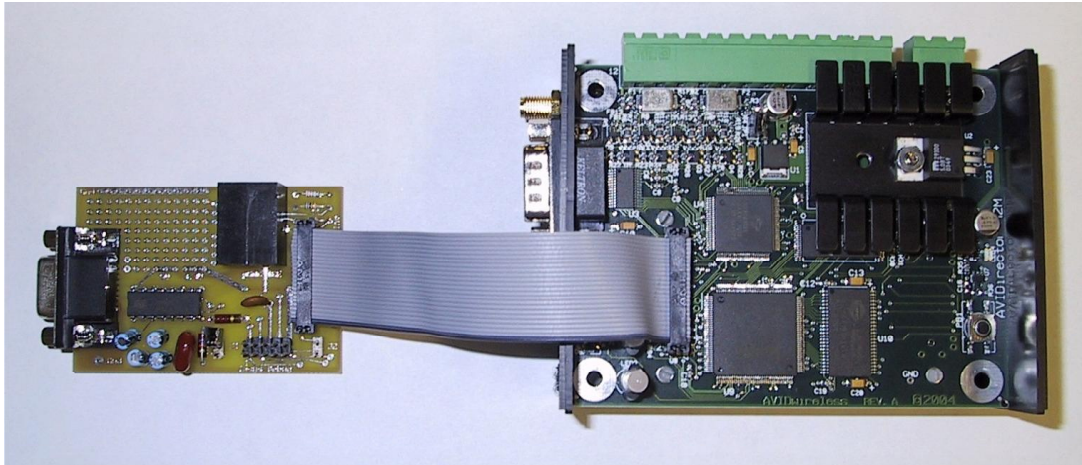


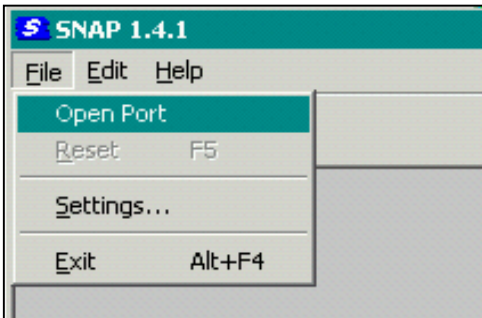
Appendix 7 – Upgrading the M2M Java Firmware

Locate the CD included in the SDK, and then locate the directory “SNAPDev_Files” which contains the files needed to reload the device. You may also download the files from the AVIDirector web site where you will find the latest firmware update. The zip file contains three files with a .snp extension.



You will need to remove the cover of the AVIDirector-M2M device before attaching the debug pod. Note Remove the antenna before removing the cover. Be sure to match pin 1 on both devices before powering up the device. The black line on the ribbon cable should match to pin one on both boards. Attach the Developer pod to your PC for reprogramming with a standard serial cable. Attach the serial cable to your computer COM Port (you can use a USB to RS-232 adapter). Verify that the COM Port the serial cable is attached to has a baud rate of 57600.

Execute the SnapDev.exe file located under the SNAP/bin directory to start the Snap Development environment. Then connect with the File | Open Port



Power up the AVIDirector-M2M device and boot up. As the device starts up press the "i" key a couple of times as the startup messages begin to be displayed to prevent the M2MApp software from starting (this bypasses execution of the /system/startup.ini file)

To determine what version of the firmware your device is currently running, once connected enter the "info" command.

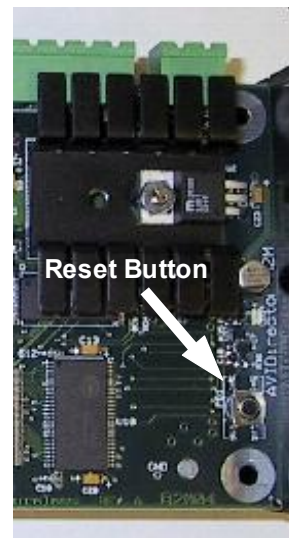
From SnapDev choose File | Reset F5 or press F5 to enter loader mode. You should see a progress bar on the bottom status line of SnapDev as it

downloads the initial boot loader. When that is done you should see a prompt like:

```
SNAP loader v 0.1.10 (Build date: Oct 17 2004 01:03:31)
$
```

Note: If you do the File | Reset and you don't see the status line start a process bar on the bottom, press the reset button on the board just after starting File | Reset.

