

## **SAM-BA Notes V1.0 - May 2005**

The below procedure is applicable to:  
AT91SAM7S32 & AT91SAM7S64 starting from rev E (product ID: 58814E)  
AT91SAM7S128 & AT91SAM7S256 starting from rev C (product ID: 58818C)

### **Getting Started with SAM-BA on the SAM7S-EK Evaluation Kit**

The AT91SAM7S-EK is ready to use the SAM-BA™ software through DBGU or USB. Before being able to use SAM-BA, a recovery procedure which consists of copying the SAM-BA Boot Assistant into Flash must be performed as follows:

1. Power down the SAM7S-EK
2. Close the Jumper JP5 named TST
3. Power up the SAM7S-EK
4. Wait 10s
5. Power down the SAM7S-EK
6. Remove the Jumper JP5 named TST
7. Power up the SAM7S-EK

SAM-BA Boot Assistant is now available in the first two sectors of the on-chip flash and ready to use.

Then, you can start using the SAM-BA GUI to interface with the SAM-BA Boot Assistant as described in the SAM-BA User Guide available in the "on-line" help.

### **How to use SAM-BA on your AT91SAM7S-based devices application ?**

The AT91SAM7S devices feature the System Recovery procedure which restores the SAM-BA™ Boot Assistant inside the Flash.

#### **System Recovery Procedure**

When the TST pin is set during power-up and PGMEN0, PGMEN1 and PGMEN2 are set, the device is entering a specific test mode and performs a SAM-BA™ Boot System Recovery which consists in copying the SAM Boot Assistant (SAM-BA™) in the first two sectors of the on-chip Flash memory. The system recovery procedure takes 10s.

In normal mode, the TST pin can be left unconnected thanks to the internal pull down.

Please note that on the SAM7S-EK, PGMEN0, PGMEN1 and PGMEN2 are set by using the internal pull-up resistors enabled by default after power-up.

SAM-BA Boot Assistant is now available in the first two sectors of the on-chip flash and ready to use. Then, you can start using the SAM-BA GUI to interface with the SAM-BA Boot Assistant as described in the SAM-BA User Guide available in the "on-line" help.

#### **SAM-BA hardware requirements:**

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- DBGU Requirements
  - Wide range of Quartz from 3 to 20MHz Quartz (software auto detection)
- USB Requirements
  - Limited to a 18.432MHz Quartz
  - PIOA16 dedicated for the USB Pull-up (refer to the AT91SAM7S-EK Board Schematics)