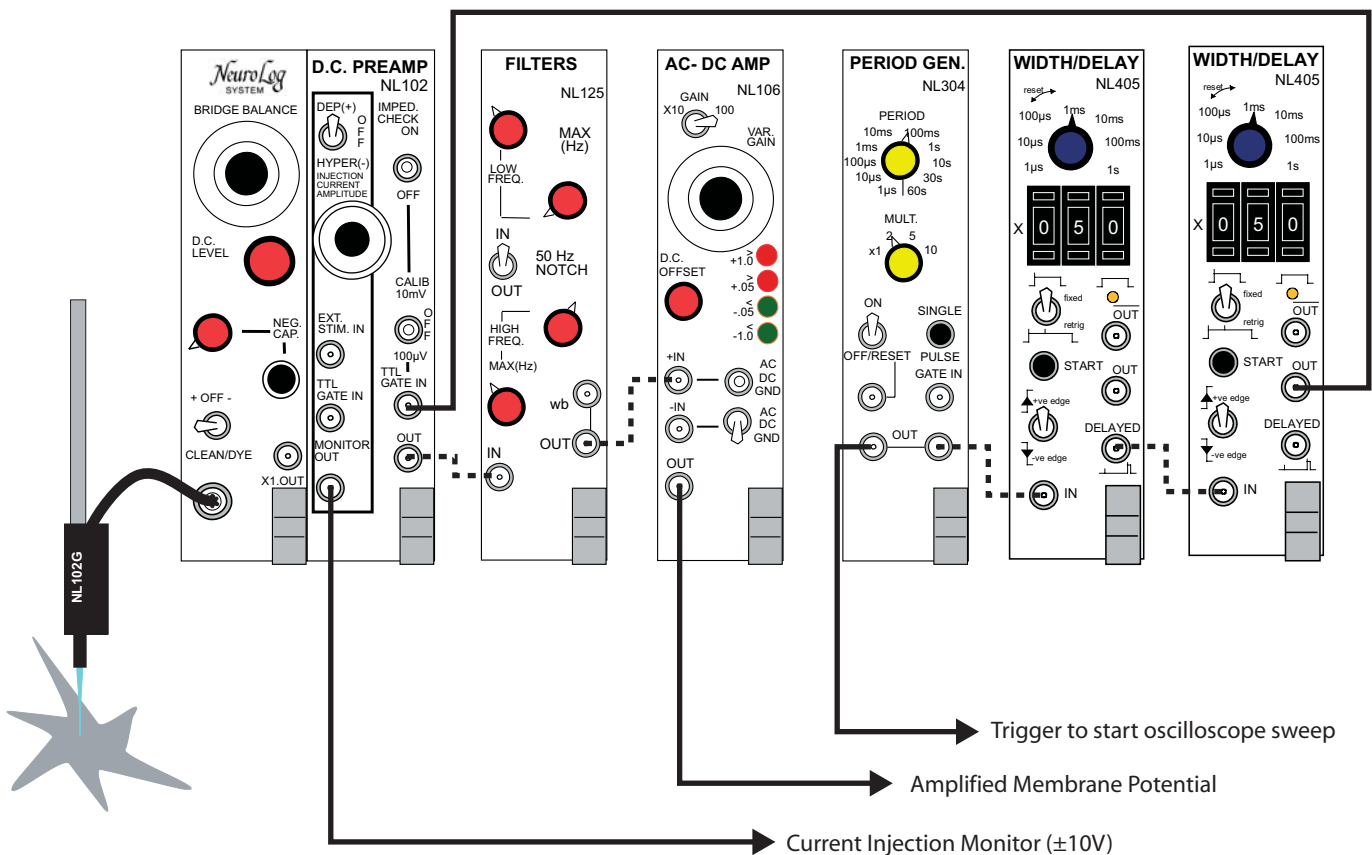


A Typical Intracellular (DC) Recording Configuration

The **NL102G DC PRE-AMPLIFIER** features capacity neutralization, current injection, low leakage current and low DC drift. It is particularly suitable for intracellular recording through fluid filled micro-electrodes. Electrode attachment to the dedicated compact pre-amplifier headstage is made via our **NL101-xx ELECTRODE CHAMBERS**. Features of the NL102G include electrode impedance check, calibrator, stimulus bridge balance DC level adjustment ($\pm 2V$) and current injection/monitor. A maximum current injection of up to $\pm 100nA$ is possible through the front panel control or from an external analogue input. Current injection occurs either when the toggle switch is moved to the DEP or HYPER positions or in response to an input at the TTL GATE IN socket and/or EXT. STIM. IN socket. Electrode impedance checking and output calibration features can be easily accessed using the controls on the right hand side of the of the NL102G. The timing of these functions can be controlled by other modules or devices via the TTL GATE IN socket.



In the setup illustrated above, the impedance checking/calibration functions are controlled by a 50ms gating pulse which is generated by other NeuroLog modules once every 200ms. The first **NL405 WIDTH/DELAY** module delays the pulse from the **NL304 PERIOD GENERATOR** while the second NL405 gives the duration of the pulse. However, such pulses could possibly be provided by your chosen data acquisition interface/software, making these extra modules unnecessary.

Please note that all newly supplied NL102G DC PREAMPLIFIERS now include a handheld NL412 PULSE unit. This provides a remote BUZZ control which activates the capacitance compensation circuitry briefly in order to facilitate micro-electrode cell penetration.