

Pulse Generation with KPCI3100 Driver

Below is shown the VB code for Pulse Generation with a board covered by KPCI3100 driver. This code snippet assumes the driver has already been opened and the board initialized.

```
With DriverLINXSRL
.Req_op = DL_START
.Req_mode = DL_POLLED
.Req_subsystem = DL_CT
.Evt_Str_type = DL_COMMAND
.Evt_Tim_type = DL_RATEEVENT
.Evt_Stp_type = DL_COMMAND
.Evt_Tim_rateClock = DL_INTERNAL1
.Evt_Tim_rateChannel = 0
.Evt_Tim_rateGate = DL_ENABLED
.Evt_Tim_rateMode = DL_PULSEGEN
.Evt_Tim_rateOnCount = duration ' how long the pulse will last
.Evt_Tim_ratePeriod = delay ' how long from rising edge of gate until pulse starts
.Evt_Tim_ratePulses = 1
.Refresh
End With
```

Two properties, `rateOnCount` and `ratePeriod`, control the duty cycle of the pulse. For both properties, the value is expressed in terms of ‘tics’ of the selected `rateClock`. If using the internal timebase, this would be a 20MHz clock.

The sum of `rateOnCount` and `ratePeriod` cannot exceed 65535, the maximum value of a single 16bit counter.

An operational difference has been discovered between the current revision (3100-850A03) of the driver and the previous one (3100-850A02).

With the old version (3100-850A02), the delay is determined by the difference of `ratePeriod` – `rateOnCount`. These two properties can be equal to each other for a delay of zero.

The current version (3100-850A03) implements the pulse generation feature consistently with the documentation (ctmguid.pdf). As shown in the diagram below the delay is equal to the `ratePeriod` property. The duration of the pulse is equal to the `rateOnCount` property.

