

*****Draft*****

Icarus Simulator
helloworld simulation
repo 102121icozip
10/10/23

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The helloworld_tb.v needs to be created. See catboard-relook/doc/iverilog/helloworld_tb.v

```
devel@pi4-20:~ $ cd 102121icozip/rtl/uart/
```

```
devel@pi4-20:~/102121icozip/rtl/uart $ iverilog -o dsn helloworld_tb.v helloworld.v
```

The following

```
initial  
begin  
#1920000  
$finish();  
end
```

```
devel@pi4-20:~/102121icozip/rtl/uart $ vvp dsn  
VCD info: dumpfile helloworld.vcd opened for output.  
devel@pi4-20:~/102121icozip/rtl/uart $
```

```
devel@pi4-20:~/102121icozip/rtl/uart $ vvp dsn  
VCD info: dumpfile helloworld.vcd opened for output.  
Killed
```

```
devel@pi4-20:~ $ kill -9 9093
```

```
devel@pi4-20:~/102121icozip/rtl/uart $ gtkwave helloworld.vcd
```

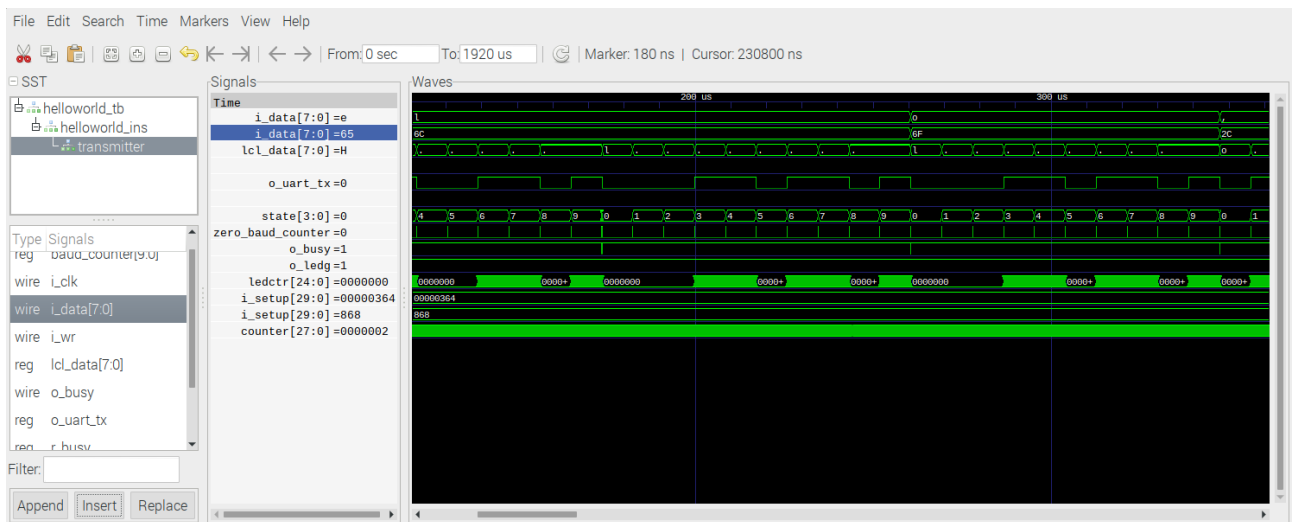
GTKWave Analyzer v3.3.104 (w)1999-2020 BSI

[0] start time.
[1920000000] end time.

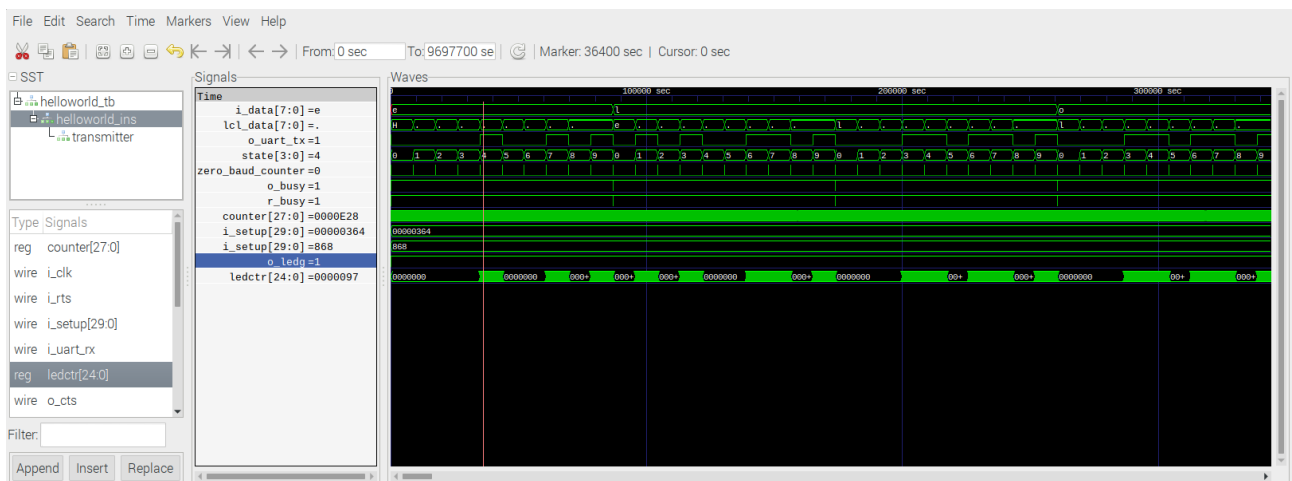
```
devel@pi4-20:~/102121icozip/rtl/uart $ gtkwave helloworld.vcd
```

GTKWave Analyzer v3.3.104 (w)1999-2020 BSI

Near byte 57770007, Unknown VCD identifier: '11101100101000010010'
{0} start time.
{9697700} end time.



The above image has time where as the image below time is unknown.



i_setup is 0x364 or 868 is for a baudrate 115200.

		868.055555
100000000	115200	555556
		434.027777
100000000	230400	777778
		289.351851
100000000	345600	851852
		217.013888
100000000	460800	888889
100000000	921600	108.506944
		444444
100000000	1843200	54.2534722
		222222

state is 0-9 for the 10 bits to transmit 1 ASCII character.

```
devel@pi4-20:~/102121icozip/rtl/uart $ git diff helloworld.pcf
diff --git a/rtl/uart/helloworld.pcf b/rtl/uart/helloworld.pcf
index 8337466..b12f38f 100644
--- a/rtl/uart/helloworld.pcf
+++ b/rtl/uart/helloworld.pcf
@@ -13,6 +13,6 @@ set_io o_ledg A9          #IOT_194 LED1
#set_io o_ledr B7          #IOT_207 LED4

set_io i_rts A1            #IOT_220 PM2-A1 i_rts
-set_io o_uart_tx B3       #IOT_214 PM2-A3
-set_io i_uart_rx B5       #IOT_223 PM2-A2
+set_io o_uart_tx B3       #IOT_214 PM2-A2
+set_io i_uart_rx B5       #IOT_223 PM2-A3
set_io o_cts B6           #IOT_208 PM2-A4 o_cts
```