



Quick Note 021

Determining the HSDPA/HSUPA wireless module type in a Sarian/Digi TransPort branded router to enable correct upgrade of firmware

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1 INTRODUCTION

Sarian routers and Digi TransPort routers are fitted with a variety of wireless WAN modules depending when the router was built or the country it is designed to operate in.

The type of W-WAN module can be identified in a number of different ways.

The following models are covered and described in sections 4 & 5 of this document.

Router Type	Model	Section
Sarian	ER/HR/MR4110, HR4420, DR64xx	4
Digi TransPort	WR21/41, WR44, DR64	5

2 VERSION

Version Number	Status
1.1	Draft

3 CHECKING THE W-WAN MODULE - (SARIAN) - ROUTERS

There are several ways to check the installed W-WAN module. Depending upon the current state of the hardware, it will be better to determine this in different ways.

3.1 Check the label

The sticker on the underside reports the hardware version, this indicates the Wireless module installed. This may however be incorrect if the unit has been returned to Sarian for a repair at any point, or a wireless module has been added or upgraded since being purchased.



Above are the two label types, the red ellipses highlight where the hardware revisions are located. The table 1 (at the end of this document) details the hardware revision and the corresponding hardware and firmware configuration.

3.2 Check the output of an 'ati5' command

This can be done through the use of the <ati5> command at the command line. An example output is below. The important areas of text are highlighted in red.

```
ati5
Sarian Systems. Sarian HR4110 HSDPA/3G Router Ser#:99915 HW Revision: 4405e
Software Build Ver5129. May 20 2011 10:43:33 YW
ARM Bios Ver 6.02 v21 200MHz B64-M64-F80-O150,0 MAC:00042d01864b
Power Up Profile: 0
-----text omitted-----
IKE Revision: 1.0
PollANS Revision: 1.2
PPPOE Revision: 1.0
MODEM CC (Option 3G) Revision: 1.4
FLASH Write Revision: 1.2
-----text omitted-----
Tunnel Revision: 1.2
OK
```

The hardware revision is given towards the top of the output; this can be checked against Table 1. The current firmware version is also visible. The firmware installed in this example is 5129. The module type is listed further down the output. It is an Option 3G type.

Note: If the router currently has the incorrect firmware only the version will be reported correctly.

3.3 Check modem status

Issuing the <modemstat ?> command will also provide information to the wireless module. An example output is below. The important areas are highlighted in red.

```
modemstat ?
Outcome: Got modem status OK:
      Time: 29 Dec 2011 10:28:01
      SIM status:  READY
      Signal strength: -85 dBm
      Manufacturer: Option N.V.
      Model: GTM380
      IMEI: 357564013717602
      IMSI: 234159087893245
      ICCID: 89441000300678785654
      Firmware: 2.12.0Hd (Date: May 27 2008, Time: 11:19:10)
W-WAN Attachment Status: Attached
      W-WAN Registration: Registered, home network
      GSM Registration: Registered, home network lac:22 ci:76E
      Network: 0,0,"vodafone UK",0
      Preferred system: WCDMA first
      GSM Cell mode: GPRS
      WCDMA Cell mode: Non WCDMA/not registered
      Last Error Report: Requested service option not subscribed
OK
```

Both manufacturer and model type of the W-WAN module are reported.

This information can be used to determine which firmware is needed by referring to Table 1.

Please note: If the incorrect firmware version is currently installed then the modem will report the following:

```
modemstat ?

Retrieving modem status. Try again shortly
OK
```

3.4 Check the USB bus

To check the USB bus issue the command <usb show>.

```
usb show
+ bus 1, usb-1
  + dev 1, port 0, OHCI root hub
  + dev 2, port 1, Globetrotter HSUPA Modem
OK
```

The highlighted *Globetrotter HSUPA Modem* indicates that an *Option* module is installed.

Table 2 (at the end of this document) can be used to check the required firmware version.

3.5 Firmware selection

Having determined the W-WAN module type the correct firmware can be loaded.

There are two ways to update the firmware.

1. Using FlashWriter
2. Using FTP.

Please note: Before undertaking any firmware update, it is recommended that an .ALL file of the current router configuration or at least back up the *config.da0*, *fw.txt* and *pwds.da0* files is made.

3.6 FlashWriter method

FlashWriter files are posted in .zip format on the website. Further information on FlashWriter can be found [here](#).

FlashWriter firmware for Sarian products can be found [here](#).

3.7 FTP method

FTP files are located the website then the files are downloaded in the .zip file format.

Further information of the FTP method can be found [here](#)

FTP firmware for Sarian products can be found [here](#).

4 CHECKING THE W-WAN MODULE - (DIGI TRANSPORT) ROUTERS

4.1 Check the label

The sticker on the underside of the Digi TransPort router shows the part number (PN) which will show which W-WAN module is fitted



The first two digits after the router type (WR41) identify the W-WAN module.