The AVIDirector-M2M board has a reset button on the top of the main board. This button can be used for a hard reset of the device while debugging.



When you are in the SNAP Loader program press "l" (the L key) and it will bring up a directory dialog box.

Select each of the files located in the SnapDev Files directory **IN THIS ORDER**.

AVIDM2M_Baseconfig_x_x_x.snp	← Load this one first
AVIDM2M_Snaplib_x_x_x.snp	← Load 2 nd
AVIDM2M_AVID_Files_x.x.x.snp	← Load last. Contains AVIDirector-M2M files

x_x_x specifies the current release numbers.

After each load your display should have messages similar to this.

```
Waiting for file
Calculating checksum
Checksum OK
Updating file system
Creating directory /avidwireless
Creating directory /avidwireless/classes
Updating file /system/reboot.ini: 2/2 bytes
Updating file /system/group.ini: 40/40 bytes
Updating file /system/hostname.ini: 25/25 bytes
Updating file /system/ish.ini: 850/850 bytes
Updating file /system/passwd.ini: 108/108 bytes
Updating file /system/access.ini: 68/68 bytes
Updating file /system/snap.ini: 601/601 bytes
Updating file /system/boot.ini: 32/32 bytes
Updating file /system/startup.ini: 69/69 bytes
Updating file /system/boot.ver: 43/43 bytes
Updating file /system/classes/BackGround.class: 1626/1626 bytes
Updating file /avidwireless/ADM2MLib.jar: 140321/140321 bytes
```

When all 3 files have been loaded press 'r' (the R key) to reload the SNAP Java environment.

Appendix 8 – Reprogramming the PSoC Firmware

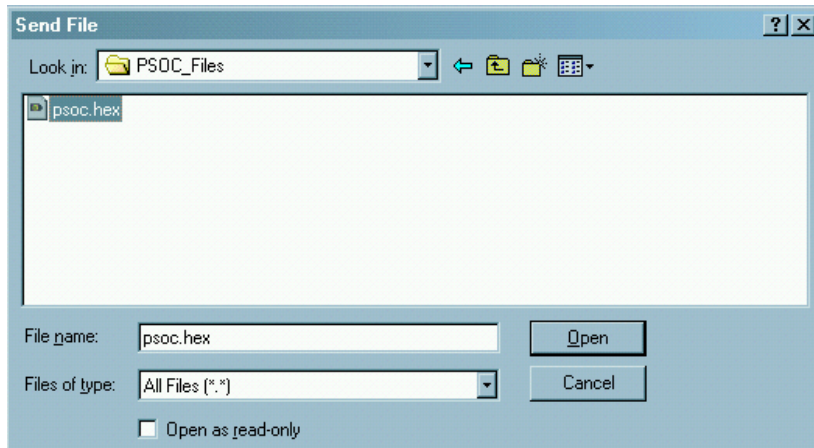
The following procedure is used to reprogram the PSoC Firmware.

NOTE: ONLY DO THIS IF ADVISED BY AVIDWIRELESS TECHNICAL SUPPORT. IF THIS FAILS OR IS INTERRUPTED THEN YOU WILL HAVE TO SEND YOUR DEVICE BACK TO AVIDWIRELESS FOR FACTORY REPROGRAMMING UNLESS YOU HAVE AN IMSYS DEVELOPER TRACE ADAPTER.

1. Download the PSoC HEX file to AVIDirector-M2M

Connect the AVIDirector-M2M debug pod as described in Appendix 7 “Programming the M2M Java Firmware” to the device and to your PC. Connect a reliable +12 volt supply to the AVIDirector-M2M device and enter the Ish shell that give you a .>’ prompt. At that point enter ‘recv’ to download a file to the AVIDirector-M2M device.

