Description:

The entity generates a trigger and data signals according the chosen scene, the user chose one of different scenes that are defined in the entity (we have 5 scenes for now).

The internal output data is a cyclic counter that change from 0 to 2^record\_depth\_g, but we can also get the data and trigger signals from an external source.

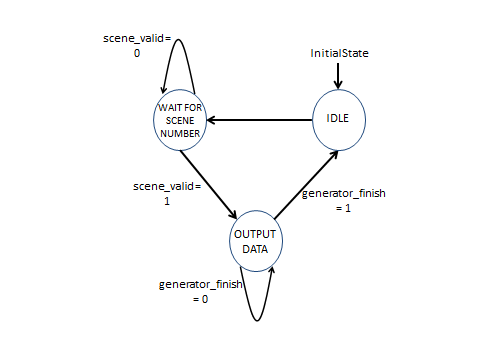
Generic table

|  |  |  |
| --- | --- | --- |
| Name | Width | Description |
| reset\_polarity\_g | 1 | '1' reset active high, '0' active low |
| record\_depth\_g | 4 | number of bits that are recorded from each signal is 2^record\_depth\_g |
| data\_width\_g | 8 | defines the width of the data lines of the system |
| num\_of\_signals\_g | 8 | number of signals that will be recorded simultaneously |
| external\_en\_g | 1 | 1 -> getting the data from an external source . 0 -> dout is a counter |

Signals table

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Direction | Width | Description |
| clk | In | 1 | System clock |
| Reset | In | 1 | System reset |
| scene\_number\_in | In | data\_width\_g | The trigger output scene |
| scene\_valid | In | 1 | 1 ->sample trigger scene. 0 -> other |
| data\_in | In | 1 | External data in |
| trigger\_in | In | num\_of\_signals\_g | External trigger in |
| generator\_finish | in | 1 | 1 -> stop output data. 0 -> other |
| data\_out | Out | num\_of\_signals\_g | Output data |
| trigger\_out | Out | 1 | Output trigger |

Signal generator state machine



Output table

