

APPLICATION NOTE 1

Reprogramming SMT364 - FPGA Firmware

SMT364

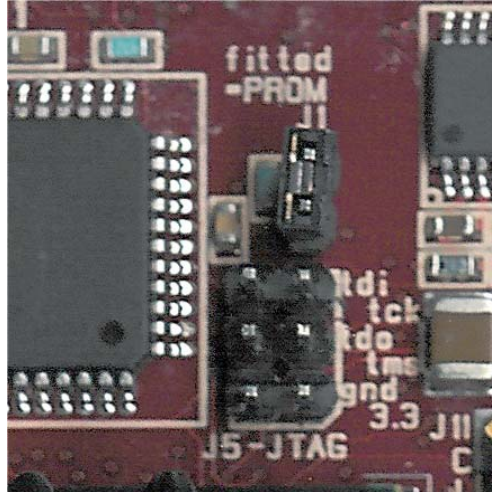
SUNDANCE MULTIPROCESSOR TECHNOLOGY LTD.

Date	Comments / Changes	Author	Revision
01/09/03	Original version	PSR	1.0

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The SMT364 is populated with a Xilinx FPGA (XC2V1000-4FG456) and a PROM (XC18V04). Both devices are in the same JTAG chain, which means that they can be reprogrammed independently.

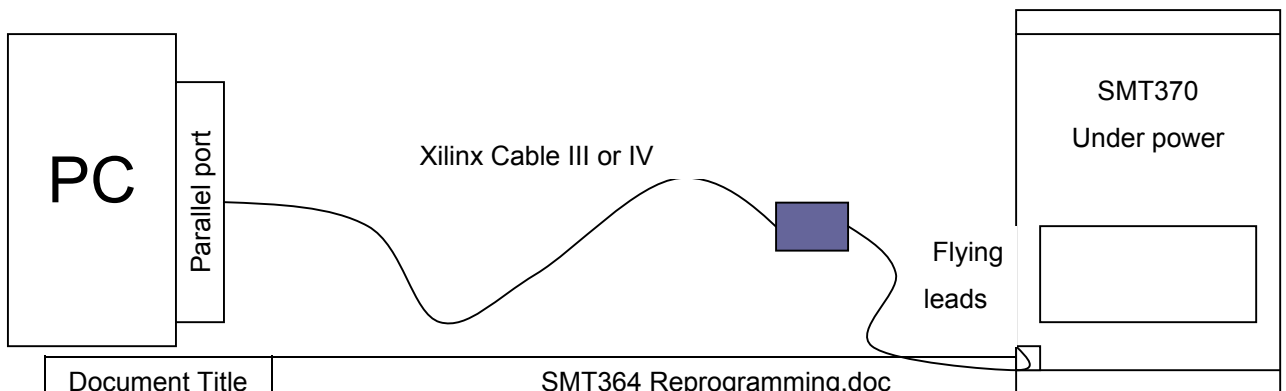
When jumper J1 (see below) is fitted, the content of the PROM is loaded into the FPGA on each board reset and at power-up. It is recommended to use this configuration and to reprogram the PROM only, as there is no risk to interfere whilst the board is working.



When J1 is not fitted, the user can reprogram directly the FPGA.

Equipment needed.

