Proyecto 1
Circuitos Digitales II

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Estudio de Mercado

Modelo	Precio $	Frecuencia de Operación
xio1100	5.25	100 MHz-125 MHz
PX1011B	5	100 MHz
PTN5100D	1.96	100kHz-1MHz
TUSB1210	0.92	60 MHz
MPC8308EC	12	400 MHz

Byte Striping Tx

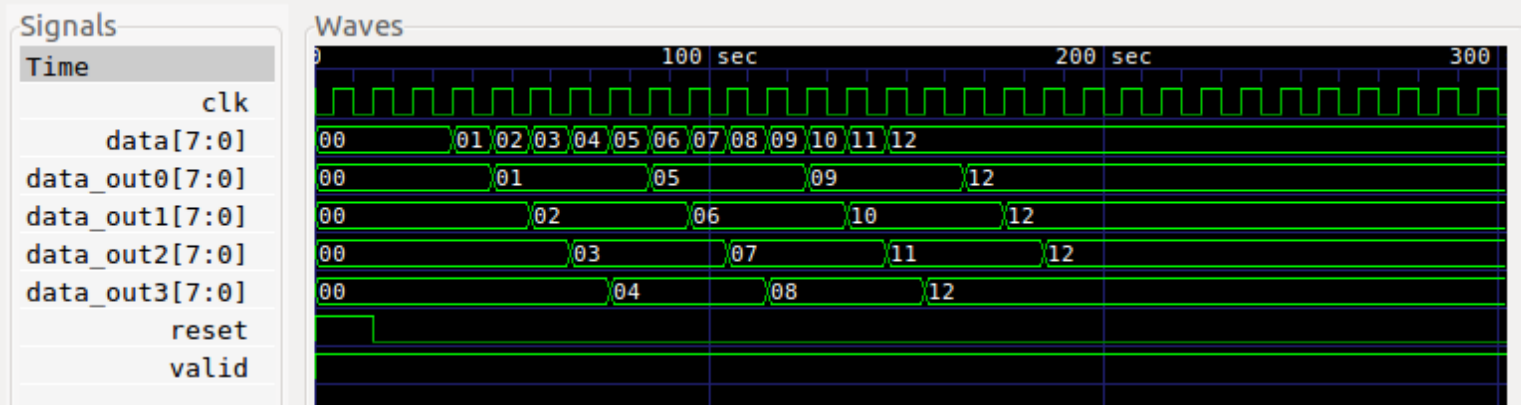


