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Addendum to PulseBlaster Owner's Manual

WAIT Op Code

The WAIT Op Code, 0x08, can be used to halt the operation of the PulseBlaster until a hardware or software trigger is detected. When the WAIT Op Code is encountered, the output bits specified in the WAIT programming instruction word will be expressed by the PulseBlaster while it is halted. After entering a halt/wait condition, a hardware or software trigger will cause the PulseBlaster to exit the halt condition and continue normal operation of the PulseBlaster program. Resetting the PulseBlaster system while it is in a halt condition is permitted and will have the standard effect.

There is a latency between a hardware or software trigger and a change in the output state after exiting a WAIT state. The latency can be calculated as follows,

$$\text{Latency} = \text{WAIT Instruction Delay Field} + 6.$$

The WAIT Instruction Delay Field is the value specified in the Delay field of the instruction word that contained the WAIT op code. This value must be greater than or equal to two (>=2); the minimum delay is the standard minimum delay allowed for any PulseBlaster instruction. The six extra clock cycles in the latency equation are introduced by latencies involved in restarting the pipeline in the PulseBlaster pulse programmer processing core.