

```

1  library ieee;
2  use ieee.std_logic_1164.all;
3
4  entity ccto is
5      generic (N : integer);
6      port(    mclk, reset: in std_logic;
7              clk: out std_logic
8          );
9  end entity;
10
11 architecture arq of ccto is
12     constant M: integer := 50_000_000 ;
13
14     begin
15         process(mclk, reset)
16             variable i: integer range 1 to M := 1;
17             variable v_clk: std_logic := '0';
18             begin
19                 if (reset = '1') then i := 1; v_clk := '0';
20                 elsif(mclk'event and mclk='1') then i := i + 1;
21                     if (i = M/N) then i := 1; v_clk := not(v_clk);
22                 end if;
23                 clk <= v_clk; end if;
24             end process;
25     end arq;

```