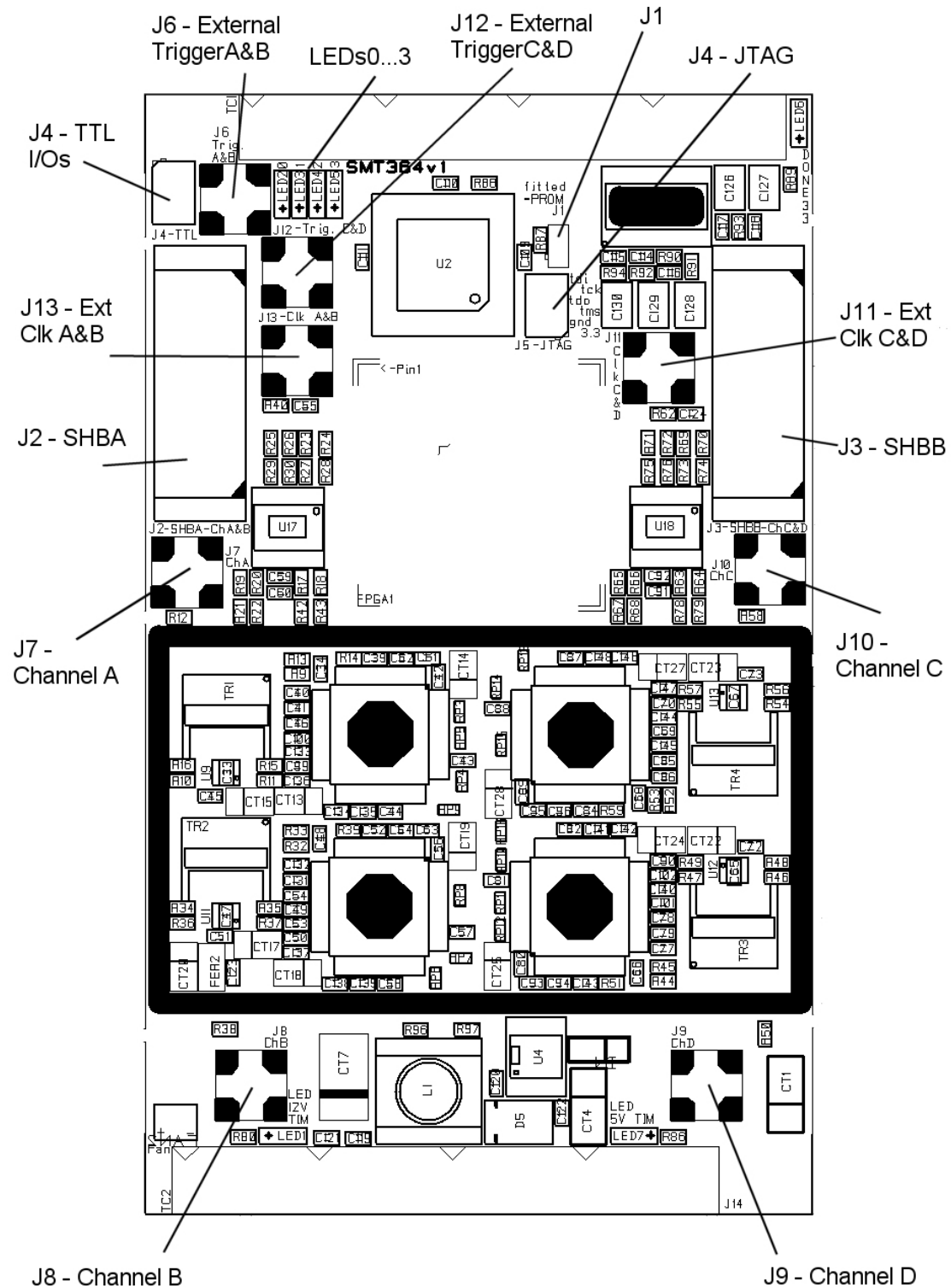
- Xilinx iMPACT software (Free version available from [Xilinx Website](http://www.xilinx.com)).
- Xilinx Parallel Cable III or IV + flying leads:



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JTAG Connector on SMT364.

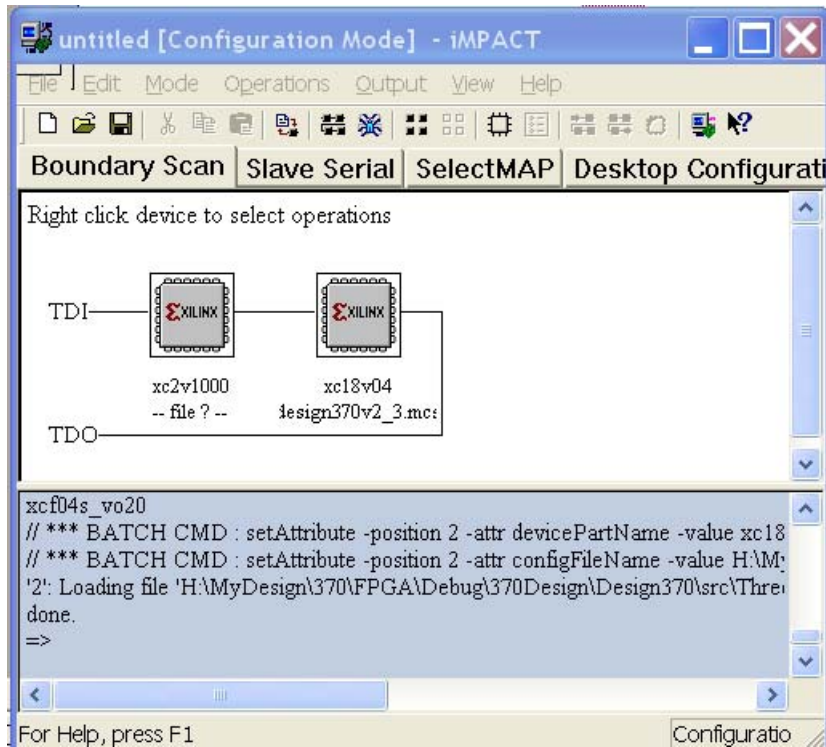
The following diagram shows the location and the pinout of the JTAG connector on the SMT364.



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Procedure to follow.

- Connect both Xilinx cables to the PC and the SMT364. Both ends of the cables must be powered.
- Launch iMPACT and 'Initialize the chain' (File -> Initialize Chain). It should detect two devices XC2V1000 first in the chain and then XC18V04. The following picture shows what you should get:



- Select either a BIT file (XC2V1000 - FPGA) by double-clicking the first device **OR** an MCS (XC18V04 - PROM) file by double-clicking the second device depending on the way reprogramming operation is carried out.
- Right-click one of the device and select 'Program'
- The operation should end up successfully.

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