Figura: Tx GtkWave

Byte Striping Rx

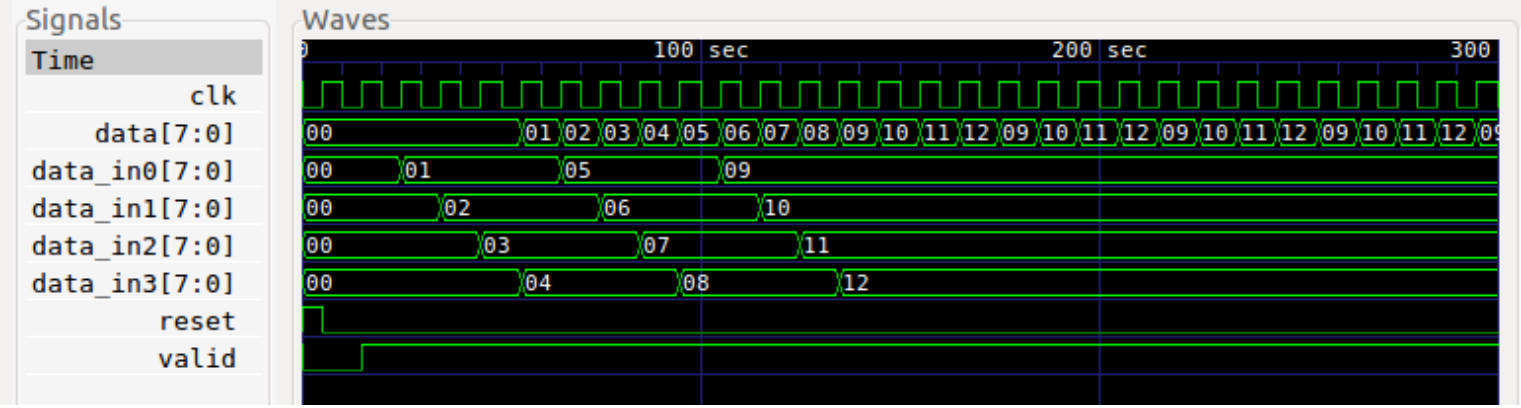
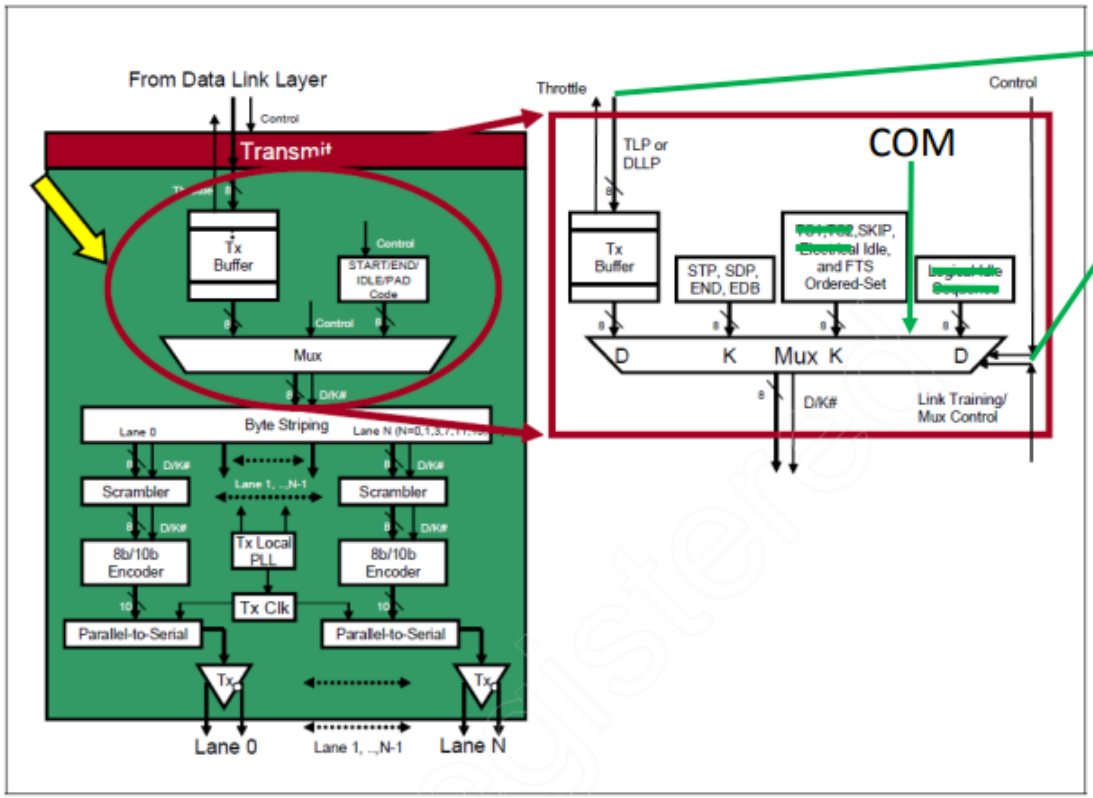


Figura: Rx GtkWave

Multiplexor de Control

Figure 11-5: Transmit Logic Multiplexer

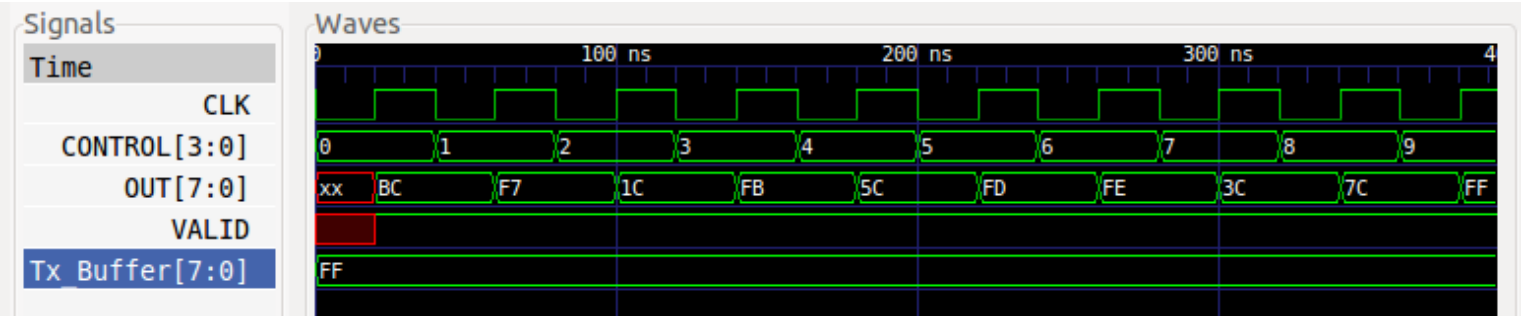


Manejados desde el testbench/ probador

Multiplexor de Control (cont.)

