# **USB Development Board**

Set-Up

# Table of Contents

1.	Flip 2.4.2 Installation with Updated USB Driver	3
2.	How to use the Flip Program	7
3.	Resolving Problems	10

### 1.0 Flip 2.4.2 Installation with USB Patch

A new version of the Atmel download program has just been released with an addition of a number of new devices. The updated program will allow an improved and easier download for the compiled programs to your target board or IC.

To set-up the Atmel FLIP program, follow the steps as below.

- Firstly check the Atmel site for the latest version of Flip, the instruction below is for version 2.4.2. The address for the Flip program is <u>http://www.atmel.com/dyn/products/tools\_card.asp?tool\_id=2767</u> Also download the necessary update which is available on the same page.
- 2. Now install Flip, making sure the USB Development Board is not connected to the computer.
- 3. Now install the patch, by copying the file usb\_dfu\_inf which is contained in the zip file on the Atmel website or in the CD with the board. This file needs to be placed in the C;\Program Files\ATMEL\FLIP 2.4.2\usb directory. A short message will appear, asking if you want to replace this file, click 'Yes"
- 4. Connect power to the USB Development Board and connect the USB Cable between the computer and the USB Development board.
- 5. Next, put the USB Development Board in Download/Monitor Mode. This is done as follows,
  - a) Switch the USB ON/OFF Switch on the USB Development Board to the USB OFF Position
  - b) Press the PSEN and RESET pushbutton, on the USB Development Board simultaneously.
  - c) Firstly, release the RESET button
  - d) Then release the PSEN button
  - e) Switch the USB ON/OFF Switch to the USB ON Position
- 6. Now the 'Found New Hardware' Wizard will appear on your computer.

7. Now click on the radio button for 'Yes, this time only' as in the picture below,



#### Fig. 1: Found New Hardware Wizard

8. The 'Found New Hardware Wizard' will now display the following message, with what do you want the wizard to do. Click on the 'Install from a list or specific location (Advanced)' radio button.

Found New Hardware Wizard				
	This wizard helps you install software for: USB Device If your hardware came with an installation CD or floppy disk, insert it now. What do you want the wizard to do? Install the software automatically (Recommended)			
	<ul> <li>Install from a list or specific location (Advanced)</li> <li>Click Next to continue.</li> </ul>			
	< Back Next > Cancel			

#### Fig. 2: Installing software from a specific location

9. The following wizard will now appear. Check the 'Include this location in the search:' box and enter the following address 'C:\Program Files\ATMEL\FLIP 2.4.2\usb' Then click 'Next'.

Found New Hardware Wizard				
Please choose your search and installation options.				
<ul> <li>Search for the best driver in these locations.</li> </ul>				
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.				
Search removable media (floppy, CD-ROM)				
Include this location in the search:				
C:\Program Files\ATMEL\FLIP 2.4.2\usb Source Browse				
O Don't search. I will choose the driver to install.				
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.				
< Back Next > Cancel				

Fig. 3: Entering the address for driver installation

- 10. Follow the steps through until complete.
- 11. Then open the Flip program and test this by download a sample compiled program.

## 2.0 How to use the Flip program

The Atmel Flip program is quite easy to use and is suitable for many devices in the Atmel 8051 product range.

To program the USB Development Board, follow these steps,

- 1. Ensure power is connected to the USB Development Board
- 2. Switch the USB ON/OFF Switch to the USB Off position
- 3. Open the Atmel Flip 2.4.2 program

🗸 Atmel - Flip 2.4.2					
File Buffer Device Settings Help					
• 5 💹		N 🦉 🌆 🔗			
Clicker Bow C Erase C Blank Check C Program Verity Run Clear	FLASH Buffer Information Size: 32 Kbytes Blank: FF Range: 0000 - 7FFF Checksum: 7F8000 Offset: 0000 Reset Before Loading HEX File:	AT89C5131   Signature Bytes   Device Boot Ids   Mardware Byte   Hardware Byte   Bootloader Ver   XXX     BSB / EB / SBY   Device SSB   C   Level 0   Level 1   Level 2     Etam depleterer			

- 4. Connect the USB Cable between the computer and the USB Development board
- 5. Place the USB Board in the download or monitor mode by the following method,
  - a) Switch the USB ON/OFF Switch on the USB Development Board to the USB OFF Position
  - b) Press the PSEN and RESET pushbutton, on the USB Development Board simultaneously.
  - c) Firstly, release the RESET button
  - d) Then release the PSEN button
  - e) Switch the USB ON/OFF Switch to the USB ON Position

6. Go to the Flip Program and select the Device menu and click OK. The following box will appear and select the correct device, i.e. 'AT89C5131'

0		
ų	Device Sele	⊐ĭ×
		-1
	AT89C5114	<u> </u>
	AT8XC5122	
	AT89C5131	
	AT89C5132	
	AT89C51AC3	
	AT89C51CC03	
	AT89C51ED2	
	AT89C51IC2	
	AT89C51ID2	
	AT89C51RB2	
	AT89C51RC2	
	AT89C51BD2	-1
		_
		1
	OK Cancel	
		-

Fig. 4: Device Selection

7. Go to the settings menu and click 'Communication' and then click 'USB'. The following box will appear and click 'Open' to open the communication with the USB Development board.

🖉 USB Port Con 🔳 🗖 🔀					
Open	Close	Cancel			



8. Go to Load Hex on the File Menu and choose the program file "usb\_kbd.hex" from the sample programs on the enclosed CD-ROM. This is located in the folder - "\Source Examples\HID Keyboard demonstration software\c5131-usb-kbd-stand-alone-1\_0\_2"

Select HEX File							? 🛛
Look in:	🛅 HID Keyboar	d demonstration	software	•	÷ 🗈 (	🛉 🔟 -	
My Recent Documents Desktop My Documents My Computer	C5131-usb-kbd	-stand-alone-1_	0_2				
My Network Places	File name:					J [	Open
1 10000	Files of type:	Hex Files (*.he	x,*.HEX,*.Hex	d)		•	Cancel

#### Fig 6: Opening the Hex File

- 9. Check the following boxes in the Operations Flow Section,
  - Erase
  - Blank Check
  - Program
  - Verify

10. Do Not check on the BLJB box



#### Fig 7: Check the following boxes

- 11. Then Click 'Run' to download the program
- 12. When this is complete a message will appear and you can then click on 'Start Application' to commence running the program.

## 3.0 Resolving Problems

If it is not possible to connect to the board and the message shows that "USB Device Not Recognized" on the computer screen.

Check that the USB ON/OFF switch is in the USB OFF position before attempting to connect to the USB Development Board.