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Subject: **Tutorial:** How compile and install the driver: **agrsm-20080203.tar.gz** to Lucent V.92 56K Internal Modem - agere systems to access the Internet
To: ubuntu-doc@lists.ubuntu.com

Dear **Mark Shuttleworth**, **developers** and **all the persons** from the **Canonical**:

Is the first time that write to support of the Canonical. Through of this e-mail, will give my first contribution to Canonical with introduction of the follow tutorial: **How compile and install the driver: agrsm-20080203.tar.gz** to Lucent V.92 56K Internal Modem - agere systems to access the Internet. In the following link: <https://help.ubuntu.com/community/DialupModemHowtoLucent> are on display an tutorial of how install **the matian_modem driver**; but my tutorial is different of this.

The aim of the my tutorial is introduce some tutorials of other studios and complete the that lack to any person achieve activate the **Lucent V.92 56K Internal Modem - agere systems** after **installation** of **any version** of the **Ubuntu Operating System** and access the **Internet**. The most of the tutorials in the Internet is not introduce the complete process of all task to set **modem** in the **Linux Operating System**, then was begin an search and study to get develop my tutorial to use and now introduce to all persons from the Canonical know and analyze if is possible to become an documentation to **Ubuntu Operating System**. I was not created nothing, only was use parts theoretical of the files into of the **scanModem script file** by **Marv Stodolsky** and too of the **text** of **Hugo Canilli** in the link give below; but lack of setting in the following files: **wvdial.conf** and **rc.local** **into of the subdirectory:/etc**.

I was begin in the **Linux** world with installation and test of the following **Linux** distribution: **Kurumin 6.0**, **SUSE Linux 10.1**, **Fedora Core 6.0**, **Kurumin 7.0**, **Fedora 7**, **Ubuntu 7.04**, **Ubuntu 7.10**, **Ubuntu 8.04.1 LTS** and **Ubuntu 8.04.3 LTS**. In the beginning was not ease execute this experience because I not know use the **Linux Operating System**. It was not ease get an tutorial in **Internet** or **books** that was teach me the following tasks: **find the driver exact** to the **Lucent V.92 56K Internal Modem - agere systems**, compile and install the driver: **agrsm-20080203.tar.gz** and adjust the files: **wvdial.conf** and **rc.local** into **subdirectory: /etc**. After more than three years without sucess, I was import the book: **Fedora 7 and Red Hat Enterprise Linux** by **Wiley - Christopher Negus**. In this book was find the link: <http://www.linmodemns.org> to execute the download of the **scanModem script file**, and study all **the files** into.

This author inform in book that the `scanModem script file` is `only file` that will teach any person the `compile and install the driver exact and activate any modem to access the internet using any Linux Operatin System`. Too was learn about `kernel-headers` and `kernel-source`. Other problem to any new user of the Windows Operating System is not know as execute `script file`.

The first time that was get success in `compile and install the driver: agrsm-20080203.tar.gz` and activate the `Lucent V.92 56K Internal Modem - agere systems`, was in the `SUSE Linux 10.1 Operating System` installed in `second hard disk(slave)` of the `my computer`. The DVD of this system goes with the book: `Beginning SUSE Linux` by `Apress` of the author `Keir Thomas`. In book this author teach the `compile and install the driver of the nvidia`. After have installed this system was use the command: `Kinternet application` to access the `internet`, after was test with the `wvdial dialer` in terminal as `root user` and was get more performance than the previous. In same `second hard disk` too was installed the `Ubuntu 8.04.1 LTS` of the DVD that goes with the book: `The Official Ubuntu Book` by `Prentice Hall` of the authors: `Benjamin Mako Hill, Corey Burger, Jonathan Jesse and Jono Bacon` - Third Edition, that was import of the `amazon.com`, then was execute the same experience and too was get success. In this `Tutorial` was add comments or display content of `each command Linux` or `subdirectory` after execute in terminal. It will help `all the persons` in understand each step. `All the commands` in terminal are in `color: blue` to `all the users always type until activate this modem`.

In my computer currently are installed the `Ubuntu 8.04.3 LTS` that goes with the magazine buyed in newsstand. In this system was execute `the same test` and too was get success in activate the `Lucent V.92 56K Internal Modem - agere systems`. After all my introduction, now will begin the tutorial to all the persons will follow below.