> **recv**



Receiving file(s)...Done

> **dir**

```
-rw-r--r--  1 root    root      3373 March  2 13:02 M2MApp.ini
-rw-r--r--  1 root    root      3178 March  2 13:02 M2MApp.bak
-rw-r--r--  1 root    root      3178 March  2 13:02 M2MApp.default
-rw-r--r--  1 root    root     72538 March  3 13:38 psoc.hex
```

2. Run the 'testhw' application to reprogram the firmware.

Ensure your AVIDirector-M2M device is powered from a reliable 12 volt supply with sufficient amperage. From the Ish shell run ‘testhw’. This is a general purpose test program that allow direct user control of the M2M I/O ports and to display information regarding the AVIDirector-M2M device. One of its functions is to reprogram the PSoC firmware.

> **testhw**

```
AVIDirector-M2M Hardware API Tester Ver. 1.30.13, 3/4/05 12:07p
Enter "command" port pin value where "command" is one of:
read, write, setdin, setdout, setain, setaout [PORT] where
PORT is TTL1-6, HVC1-4, SERIAL2RX/TX/RTS/CTS, EXT1-3 or the PSoC port and pin
Other commands are: program, reset, led [System,Radio], memory, version, quit
```

```
TestHWAPI > program psoc.hex ← Enter this to reprogram the PSoC with the hex image
Loading PSoC file psoc.hex 72538 bytes
```

DO NOT INTERRUPT programming the device or it may corrupt the PSoC Flash and

require sending your unit back to the factory for reprogramming.

During programming the SYSTEM STATUS light will indicate the progress. It will rapidly blink RED during Flash programming and rapidly blink GREEN when verifying the programming. When done, if successful it will blink GREEN twice or if unsuccessful it blinks the error code using the RED LED three times. It will then reboot your device.

Some Error Codes are:

1 RED blink means the Programming file did not verify correctly.

2 RED blinks means the file had a checksum error in it.

If the RED LED blinks 6 or more times, your PSoC processor is non functional and you will have to contact AVIDWireless for assistance or return the device.

Are you sure you want to reprogram the PSoC using file psoc.hex? Answer Y or N

You entered :**Y**

Programming PSoC using file psoc.hex with 72538 bytes.

You will not see any other message until the device reboots.

The SYSTEM Led will begin to quickly flash Red during the programming, and then quickly flash Green during the verification. The total time should be less than 2 minutes for both operations. If the reprogramming was successful the SYSTEM Led will blink Green twice and then the unit will reboot. If there was an error the SYSTEM Led will slowly blink Red. The number of times it blinks is important and used to indicate the cause of the error. It will blink between 1 to 6 times and then repeat one. It will not reboot the device if unsuccessful.

3. Device reboots

```
Imsys SNAP restarting @ Tue May 3 18:40:21 2005
Reading /system/ish.ini:      [OK]
Reading /system/snap.ini:    [OK]
Serial server:               [OK]
JVM startup:                 [OK]
Setting host name:          [OK]
TCP/IP startup:             [OK]
FTP server:                  [DISABLED]
Telnet server:              [DISABLED]
Setting timezone to:        CST
Reading /system/startup.ini: [SKIPPED]
```

You may run the 'testhw' program again and the 'version' command to see the version of PSoC firmware on the device.

```
> testhw
AVIDirector-M2M Hardware API Tester Ver. 1.31.13, 3/29/05 12:07p
Enter "command" port pin value where "command" is one of:
read, write, setdin, setdout, setain, setaout [PORT] where
PORT is TTL1-6, HVC1-4, SERIAL2RX/TX/RTS/CTS, EXT1-3 or the PSoC port and pin
Other commands are: program, reset, led [System,Radio], memory, version, quit

TestHWAPI > ver
AVIDirector-M2M Hardware API Tester Ver. 1.31.13, 3/29/05 12:07p
M2M_IO Rev. 24.4.8
ADM2MLib Ver. 1.21.7, 2/21/05 8:50p Rev: 31.5.6
PSoC Firmware Ver. 0104          ← Version of PSoC Firmware
TestHWAPI > quit
Exiting TestHWAPI
```