

Geos Dual ADSL2+ x86 Router / Appliance

FAQ

Version 0.1

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Answers

1. What ADSL standards are supported?

ANSI T1.413 i2

ITU G.992.1 (G.dmt, Annexes A & M)

ITU G.992.3 (G.dmt.bis, commonly referred to as ADSL2, Annexes A & M)

ITU G.992.5 (ADSL2plus, Annexes A & M)

2. Is Annex B (ADSL over ISDN) supported?

Yes, Annex B models are available but MOQs (minimum order quantities) may apply – this is a non stock item.

3. How do I check line speeds and SNR?

Via the CLI :

```
soloscli -g 0 RxBitRate
```

```
soloscli -g 0 LocalSNRMargin
```

Note : For the second port use the “-g 1” option.

4. What ADSL statistics are available?

The following statistics are available via soloscli :

TxBitRate, RxBitRate, RxATTNDR, TxATTNDR, AnnexType, TxCellRate, RxCellRate, PhyTXCellCount, PhyRXCellCount, PhyCellDropCount, RSCorrectedErrorsDn, RSUnCorrectedErrorsDn, RSCorrectedErrorsUp, RSUnCorrectedErrorsUp, ShowtimeStart, ATURVendor, ATUCCountry, ATURANSIRev, ATURANSISTD, ATUCANSIRev, ATUCANSIID, ATUCANSISTD, LocalSEF, LocalEndLOS, LocalSNRMargin, LocalLineAttn, INPup, INPdown, RawAttn, LocalTxPower, RemoteTxPower, RemoteSEF, RemoteLOS, RemoteLineAttn, RemoteSNRMargin, LineUpCount

For more details see Appendix B of the Geos User Manual

5. How do I force G.DMT?

To force ADSL1...

```
soloscli -s 0 BisACapability Disable {disable adsl2/2+}  
soloscli -s 0 BisMCapability Disable {disable annex M}  
soloscli -s 0 ActivateLine Start {force an ADSL restart}
```

To revert back to ADSL2+...

```
soloscli -s 0 BisACapability A2/A2+  
soloscli -s 0 BisMCapability M2+/M2  
soloscli -s 0 ActivateLine
```

Note : For the second port use the “-g 1” option.

6. How can I set a higher SNR?

For lines that are noisy and frequently drop sync you can force a higher SNR as follows:

```
soloscli -s 0 BisAMaxMargin Disable {default value is PerCO}  
soloscli -s 0 BisAForceSNRMarginDn 0x60 {10dB}  
soloscli -s 0 ActivateLine Start
```

Notes :

- For the second port use the “-g 1” option.
- For very noisy lines you can also try values of 0x78 (12dB) and 0x8C (14dB)

7. What ADSL protocols are supported?

PPPoA (RFC 2364)
PPPoE (RFC 2516)
Bridged Ethernet (RFC 1483/2684)
ML-PPP (RFC 1990)

8. What are the correct PVC (VPI / VPCI) settings?

These vary depending on the country and provider, the most common values are :

Country	VPI	VCI
Australia	8	35
France	8	35
UK	0	38
USA	8	35
New Zealand	0	100

For a more detailed list refer to Appendix A of the Geos User Manual

9. Is ML-PPP supported?

Yes ML-PPP is supported for both PPPoE and PPPoA links.

10. What Linux kernels are supported and where can I find ADSL drivers?

The ADSL hardware on the Geos uses the GPL Linux Solos driver. Linux kernels 2.6.23 and later are currently supported. The following table indicates which driver to use for various kernels :

Kernel	Source	Comments
2.6.23 – 2.6.28	http://sourceforge.net/projects/openadsl/files/linux-solos-driver/	Not part of these standard kernels.
2.6.29, 2.6.30	http://sourceforge.net/projects/openadsl/files/linux-solos-driver/	Apply patches to standard kernel.
2.6.31 and later	Included in standard kernel source	
3.0.1 and later	Included in standard kernel source	

11. What are the recommended kernel options?

Refer to section 3.2 of of the Geos User Manual

If you experience any performance issues try:
CONFIG_CC_OPTIMIZE_FOR_SIZE = NO

12. What are the DC power requirements?

Voltage : 9 – 14 VDC
Current : 1.0A (12W, Typical), 3.0A (Max.)
Connector : 5.5/2.5mm, centre positive

IMPORTANT : For safety reasons, the negative connection on the PSU should be connected to Mains Earth.

13. How do I control the programmable LEDs?

```
#GPIO 6 is LED0  
#GPIO 25 is LED1  
#GPIO 27 is LED2
```

```
modprobe cs5535_gpio major=222 mask=0x0E000048  
for min in 6 25 27 ;  
do  
  mknod -m 0664 /dev/gpio_$(min) c 222 $(min)  
done
```

```
#init the output LEDs  
echo "Otdp" > /dev/gpio_6  
echo "Otdp" > /dev/gpio_25  
echo "Otdp" > /dev/gpio_27
```

```
#Turn LEDs on  
echo "0" > /dev/gpio_6  
echo "0" > /dev/gpio_25  
echo "0" > /dev/gpio_27
```

14. How do I read the user switch?

#GPIO 3 is the user switch

```
modprobe cs5535_gpio major=222 mask=0x0E000048  
mknod -m 0664 /dev/gpio_3 c 222 3
```

```
echo "loTPd"> /dev/gpio_3
```

Then you should be able to read /dev/gpio_3 and test for the first character being a '0':

Button not pressed:

```
# cat /dev/gpio_3  
1loTPd
```

While button is pressed:

```
# cat /dev/gpio_3  
0loTPd
```

15. How do I control the speaker?

```
echo -e "\007" >/dev/tty10  
echo -ne "\a" > /dev/console
```

See also

<http://www.frank-buss.de/beep/index.html>

16. What are the serial port settings?

RS-232
115,200 bps
8 Data bits, 1 Stop bit, No parity

17. How do I set up a serial console?

Add the following in /boot/grub/menu.lst:

```
serial --unit=0 --speed=115200 --word=8 --parity=no --stop=1 terminal serial
```

Your Kernel command line will also need:

```
console=ttyS0,115200n8
```

/etc/inittab will need:

```
T0:23:respawn:/sbin/getty -L ttyS0 115200 vt100
```

18. How do I use the temperature sensors?

See this good article written by Tobias Muller...

<http://www.twam.info/hardware/alix/temperature-sensor-on-alix3d3>