How compile and install the driver: `agrsm-20080203.tar.gz` to The `Lucent V.92 56K Internal Modem - agere systems` to access the internet

- 1.) First access the follow link: <http://www.linmodemns.org>. After download and execute the following `scanModem script file as root user`, the driver was get is the `agrsm-20080203.tar.gz`. To get this driver, access the following link: <http://linmodems.technion.ac.il/packages/ltmodem/sv92> to download.

2.) After copy the agrsm-20080203.tar.gz file of the subdirectory: /tmp to the subdirectory: /home/any_user using the command into the Terminal keying: # cp /tmp/agrsm-20080203.tar.gz /home/any_user

Note: If any user access the Internet only through of the Windows Operating System, download this driver: agrsm-20080203.tar.gz and Save in CD to use in Linux. **Warning:** The scanModem script file will not execute in this system. The access to Internet using this system will help only in download of this driver.

To get where the Lucent V.92 56K Internal Modem - agere systems is installed, type follow commd into terminal:

```
root@cristovom-desktop:/home/cristovom# lspci -vv
```

```
00:00.0 Host bridge: VIA Technologies, Inc. VT82C693A/694x [Apollo PRO133x] (rev c4)
  Subsystem: ASUSTeK Computer Inc. Unknown device 80e7
  Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B-
  Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort+ >SERR- <PERR-
  Latency: 0
  Region 0: Memory at fc000000 (32-bit, prefetchable) [size=32M]
  Capabilities: [a0] AGP version 2.0
    Status: RQ=32 Iso- ArqSz=0 Cal=0 SBA+ ITACoh- GART64- HTrans- 64bit- FW- AGP3- Rate=x1,x2,x4
    Command: RQ=1 ArqSz=0 Cal=0 SBA- AGP- GART64- 64bit- FW- Rate=<none>
  Capabilities: [c0] Power Management version 2
    Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
    Status: D0 PME-Enable- DSel=0 DScale=0 PME-

00:01.0 PCI bridge: VIA Technologies, Inc. VT82C598/694x [Apollo MVP3/Pro133x AGP] (prog-if 00 [Normal decode])
  Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B-
  Status: Cap+ 66MHz+ UDF- FastB2B- ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort+ >SERR- <PERR-
  Latency: 0
  Bus: primary=00, secondary=01, subordinate=01, sec-latency=0
  Memory behind bridge: dd000000-dfefffff
  Prefetchable memory behind bridge: dff00000-fbffffff
  Secondary status: 66MHz- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort- <SERR- <PERR-
  BridgeCtl: Parity- SERR- NoISA- VGA+ MAbort- >Reset- FastB2B-
  Capabilities: [80] Power Management version 2
    Flags: PMEClk- DSI- D1+ D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
    Status: D0 PME-Enable- DSel=0 DScale=0 PME-

00:04.0 ISA bridge: VIA Technologies, Inc. VT82C686 [Apollo Super South] (rev 40)
  Subsystem: ASUSTeK Computer Inc. Unknown device 80e7
  Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping+ SERR- FastB2B-
  Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
  Latency: 0
```

Capabilities: [c0] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
Status: D0 PME-Enable- DSel=0 DScale=0 PME-

00:04.1 IDE interface: VIA Technologies, Inc. VT82C586A/B/VT82C686/A/B/VT823x/A/C PIPC Bus Master IDE (rev 06) (prog-if 8a [Master SecP PriP])

Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping+ SERR- FastB2B-
Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
Latency: 32
Region 0: [virtual] Memory at 000001f0 (32-bit, non-prefetchable) [size=8]
Region 1: [virtual] Memory at 000003f0 (type 3, non-prefetchable) [size=1]
Region 2: [virtual] Memory at 00000170 (32-bit, non-prefetchable) [size=8]
Region 3: [virtual] Memory at 00000370 (type 3, non-prefetchable) [size=1]
Region 4: I/O ports at d800 [size=16]
Capabilities: [c0] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
Status: D0 PME-Enable- DSel=0 DScale=0 PME-

00:04.2 USB Controller: VIA Technologies, Inc. VT82xxxxx UHCI USB 1.1 Controller (rev 1a) (prog-if 00 [UHCI])

Subsystem: First International Computer, Inc. VA-502 Mainboard
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV+ VGASnoop- ParErr- Stepping- SERR- FastB2B-
Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
Latency: 32, Cache Line Size: 32 bytes
Interrupt: pin D routed to IRQ 11
Region 4: I/O ports at d400 [size=32]
Capabilities: [80] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
Status: D0 PME-Enable- DSel=0 DScale=0 PME-

