Rev 1
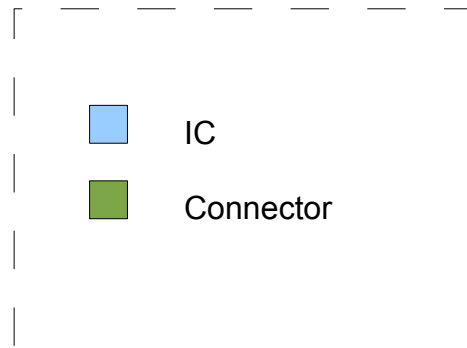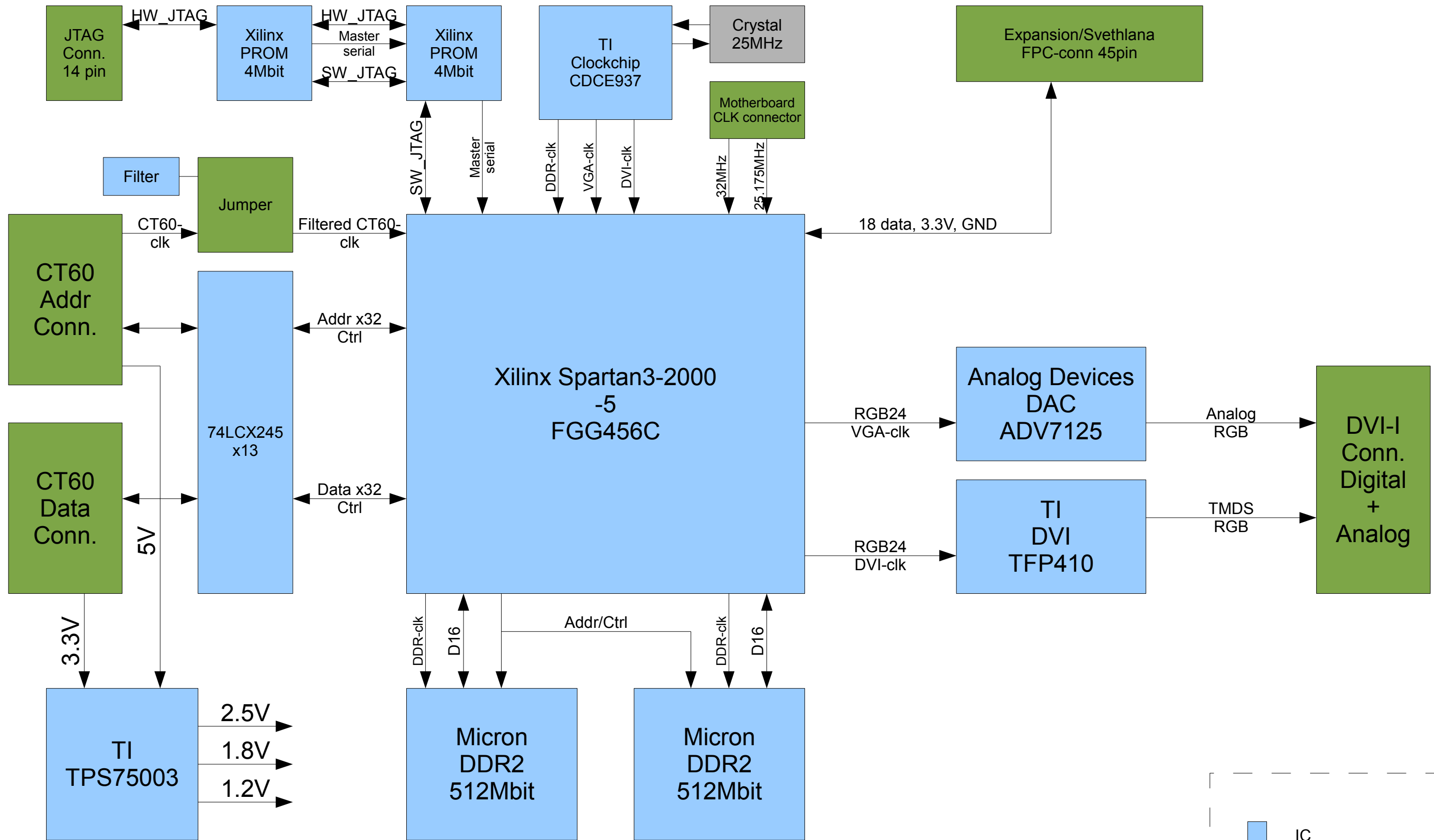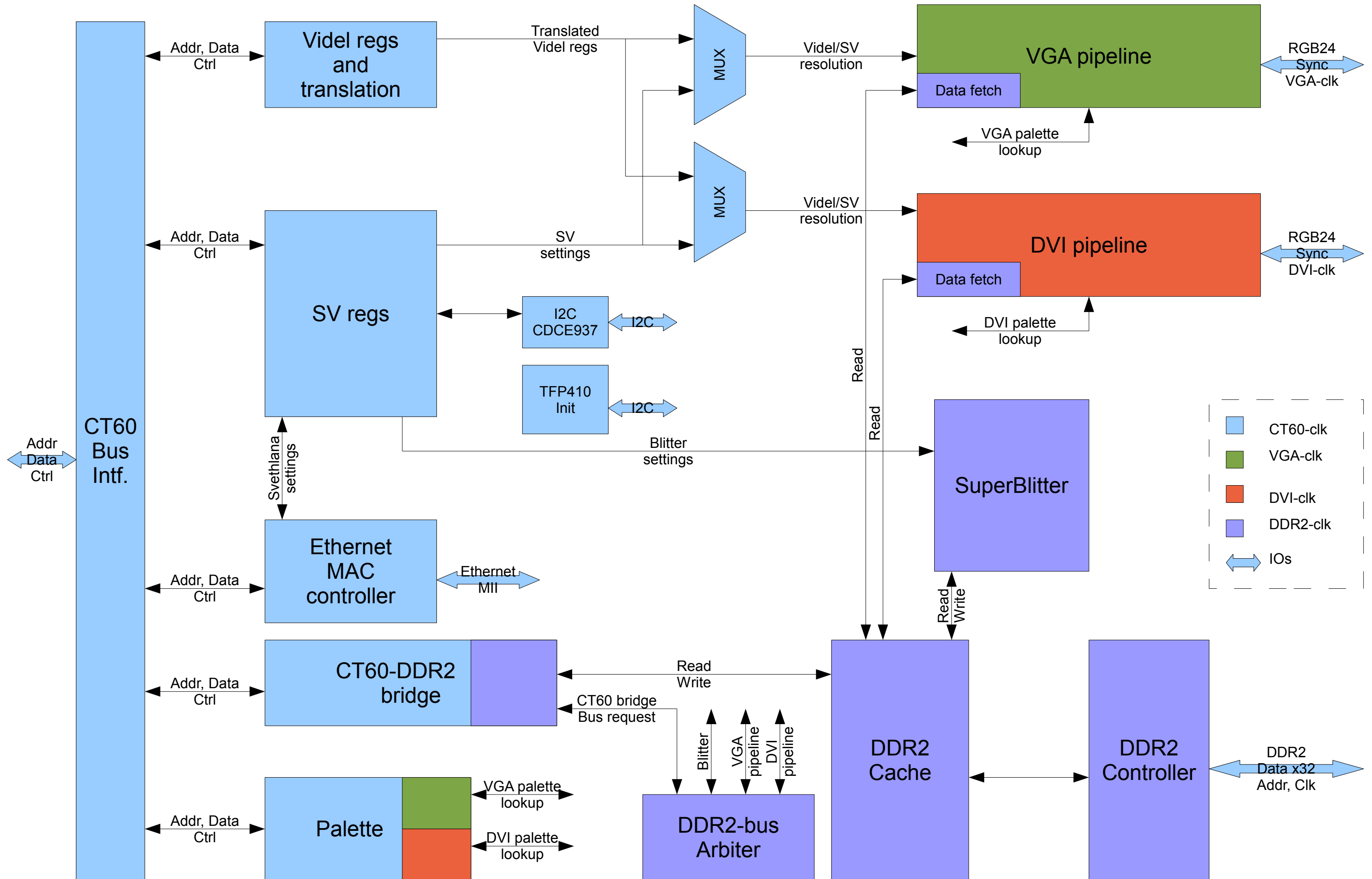**2012-03-10**

