

# Application Note



Flashing the MB91F109 with Fujitsu Flash  
programming Tool

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## History

04 <sup>th</sup> Jul. 00	Men	V1.0	New Format, new updated version

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## **1 Introduction**

This application note explains how to flash the MB91F109 with Fujitsu's Flash-programming tool. The Tool runs under Windows™ 95/98 and NT. The Flashing is achieved serial asynchronous with the Uart0 of the MCU. With an oscillation frequency of 12.5MHz the baud rate of Uart0 is 9600.

## **2 Settings for Flash-programming**

First the Mode pins have to be set to the required operation. The Table 2.0 shows the settings for the Mode pins. Uart0 of the MCU is used to enable the device to read the user application into Flash.

MD0	MD1	MD2	P20	P21	Description
1	1	0	X	X	Run mode "Single Chip"
1	0	0	X	X	Run mode "External-ROM, External-BUS" 16 BIT
0	0	0	X	X	Run mode "External-ROM, External-BUS" 8 BIT
0	1	1	0	0	Flashing mode

Table 2.0: Operation modes for MB91F109

The figure 2.1 shows a screen shot of the Flash tool with the necessary settings to download the user application into Flash. There are two possibilities to use the Flash tool.

### **1. Use Download button:**

When using the Download button, a small program is downloaded to the MCU. This program initialises the Uart0 and starts the communication with the Flash tool. After successful download the buttons below (Erase, Blank Check, Write + Verify and Read + Compare) are active. Now this buttons have to be clicked on one after the other.

### **2. Use Auto button:**

When using the Auto button everything described above is done automatically.

For 12.5MHz oscillation frequency

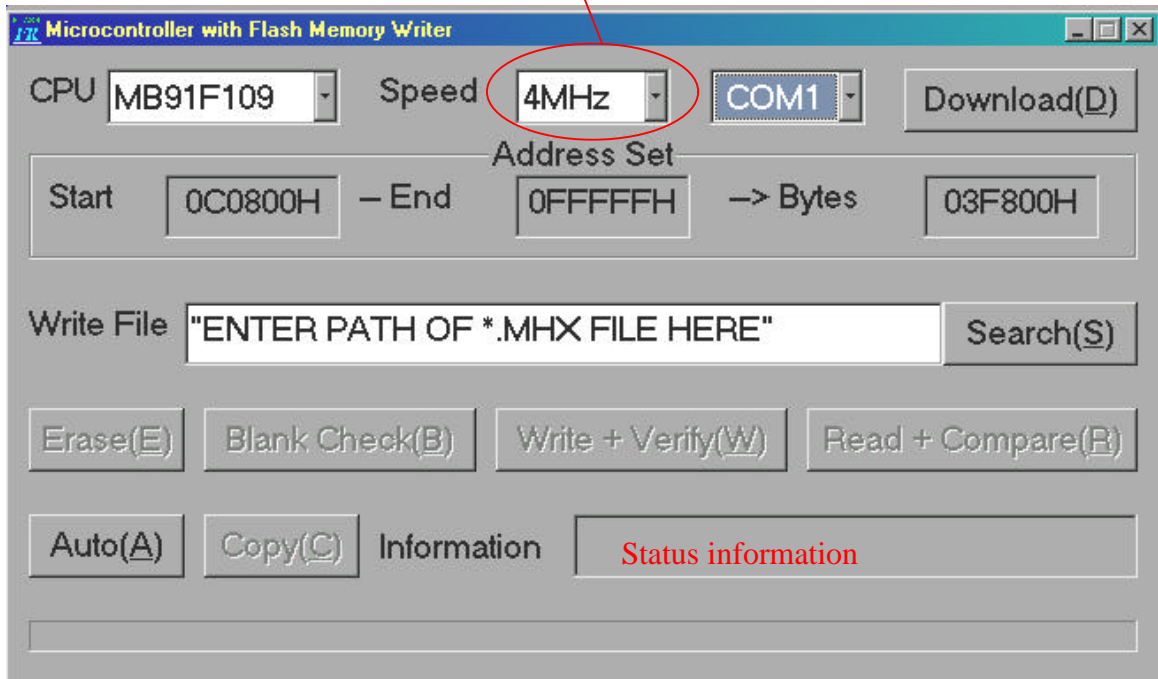


Figure 2.1: Screen shot of the Flash-programming tool

After successful Flashing the MCU switch the Mode Pins back to the required setting. The figure 2.2 shows the connection to the MCU via RS232.

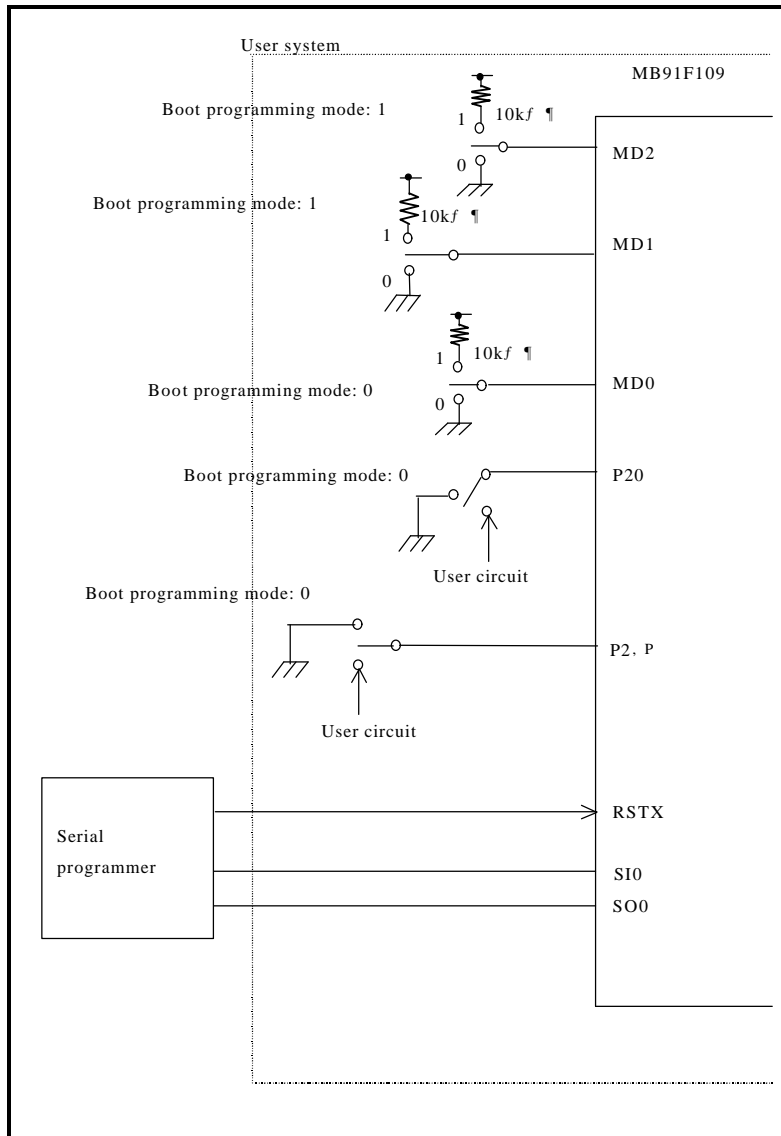


Figure 2.2: Connection to the MCU (MB91F109)