Digitimer
NeuroLog System

NeuroLog SYSTEM

Using a Single Trigger Pulse to Produce Two Bursts of Stimuli from Two Stimulators with a Variable Delay between the Bursts

Overview

Here a single TTL pulse is used to trigger two electrical stimulators (**Digitimer DS7A HV Constant Current Peripheral Stimulator**) which produce bursts of stimuli with a variable interval between the bursts. This application has been used to activate left and right lower limb spinal reflexes in order to facilitate walking in research studies of spinal cord injury.

The single input pulse at (A) was fed into a pair of **NL405 WIDTH/DELAY** modules, the first providing the burst duration for Stimulator 1, while the second controlled the delay before Stimulator 2 was triggered. The third NL405 took the delayed output at D and gave it width, thereby determining the burst duration for Stimulator 2. The NL405 outputs at (B) & (E) were used to Gate the **NL301 PULSE GENERATORS** which determined the frequency of stimulation within each burst. Connection of the NeuroLog System at (C) and (F) to the DS7A Stimulators was via our NL951B-2m Lemo plug to BNC plug cables.
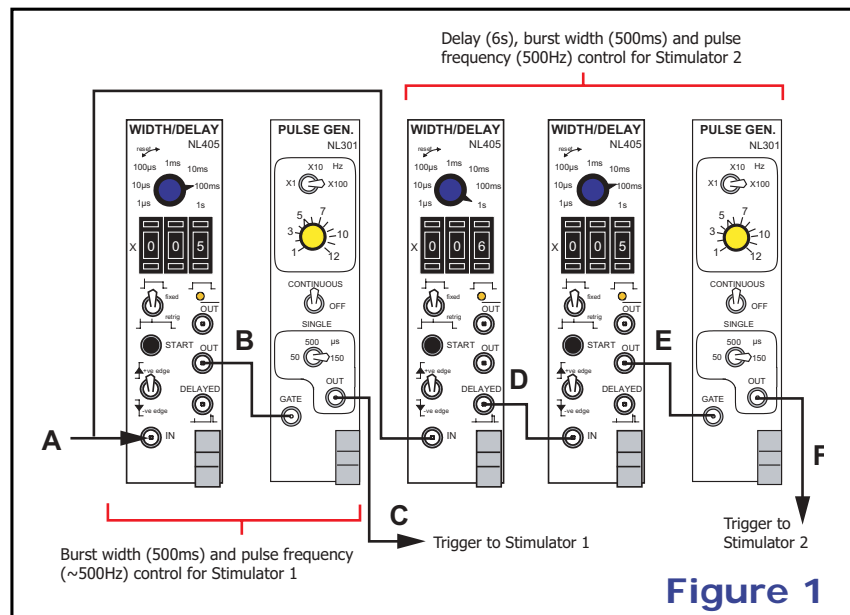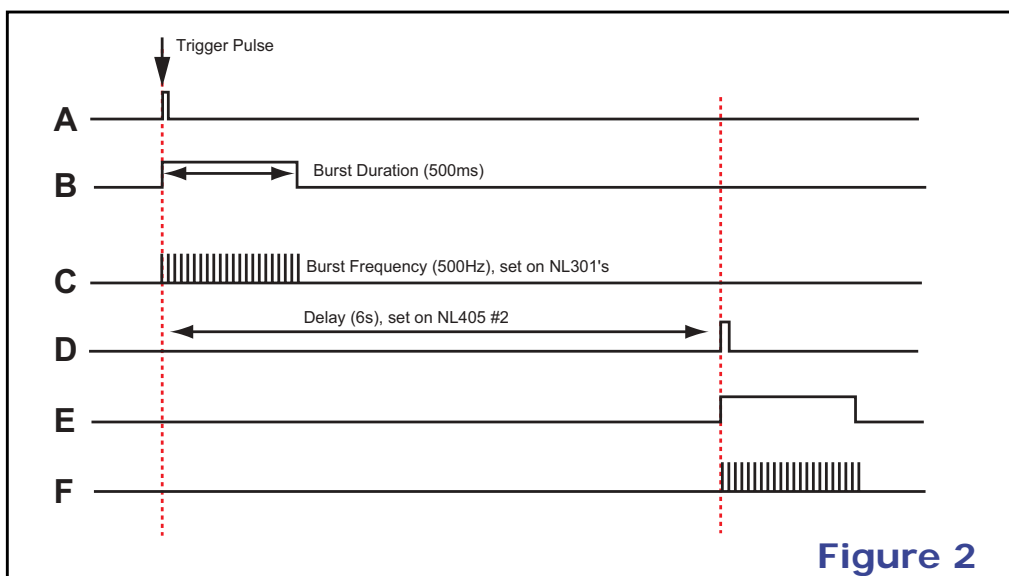

Figure 1

Figure 2

Note: Links at (B), (D) and (E) can be through rear connection.