This router has part number: WR41-**G1**00-DA1-SW

And the **G1** identifies it as a Cinterion TC63i or MC75i module.

Here is a label on a WR44 Digi TransPort router



Its part number is: WR44-U5S1-WE1-SW

The U5 identifies it as a Qualcomm Gobi 2000 module

Table 1 below shows the module types currently shipped with Digi TansPort router

Module type	
C0	C-motech CNE-680
C3	C-motech CNE-680 (RUIM)
C4	C-motech CNE-680 (pre-prov Norway)
C6	C-motech CNE-680 (pre prov Sweden)
E1	Cinterion MC75i
G1	Cinterion TC63i or MC75i
U0	Option GTM380
U1	Option GTM382
U2	Ericsson F3507
U3	Sierra Wireless MC8790
U4	Ericsson F3307
U5	Qualcomm Gobi 2000
U6	Ericsson F5521gw (AT&T)
U7	Ericsson F5521gw
U8	Qualcomm Gobi 3000

Table 1: W-WAN module types.

4.2 Check the output of an 'ati5' command

This can be done through the use of the <ati5> command at the command line. An example output is below; the important areas of text are highlighted in red.

```
ati5
Digi TransPort WR41-HX00-DE1-XX(WR41v2) Ser#:193656 HW Revision: 3203a
Software Build Ver5141. Nov 02 2011 00:17:59 MW
ARM Bios Ver 6.37 v41 399MHz B256-M256-F80-O100150,0 MAC:00042d02f478
Power Up Profile: 0
-----text omitted-----
IKE Revision: 1.0
PollANS Revision: 1.2
PPPOE Revision: 1.0
BRIDGE Revision: 1.1
MODEM CC (Ericsson 3G) Revision: 1.4
FLASH Write Revision: 1.2
OK
```

4.3 Check modem status

Issuing the <modemstat ?> command will also provide information to the wireless module. An example output is below. The important areas are highlighted in red.

```
modemstat ?
      Outcome: Got modem status OK:
      Time: 28 Dec 2011 14:37:57
      SIM status: READY
      Signal strength: -65 dBm
      Manufacturer: Ericsson
      Model: F5521gw
      IMEI: 356215040242004
      IMSI: 234159087893245
      ICCID: 89441000300678785654
      Firmware: R3B01
      GPRS Attachment Status: Attached
      GPRS Registration: Registered, home network
      GSM Registration: Registered, home network lac:DF ci:1B0BD51
      Network: 0,0,"vodafone UK",2
      Network Technology: HSPA
      Last Error Report: Deactivate Cause: SM36 (Regular deactivation)
OK
```

4.4 Check the web GUI

The W-WAN module type can be discovered from the web interface by browsing to the following location –

Administration - System Information

User : username

Alarms

System

Remote Management

Security

Position

Applications

Basic

Python

Management

Network Status

Connections

Position

Event Log

Analyser

Top Talkers

Administration

System Information

File Management

X.509 Certificate Management

Backup/Restore

Administration - System Information

Model: TransPort WR41v2

Part Number: WR41-HX00-DE1-XX

Ethernet 0 MAC Address: 00:04:2D:02:F4:78

Firmware Version: 5141 \$ (Nov 02 2011 00:17:59)

SBIOS Version: 6.37

Build Version: MW

HW Version: 3203a

CPU Utilization: 1% (Min: 1%, Max: 48%, Avg: 3%)

Up Time: 5 hours 33 minutes 3 seconds

Date and Time: 28 Dec 2011 15:46:14

Total Memory: 65536 KB

Used Memory: 29220 KB

Free Memory: 36316 KB

Mobile Module: **Ericsson 3G**

SW Opts: 0x100140 0x0

SW Cnts: 5 0 0 0 3 0 0 0 0 13

Refresh

4.5 Check the USB bus

To check the USB bus issue the command <usb show>

```
usb show
+ bus 1, usb-1
  + dev 1, port 0, EHCI root hub
+ bus 2, usb-2
  + dev 1, port 0, EHCI root hub
  + dev 2, port 1, F5521gw
+ bus 3, usb-3
  + dev 1, port 0, EHCI root hub
OK
```

The highlighted **F5521gw** indicates that an Ericsson HSPA module is installed.

4.6 Firmware selection

Having determined the W-WAN module type the correct firmware can be loaded. There are two ways to update the firmware.

1. Using FlashWriter
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Please note: Before undertaking any firmware update, it is recommended that an .ALL file of the current router configuration or at least back up the *config.da0*, *fw.txt* and *pwds.da0* files is made.

FlashWriter method

FlashWriter files are posted in .zip format on the website. Further information on FlashWriter can be found [here](#).

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