# RCServo module

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| --- | --- | --- |
| Input name | Full name | Purpose |
| clock | Clock | Clock |
| RxD\_data | Received data | This is a number between 0 and 255 that represents the poition for the servo to move 2 |

|  |  |  |
| --- | --- | --- |
| Parameter name | Full name | Purpose |
| None |  |  |

|  |  |  |
| --- | --- | --- |
| Output name | Full name | Purpose |
| RCServo\_pulse\_out | RCServo pwm output | this is the PWM signal that controls the servo. |
| RC\_cycle\_start | RC cycle starting flag | This is an indicator that the servo pulse has finished and is starting again |

## Modules instantiated.

* none

## General Overview.

This module generates a PWM signal ~15ms long. The RxD\_data sets the high section of the pulse to be between 1-2ms long so that the full range of the servo can be used. This is done by having an assign statement set the pulse to be a 1 while the value of a counter is less that set by concatenating a single binary 1 in front of the value of RxD\_data. A second output was added to indicate when the counter was in the final step before it rolled over.

## Notable points.

* This code was not written by any member of the team and was instead sourced from fpga4fun. For a fuller description of the code please look there.