00:04.3 USB Controller: VIA Technologies, Inc. VT82xxxxx UHCI USB 1.1 Controller (rev 1a) (prog-if 00 [UHCI])

Subsystem: First International Computer, Inc. VA-502 Mainboard
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV+ VGASnoop- ParErr- Stepping- SERR- FastB2B-
Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
Latency: 32, Cache Line Size: 32 bytes
Interrupt: pin D routed to IRQ 11
Region 4: I/O ports at d000 [size=32]
Capabilities: [80] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
Status: D0 PME-Enable- DSel=0 DScale=0 PME-

00:04.4 Host bridge: VIA Technologies, Inc. VT82C686 [Apollo Super ACPI] (rev 40)

Control: I/O- Mem- BusMaster- SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B-
Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-

Interrupt: pin ? routed to IRQ 9
Capabilities: [68] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
Status: D0 PME-Enable- DSel=0 DScale=0 PME-

00:07.0 Multimedia audio controller: Ensoniq ES1371 [AudioPCI-97] (rev 08)
Subsystem: Ensoniq Creative Sound Blaster AudioPCI64V, AudioPCI128
Control: I/O+ Mem- BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B-
Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=slow >TAbort- <TAbort- <MAbort+ >SERR- <PERR-
Latency: 32 (3000ns min, 32000ns max)
Interrupt: pin A routed to IRQ 5
Region 0: I/O ports at b800 [size=64]
Capabilities: [dc] Power Management version 1
Flags: PMEClk- DSI+ D1- D2+ AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
Status: D0 PME-Enable- DSel=0 DScale=0 PME-

00:09.0 Communication controller: Agere Systems Unknown device 0620
Subsystem: Agere Systems Unknown device 0620
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B-
Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
Latency: 32
Interrupt: pin A routed to IRQ 10
Region 0: I/O ports at b400 [size=256]
Capabilities: [f8] Power Management version 3
Flags: PMEClk- DSI+ D1- D2- AuxCurrent=55mA PME(D0-,D1-,D2-,D3hot+,D3cold+)
Status: D0 PME-Enable- DSel=0 DScale=0 PME-

01:00.0 VGA compatible controller: nVidia Corporation NV44A [GeForce 6200] (rev a1) (prog-if 00 [VGA controller])
Subsystem: XFX Pine Group Inc. Unknown device 2152
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping- SERR- FastB2B-
Status: Cap+ 66MHz+ UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort- <MAbort- >SERR- <PERR-
Latency: 64 (1250ns min, 250ns max)
Interrupt: pin A routed to IRQ 9
Region 0: Memory at de000000 (32-bit, non-prefetchable) [size=16M]
Region 1: Memory at e0000000 (32-bit, prefetchable) [size=256M]
Region 2: Memory at dd000000 (32-bit, non-prefetchable) [size=16M]
Expansion ROM at dffe0000 [disabled] [size=128K]
Capabilities: [60] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
Status: D0 PME-Enable- DSel=0 DScale=0 PME-
Capabilities: [44] AGP version 3.0
Status: RQ=32 Iso- ArqSz=0 Cal=0 SBA+ ITACoh- GART64- HTrans- 64bit- FW+ AGP3- Rate=x1,x2,x4
Command: RQ=1 ArqSz=0 Cal=0 SBA- AGP- GART64- 64bit- FW- Rate=<none>

```
root@cristovom-desktop:/home/cristovom#
```