- Entradas de 8 bits, 9 entradas en total.
- Línea de selección de 5 bits.
- Salida a siguiente módulo de 8 bits en paralelo.

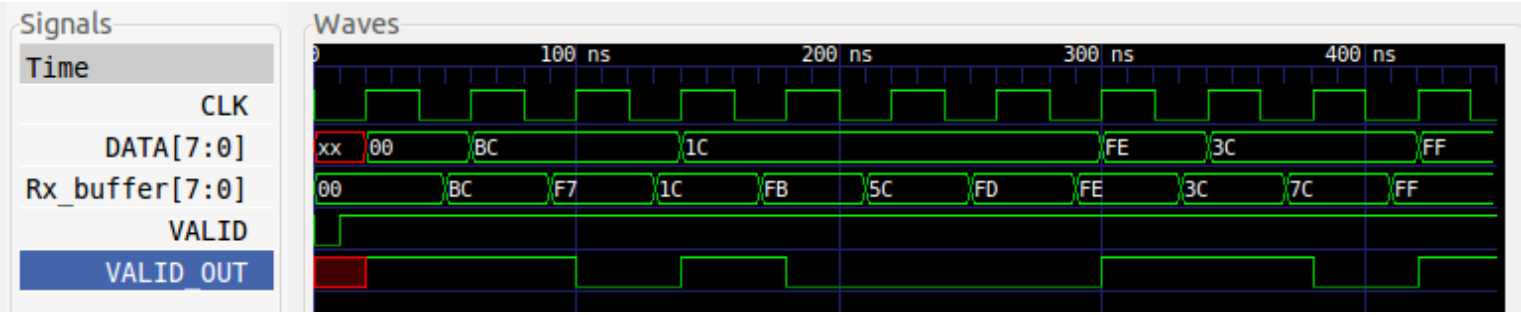
Multiplexor de Control (cont.)



De-mux

- Entradas de 1 byte.
- Elimina ciertas palabras
- Salida a siguiente módulo de 8 bits en paralelo y un bit de válido.

De-mux (cont.)


Signals
Time
CLK
DATA[7:0]
Rx_buffer[7:0]
VALID
VALID_OUT
Waves
100 ns
200 ns
300 ns
400 ns
xx
00
BC
1C
FE
3C
FF
00
BC
F7
1C
FB
5C
FD
FE
3C
7C
FF

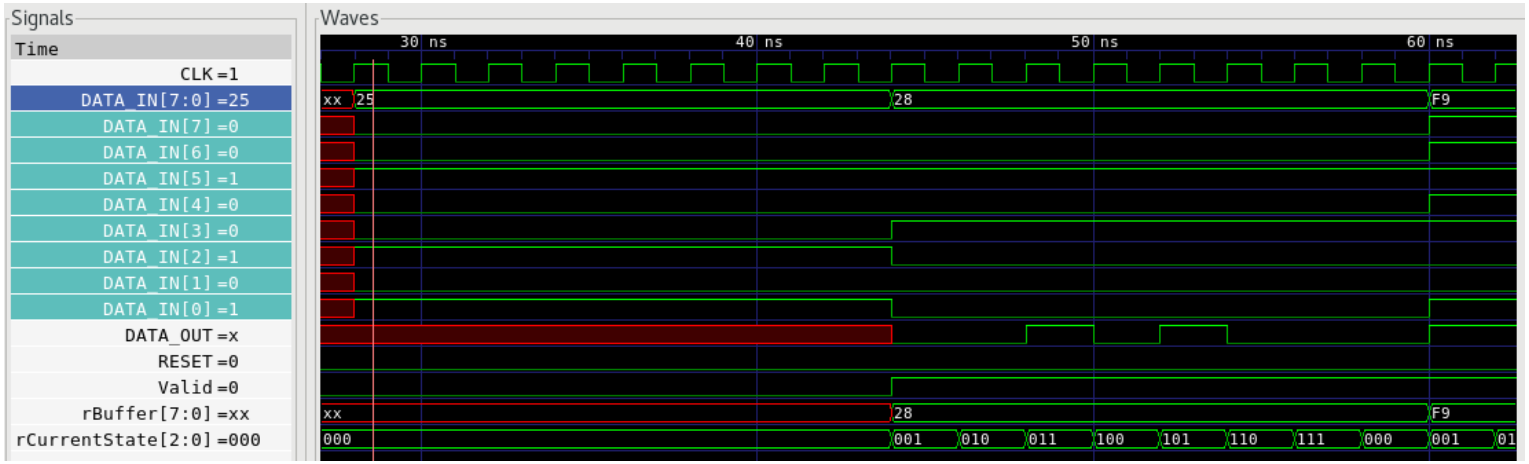
Parallel to Serial

Input

- CLK
- Reset
- Data in (8 bits)

