

Using an Analogue Output to Monitor the Instantaneous Interval between an Irregular Series of Input Pulses.

Overview

The NeuroLog System ratemeter modules (NL253/6) allow an instantaneous rate to be monitored using an analogue output. However, in some situations, it would be more use to be able to monitor the instantaneous interval between two pulses rather than their rate. The **NL601 PULSE INTEGRATOR** has a digital counter which produces an analogue output proportional to the count.

The NL601 can count the output pulses from one of the generator modules such as the **NL301 PULSE GENERATOR** or **NL304 PERIOD GENERATOR** (preferable). If the signal of interest consists of or has been translated into a series of irregularly spaced logic pulses (A), then these pulses can be used to "Externally Reset/Latch" the count of the NL601 at the end of each pulse interval. As a result, the output from the NL601 consists of a voltage level which corresponds to the last pulse interval. If the intervals increase in length, the voltage level rises and if the interval falls, the level falls. The specific pulse generation settings for the NL304 and the full scale settings for the NL601 are very much dependent upon the range of pulse intervals expected. If the period is set at 10 μ s (as shown), then the NL601 will reach full scale at 2.55ms, 25.5ms or 255ms depending upon the position of the full scale count toggle switch on the NL601.