Note: Because of the extension of the content previous file and the number large of files into as subdirectories: /proc and /dev, the size of the font was reduced to all persons check better your contents. Too enhance in color some new files or content that will appear in compilation of the driver and too in installation of the modules in Kernel. After this, type the following commands in the terminal below to probe and display the content of some subdirectory of the system before of the compile and install the driver: agrsm-20080203.tar.gz. **Warning:** The process of display the content of the commands executed or of subdirectories is give to the better understanding of all the steps.

```
root@cristovom-desktop:/home/cristovom# ls /proc
```

```
1      1439  4      45      4816  5053  5124  5330  5486  5538  5610  asound  dma      irq      modules  slabinfo
uptime
108    1446  41     4579  4836  5059  5161  5445  5501  5539  5612  buddyinfo  driver  kallsyms  mounts  stat
version
139    184   4125  4629  4837  5069  5163  5453  5512  5540  5613  bus      execdomains  kcore  mtrr     swaps
version_signature
140    2     44    4692  4875  5079  5168  5454  5516  5542  5630  cgroups  fb      key-users  net     sys
vmcore
141    2453  4403  4749  4949  5099  5206  5466  5520  5551  5631  cmdline  filesystems  kmsg   pagetypeinfo  sysrq-trigger
vmstat
1412   2656  4404  4751  4968  5105  5220  5469  5523  5555  5645  cpuinfo  fs      loadavg  partitions  sysvipc
zoneinfo
1414   2998  4409  4773  4971  5106  5307  5482  5525  5563  6     crypto  interrupts  locks   sched_debug  timer_list
1425   3     4411  4789  5     5118  5327  5484  5530  5571  7     devices  iomem  meminfo  scsi     timer_stats
1432   3042  4414  4803  5033  5119  5329  5485  5535  5574  acpi  diskstats  ioports  misc     self      tty
```

```
root@cristovom-desktop:/home/cristovom#
```

```
root@cristovom-desktop:/home/cristovom# cat /proc/interrupts
```

```
          CPU0
 0:        41685    XT-PIC-XT      timer
 1:         365    XT-PIC-XT      i8042
 2:          0    XT-PIC-XT      cascade
 5:         465    XT-PIC-XT      Ensoniq AudioPCI
 6:          4    XT-PIC-XT      floppy
 7:          1    XT-PIC-XT      parport0
 8:          3    XT-PIC-XT      rtc
 9:          1    XT-PIC-XT      acpi
11:         59    XT-PIC-XT      uhci_hcd:usb1, uhci_hcd:usb2
12:       7204    XT-PIC-XT      i8042
```

```
14:      9096      XT-PIC-XT      libata
15:      4834      XT-PIC-XT      libata
NMI:      0      Non-maskable interrupts
LOC:      0      Local timer interrupts
RES:      0      Rescheduling interrupts
CAL:      0      function call interrupts
TLB:      0      TLB shootdowns
TRM:      0      Thermal event interrupts
SPU:      0      Spurious interrupts
ERR:      0
MIS:      0
```

```
root@crisovom-desktop:/home/crisovom#
```

Note: After was have showed the contents of the `interrupts` file, the `IRQ 10` was not fixed because of the `driver: agrsm-20080203.tar.gz` are not compiled and installed still in the `kernel`. Will introduce the `interrupts` file again after all the procedure of compilation and installation of the `driver: agrsm-20080203.tar.gz`.

```
root@crisovom-desktop:/home/crisovom# cat /proc/ioports
```

```
0000-001f : dma1
0020-0021 : pic1
0040-0043 : timer0
0050-0053 : timer1
0060-006f : keyboard
0070-0077 : rtc
0080-008f : dma page reg
00a0-00a1 : pic2
00c0-00df : dma2
00f0-00ff : fpu
0170-0177 : 0000:00:04.1
  0170-0177 : libata
01f0-01f7 : 0000:00:04.1
  01f0-01f7 : libata
02f8-02ff : serial
0376-0376 : 0000:00:04.1
  0376-0376 : libata
0378-037a : parport0
03c0-03df : vga+
03f0-03f1 : pnp 00:02
03f2-03f5 : floppy
03f6-03f6 : 0000:00:04.1
```

```
03f6-03f6 : libata
03f7-03f7 : floppy DIR
03f8-03ff : serial
04d0-04d1 : pnp 00:02
0778-077a : parport0
0cf8-0cff : PCI conf1
b400-b4ff : 0000:00:09.0 - Is the address of the I/O port and the PCI slot where the modem was fit
b800-b83f : 0000:00:07.0
  b800-b83f : Ensoniq AudioPCI
d000-d01f : 0000:00:04.3
  d000-d01f : uhci_hcd
d400-d41f : 0000:00:04.2
  d400-d41f : uhci_hcd
d800-d80f : 0000:00:04.1
  d800-d80f : libata
e400-e47f : pnp 00:03
  e400-e403 : ACPI PM1a_EVT_BLK
  e404-e405 : ACPI PM1a_CNT_BLK
  e408-e40b : ACPI PM_TMR
  e410-e415 : ACPI CPU throttle
  e420-e423 : ACPI GPE0_BLK
e800-e80f : 0000:00:04.4
  e800-e80f : pnp 00:03
    e800-e807 : vt596_smbus
```

```
root@cristovom-desktop:/home/cristovom#
```