Output

- Data out



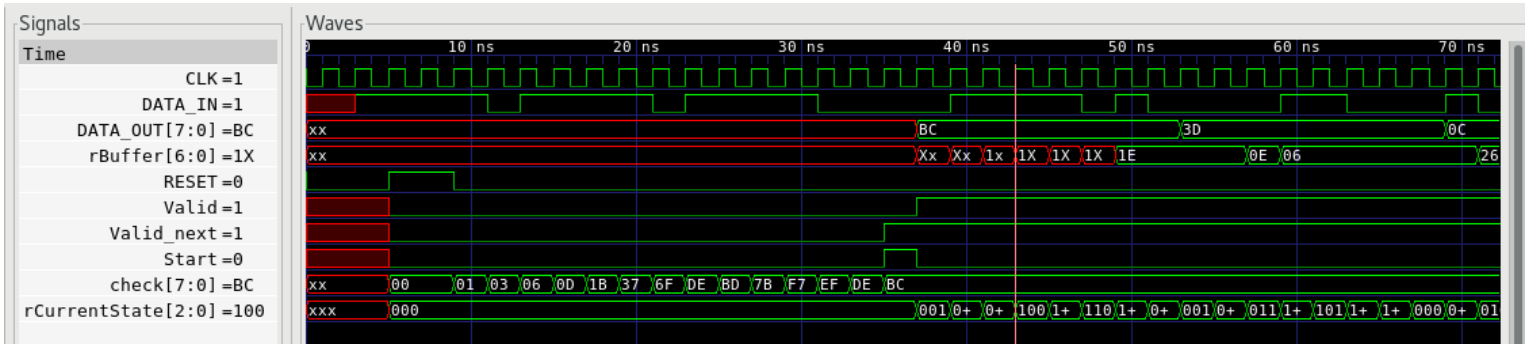
Serial to Parallel

Input

- CLK
- Reset
- Data in (1 bit)

Output

- Data out (8 bits + valid bit)



