Digitimer

NeuroLog System

NeuroLog SYSTEM

A Regular Burst of Pulses with Control over Burst Frequency, Pulses/Burst, Pulse Width & Frequency

Overview

This application was designed to allow a NeuroLog user to deliver a burst of stimuli to a biological preparation every five minutes, with control of this interval, the number of pulses in the burst as well as control of the stimulus pulse width and frequency. Ultimately, the output at (D) was fed into the **NL510 PULSE BUFFER** and **NL800 STIMULUS ISOLATOR** in order to convert the 2ms output pulses from the **NL405 WIDTH/DELAY** into a constant current stimulus of variable amplitude.
This simple arrangment of four modules is based around the **NL304 PERIOD GENERATOR**, the settings of which determine the interval between bursts. Once in the "ON" position, the module sends a regular output pulse at the interval set on the front panel. This output resets and activates the **NL603 COUNTER**, sending it's output at (B) "high" until the count reaches the preset value of 20.

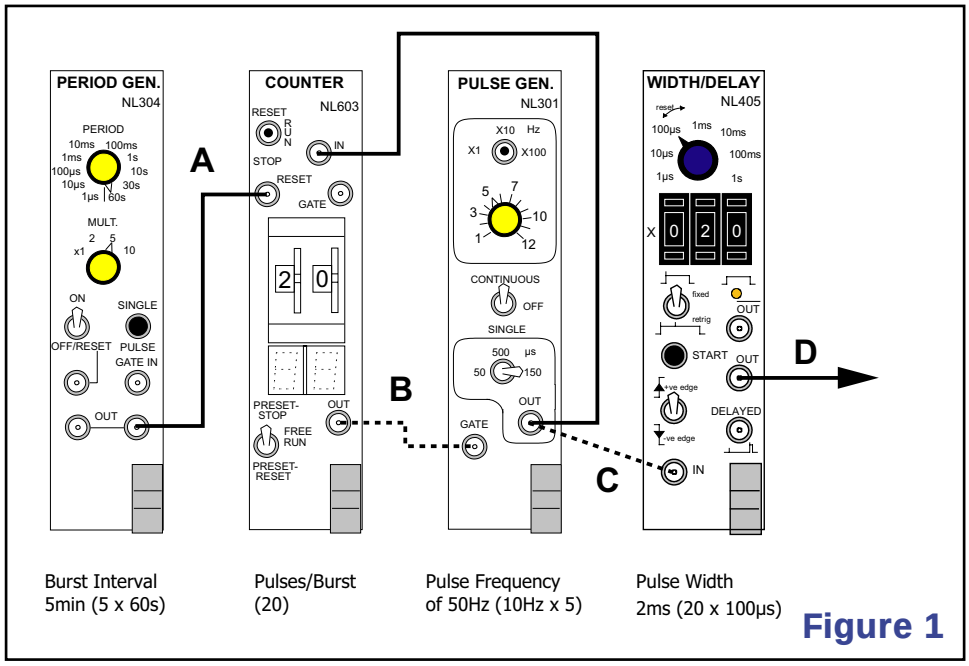

Figure 1

But how is the counting done? The "high" output from the NL603 is used as a gate which allows the **NL301 PULSE GENERATOR** to pass a burst of pulses. The burst of pulses are fed into the **NL405 WIDTH/DELAY** in order to give them width and also fed back to the input of the counter module. Once the counter detects 20 pulses, the output goes "low" thereby ending the gating pulse (B). This gating pulse remains "low" until the next reset pulse is sent by the period generator and a new burst is initiated.

Note: The dotted connections between modules indicate where rear connections are possible, while solid lines indicate links made by standard Lemo cables (NL951).

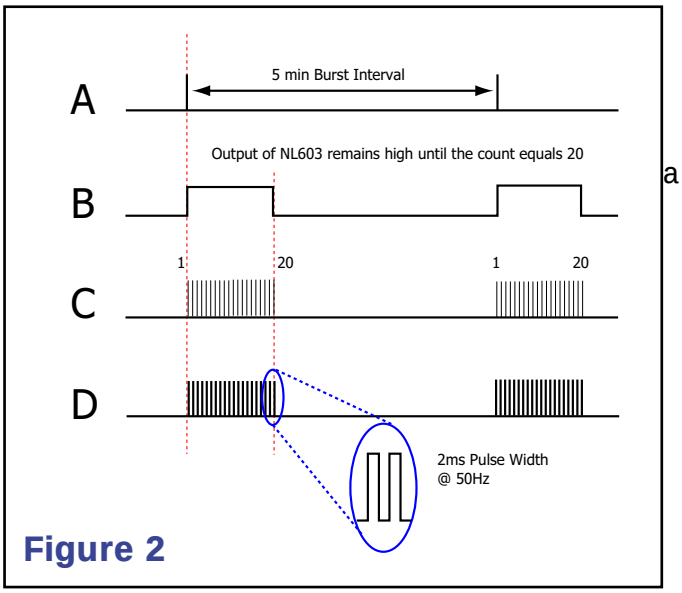

Figure 2

Application Note 13