Begin of the compilation and installation of the driver: agrsm-20080203.tar.gz

Now will compile and install the the driver: agrsm-20080203.tar.gz to Lucent V.92 56K Internal Modem -
agere systems. The instruction set used here is same that Hugo Canilli was allow the Marv Stodolsky edited
the text in the following link: http://linmodems.technion.ac.il/packages/Itmodem/sv92/agrsm_howto.txt, but
sorry is incompleto. Will complete with the instruction that lack where necessary. Execute all the
instruction in Terminal as root user in this order.

```
root@cristovom-desktop:/home/cristovom# tar xvfz agrsm-20080203.tar.gz
agrsm/
agrsm/agrsm_core.o
agrsm/agrmodemlib.o
agrsm/agrsm_howto.txt
agrsm/README
```



```
agrsm/agr.h
agrsm/lib.c
agrsm/ReadmeUpdate.txt
agrsm/agrsoftmodem.c
agrsm/8250.h
agrsm/agrmodem.h
agrsm/agrsm.rules
agrsm/linuxif.h
agrsm/Makefile
agrsm/.#Readme.1st
agrsm/LICENSE
agrsm/serial26.c
root@crisovom-desktop:/home/crisovom#
root@crisovom-desktop:/home/crisovom# cd agrsm; pwd; ls -l
/home/crisovom/agrsm
total 2932
-rw-r--r-- 1 crisovom crisovom    2446 2007-08-03 23:34 8250.h
-rw-r--r-- 1 crisovom crisovom    1072 2007-08-03 23:34 agr.h
-rw-r--r-- 1 crisovom crisovom    9147 2007-08-03 23:34 agrmodem.h
-rw-r--r-- 1 crisovom crisovom 1419089 2005-11-16 19:43 agrmodemlib.o
-rw-r--r-- 1 crisovom crisovom 1418996 2007-08-04 00:07 agrsm_core.o
-rw-r--r-- 1 crisovom crisovom    7189 2008-02-03 16:20 agrsm_howto.txt
-rw-r--r-- 1 crisovom crisovom     184 2007-02-06 10:45 agrsm.rules
-rw-r--r-- 1 crisovom crisovom   10579 2008-02-03 15:19 agrsoftmodem.c
-rw-r--r-- 1 crisovom crisovom    7623 2008-02-03 15:19 lib.c
-rw-r--r-- 1 crisovom crisovom    5744 2005-11-16 18:06 LICENSE
-rw-r--r-- 1 crisovom crisovom    2607 2007-08-03 23:34 linuxif.h
-rw-r--r-- 1 crisovom crisovom    1058 2008-02-03 15:19 Makefile
-rw-r--r-- 1 crisovom crisovom    1633 2005-10-25 08:16 README
-rw-r--r-- 1 crisovom crisovom    2595 2008-02-03 15:25 ReadmeUpdate.txt
-rw-r--r-- 1 crisovom crisovom   67401 2007-08-04 00:11 serial26.c
root@crisovom-desktop:/home/crisovom/agrsm#
root@crisovom-desktop:/home/crisovom/agrsm# make clean
rm -fR agrsoftmodem.o serial26.o \
    serial26.o \
    agrsm_core.o \
    agrmodem.{o,ko,mod.{c,o}} \
    agrserial.{o,ko,mod.{c,o}} \
```

```
.*.cmd .tmp_versions
root@cristovom-desktop:/home/cristovom/agrsm#
root@cristovom-desktop:/home/cristovom/agrsm# make
make -C /lib/modules/2.6.24-24-generic/build SUBDIRS=/home/cristovom/agrsm modules
make[1]: Entrando no diretório `/usr/src/linux-headers-2.6.24-24-generic'
  CC [M] /home/cristovom/agrsm/agrsoftmodem.o
objcopy --weaken-symbol=LXHardwareInfoCreate \
        --weaken-symbol=LXHardwareInfoDestroy \
        /home/cristovom/agrsm/agrmodemlib.o /home/cristovom/agrsm/agrsm_core.o
  CC [M] /home/cristovom/agrsm/lib.o
  CC [M] /home/cristovom/agrsm/serial26.o
/home/cristovom/agrsm/serial26.c: Na função 'serial8250_get_mctrl':
/home/cristovom/agrsm/serial26.c:1371: aviso: unused variable 'flags'
/home/cristovom/agrsm/serial26.c: Na função 'serial8250_config_port':
/home/cristovom/agrsm/serial26.c:2039: aviso: unused variable 'ret'