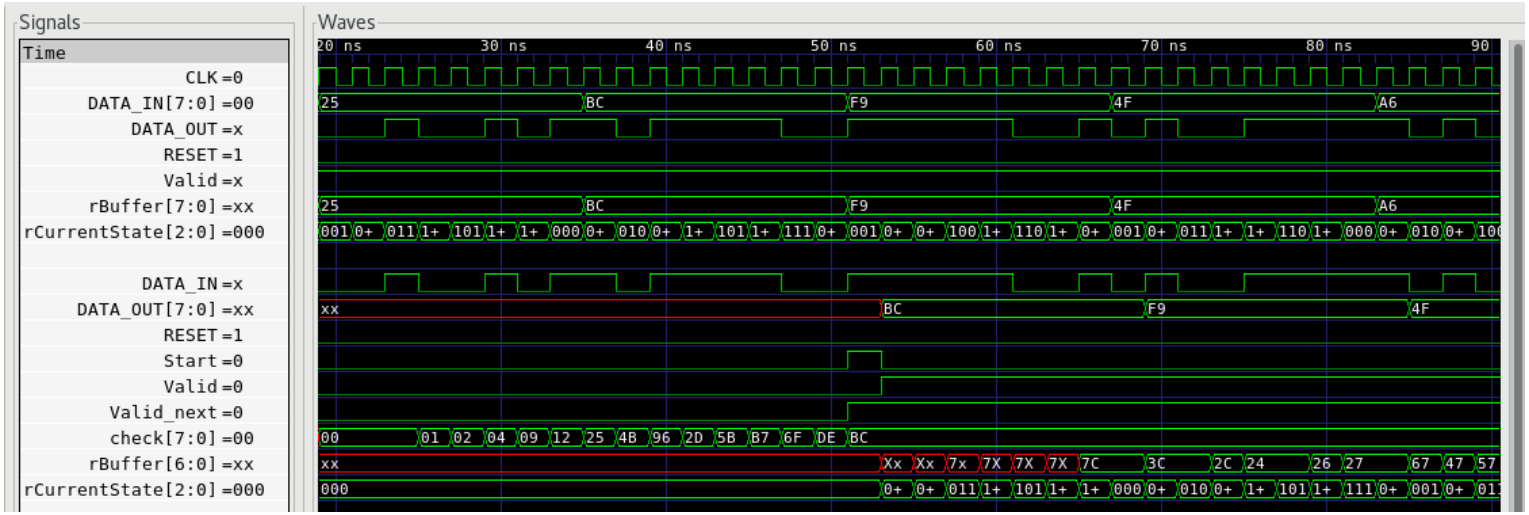
Parallel to Serial to Parallel

Input

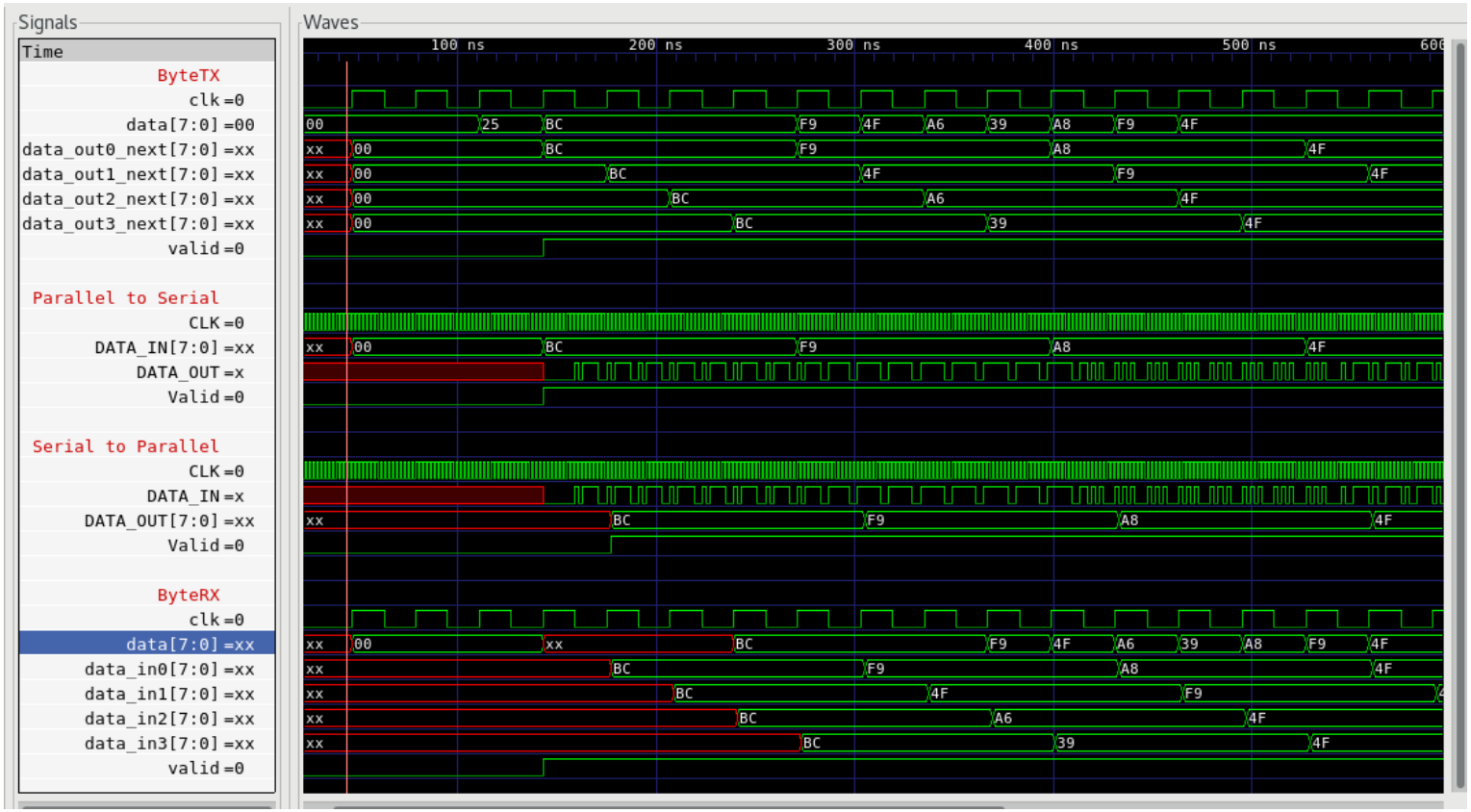
- CLK
- Reset
- Data in (8 bits)

Output

- Data out (8 bits + valid bit)



ByteTx to ByteRx



PCIe

Input

- CLK
- Reset
- Data in (8 bits)
- Control (4 bits)

Output

- Data out (8 bits)