This document provides desciptions of the SuperVidel hardware, VHDL structure and SW tools and drivers.

HW overview

JTAG Conn. 14 pin —HW_JTAG— **Xilinx PROM 4Mbit** —HW_JTAG / Master serial / SW_JTAG— **Xilinx PROM 4Mbit**

TI Clockchip CDCE937 —← **Crystal 25MHz**

Motherboard CLK connector

Expansion/Svethlana FPC-conn 45pin

Filter → **Jumper**

CT60 Addr Conn. —CT60-clk— → Jumper —Filtered CT60-clk—

SW_JTAG | Master serial | DDR-clk | VGA-clk | DVI-clk | 32MHz | 25.175MHz

Xilinx Spartan3-2000 -5 FGG456C

74LCX245 x13

Addr x32 Ctrl

CT60 Data Conn.

5V

Data x32 Ctrl

18 data, 3.3V, GND

RGB24 VGA-clk → **Analog Devices DAC ADV7125** —Analog RGB→ **DVI-I Conn. Digital + Analog**

RGB24 DVI-clk → **TI DVI TFP410** —TMDS RGB→

3.3V

TI TPS75003 → 2.5V / 1.8V / 1.2V

DDR-clk | D16 | Addr/Ctrl | DDR-clk | D16

Micron DDR2 512Mbit   **Micron DDR2 512Mbit**

■ IC

■ Connector

VHDL overview

Software tools and drivers

Atari

SV_XBIOS.PRG:
 Extends the VDI, XBIOS and GEM Desktop, to support new graphics modes, fast video memory, and SuperBlitter acceleration. Run this first in the auto folder.

SVSCREEN.SYS, SV_BPS16.SYS, SV_BPS32.SYS, SV_BPS8C.SYS:
 Accellerated drivers for NVDI5, supporting new color depths and screen resolutions. Put these in your GEMSYS folder, and edit the entry for device 5 in ASSIGN.SYS as follows:

 Before:
 05p SCREEN.SYS

 After:
 05 SVSCREEN.SYS

CHGRES.PRG:
 Resolution switcher for MagiC.

SV-JTAG.TTP:
 Upgrades the SV firmware. Run with path and filename of an XSVF-file. A percentage is incremented as the two Xilinx PROMs are erased and programmed. At 47% the second PROM is erased, so a pause is noticed in the progress.

PC

CDCE925-Clockfinder:
 .NET program for generating necessary clock register settings to create an output frequency from the 25MHz input frequency. The source code is also available as C-code to be compiled and run on Atari.