/home/cristovom/agrsm/serial26.c: No nível superior:
/home/cristovom/agrsm/serial26.c:2131: aviso: initialization from incompatible pointer type
/home/cristovom/agrsm/serial26.c:2132: aviso: initialization from incompatible pointer type
/home/cristovom/agrsm/serial26.c:1922: aviso: 'serial8250_request_rsa_resource' defined but not used
  LD [M] /home/cristovom/agrsm/agrmodem.o
  LD [M] /home/cristovom/agrsm/agrserial.o
Building modules, stage 2.
MODPOST 2 modules
WARNING: could not find /home/cristovom/agrsm/.agrsm_core.o.cmd for /home/cristovom/agrsm/agrsm_core.o
  CC      /home/cristovom/agrsm/agrmodem.mod.o
  LD [M] /home/cristovom/agrsm/agrmodem.ko
  CC      /home/cristovom/agrsm/agrserial.mod.o
  LD [M] /home/cristovom/agrsm/agrserial.ko
make[1]: Saindo do diretório `/usr/src/linux-headers-2.6.24-24-generic'
root@cristovom-desktop:/home/cristovom/agrsm#
root@cristovom-desktop:/home/cristovom/agrsm# make install; pwd; ls -l
make -C /lib/modules/2.6.24-24-generic/build M="/home/cristovom/agrsm" modules_install
make[1]: Entrando no diretório `/usr/src/linux-headers-2.6.24-24-generic'
  INSTALL /home/cristovom/agrsm/agrmodem.ko
  INSTALL /home/cristovom/agrsm/agrserial.ko
  DEPMOD  2.6.24-24-generic
make[1]: Saindo do diretório `/usr/src/linux-headers-2.6.24-24-generic'
```

```

if ! /sbin/modprobe -nq agrmodem.ko ; then /sbin/depmod -a; fi
/home/cristovom/agrsm
total 6856
-rw-r--r-- 1 cristovom cristovom 2446 2007-08-03 23:34 8250.h
-rw-r--r-- 1 cristovom cristovom 1072 2007-08-03 23:34 agr.h
-rw-r--r-- 1 cristovom cristovom 9147 2007-08-03 23:34 agrmodem.h
-rw-r--r-- 1 root root 1657479 2010-03-06 19:28 agrmodem.ko
-rw-r--r-- 1 cristovom cristovom 1419089 2005-11-16 19:43 agrmodemlib.o
-rw-r--r-- 1 root root 2045 2010-03-06 19:28 agrmodem.mod.c
-rw-r--r-- 1 root root 28580 2010-03-06 19:28 agrmodem.mod.o
-rw-r--r-- 1 root root 1629958 2010-03-06 19:28 agrmodem.o
-rw-r--r-- 1 root root 152350 2010-03-06 19:28 agrserial.ko
-rw-r--r-- 1 root root 1818 2010-03-06 19:28 agrserial.mod.c
-rw-r--r-- 1 root root 28236 2010-03-06 19:28 agrserial.mod.o
-rw-r--r-- 1 root root 125257 2010-03-06 19:28 agrserial.o
-rw-r--r-- 1 root root 1418996 2010-03-06 19:28 agrsm_core.o
-rw-r--r-- 1 cristovom cristovom 7189 2008-02-03 16:20 agrsm_howto.txt
-rw-r--r-- 1 cristovom cristovom 184 2007-02-06 10:45 agrsm.rules
-rw-r--r-- 1 cristovom cristovom 10579 2008-02-03 15:19 agrsoftmodem.c
-rw-r--r-- 1 root root 111186 2010-03-06 19:28 agrsoftmodem.o
-rw-r--r-- 1 cristovom cristovom 7623 2008-02-03 15:19 lib.c
-rw-r--r-- 1 root root 104948 2010-03-06 19:28 lib.o
-rw-r--r-- 1 cristovom cristovom 5744 2005-11-16 18:06 LICENSE
-rw-r--r-- 1 cristovom cristovom 2607 2007-08-03 23:34 linuxif.h
-rw-r--r-- 1 cristovom cristovom 1058 2008-02-03 15:19 Makefile
-rw-r--r-- 1 root root 77 2010-03-06 19:28 Module.symvers
-rw-r--r-- 1 cristovom cristovom 1633 2005-10-25 08:16 README
-rw-r--r-- 1 cristovom cristovom 2595 2008-02-03 15:25 ReadmeUpdate.txt
-rw-r--r-- 1 cristovom cristovom 67401 2007-08-04 00:11 serial26.c
-rw-r--r-- 1 root root 125276 2010-03-06 19:28 serial26.o
root@cristovom-desktop:/home/cristovom/agrsm#

```

Note: Until here, this procedure of compilation is common to any driver. In the next instruction typed below in the terminal all will see that the content of the subdirectory: /dev is the same.

```

root@crisovom-desktop:/home/cristovom/agrsm# ls /dev
adsp      hpet      ptya9 ptyc9 ptye9 ptyq9 pty9  ptyu9 ptyw9 ptyy9 ram3      tty1  tty39  ttya1  ttyc1  ttye1  ttyq1  ttys0  ttytd  ttyvd  ttyxd  ttyzd
agpgart   initctl  ptyaa ptyca ptyea ptyqa ptya  ptyua ptywa ptyya ram4      tty10 tty4   ttya2  ttyc2  ttye2  ttyq2  ttys1  ttyte  ttyve  ttyxe  ttyze
audio     input    ptyab ptycb ptyeb ptyqb ptyb  ptyub ptywb ptyyb ram5      tty11 tty40  ttya3  ttyc3  ttye3  ttyq3  ttys1  ttytf  ttyvf  ttyxf  ttyzf
bus        kmem     ptyac ptycc ptyec ptyqc ptyc  ptyuc ptywc ptyyc ram6      tty12 tty41  ttya4  ttyc4  ttye4  ttyq4  ttys2  ttyu0  ttyw0  ttyy0  urandom
cdrom     kmsg     ptyad ptycd ptyed ptyqd ptyd  ptyud ptywd ptyyd ram7      tty13 tty42  ttya5  ttyc5  ttye5  ttyq5  ttys2  ttyu1  ttyw1  ttyy1
usbdev1.1_ep00
cdrw      _log     ptyae ptyce ptyee ptyqe ptye  ptyue ptywe ptyye ram8      tty14 tty43  ttya6  ttyc6  ttye6  ttyq6  ttys3  ttyu2  ttyw2  ttyy2
usbdev1.1_ep81
console   loop0    ptyaf ptycf ptyef ptyqf ptyf  ptyuf ptywf ptyyf ram9      tty15 tty44  ttya7  ttyc7  ttye7  ttyq7  ttys3  ttyu3  ttyw3  ttyy3
usbdev1.2_ep00
core      lp0      ptyb0 ptyd0 ptyp0 ptyr0 ptyt0 ptyv0 ptyx0 ptyz0 random    tty16 tty45  ttya8  ttyc8  ttye8  ttyq8  ttys4  ttyu4  ttyw4  ttyy4
usbdev1.2_ep81
disk      MAKEDEV  ptyb1 ptyd1 ptyp1 ptyr1 ptyt1 ptyv1 ptyx1 ptyz1 rtc       tty17 tty46  ttya9  ttyc9  ttye9  ttyq9  ttys5  ttyu5  ttyw5  ttyy5
usbdev2.1_ep00
dmmidi    mem      ptyb2 ptyd2 ptyp2 ptyr2 ptyt2 ptyv2 ptyx2 ptyz2 scd0     tty18 tty47  ttyaa  ttyca  ttyea  ttyqa  ttys6  ttyu6  ttyw6  ttyy6
usbdev2.1_ep81
dsp        midi     ptyb3 ptyd3 ptyp3 ptyr3 ptyt3 ptyv3 ptyx3 ptyz3 sda      tty19 tty48  ttyab  ttycb  ttyeb  ttyqb  ttys7  ttyu7  ttyw7  ttyy7  vcs
dvd        mixer    ptyb4 ptyd4 ptyp4 ptyr4 ptyt4 ptyv4 ptyx4 ptyz4 sda1     tty2   tty49  ttyac  ttycc  ttyec  ttyqc  ttys8  ttyu8  ttyw8  ttyy8  vcs1
dvdrw     net      ptyb5 ptyd5 ptyp5 ptyr5 ptyt5 ptyv5 ptyx5 ptyz5 sdb      tty20 tty5   ttyad  ttycd  ttyed  ttyqd  ttys9  ttyu9  ttyw9  ttyy9  vcs2
fd         null     ptyb6 ptyd6 ptyp6 ptyr6 ptyt6 ptyv6 ptyx6 ptyz6 sdb1     tty21 tty50  ttyae  ttyce  ttyee  ttyqe  ttysa  ttyua  ttywa  ttyya  vcs3
fd0        nvidia0  ptyb7 ptyd7 ptyp7 ptyr7 ptyt7 ptyv7 ptyx7 ptyz7 sdb5     tty22 tty51  ttyaf  ttycf  ttyef  ttyqf  ttysb  ttyub  ttywb  ttyyb  vcs4
fd0u1040  nvidiaact1 ptyb8 ptyd8 ptyp8 ptyr8 ptyt8 ptyv8 ptyx8 ptyz8 sdb6     tty23 tty52  ttyb0  ttyd0  ttye0  ttyq0  ttysc  ttyuc  ttywc  ttyyc  vcs5
fd0u1120  oldmem   ptyb9 ptyd9 ptyp9 ptyr9 ptyt9 ptyv9 ptyx9 ptyz9 sdb7     tty24 tty53  ttyb1  ttyd1  ttye1  ttyq1  ttysd  ttyud  ttywd  ttyyd  vcs6
fd0u1440  parport0 ptyba ptyda ptypa ptyra ptyta ptyva ptyxa ptyza sequencer tty25  tty54  ttyb2  ttyd2  ttye2  ttyq2  ttysf  ttyue  ttywe  ttyye  vcs7
fd0u1600  port     ptybb ptydb ptypb ptyrb ptytb ptyvb ptyxb ptyzb sequencer2 tty26  tty55  ttyb3  ttyd3  ttye3  ttyq3  ttysf  ttyuf  ttywf  ttyyf  vcsa
fd0u1680  ppp      ptybc ptydc ptypc ptyrc ptytc ptyvc ptyxc ptyzc sg0      tty27 tty56  ttyb4  ttyd4  ttye4  ttyq4  ttysf  ttyu4  ttyw4  ttyy4  vcsa1
fd0u1722  psaux   ptybd ptydd ptypd ptyrd ptytd ptyvd ptyxd ptyzd sg1      tty28 tty57  ttyb5  ttyd5  ttye5  ttyq5  ttysf  ttyu5  ttyw5  ttyy5  vcsa2
fd0u1743  ptmx    ptybe ptyde ptype ptyre ptyte ptyve ptyxe ptyze sg2      tty29 tty58  ttyb6  ttyd6  ttye6  ttyq6  ttysf  ttyu6  ttyw6  ttyy6  vcsa3
fd0u1760  pts     ptybf ptydf ptypf ptyrf ptytf ptyvf ptyxf ptyzf shm      tty3   tty59  ttyb7  ttyd7  ttye7  ttyq7  ttysf  ttyu7  ttyw7  ttyy7  vcsa4
fd0u1840  ptya0   ptyc0 ptye0 ptyq0 pty9  ptyu0 ptyw0 ptyy0 ram0     snapshot  tty30  tty6   ttyb8  ttyd8  ttye8  ttyq8  ttysf  ttyu8  ttyw8  ttyy8  vcsa5
fd0u1920  ptya1   ptyc1 ptye1 ptyq1 pty9  ptyu1 ptyw1 ptyy1 ram1     snd       tty31  tty60  ttyb9  ttyd9  ttye9  ttyq9  ttysf  ttyu9  ttyw9  ttyy9  vcsa6
fd0u360   ptya2   ptyc2 ptye2 ptyq2 pty9  ptyu2 ptyw2 ptyy2 ram10    sndstat   tty32  tty61  ttyba  ttyda  ttye9  ttyq9  ttysf  ttyu9  ttyw9  ttyy9  vcsa7
fd0u720   ptya3   ptyc3 ptye3 ptyq3 pty9  ptyu3 ptyw3 ptyy3 ram11    sr0       tty33  tty62  ttybb  ttydb  ttye9  ttyq9  ttysf  ttyu9  ttyw9  ttyy9  xconsole
fd0u800   ptya4   ptyc4 ptye4 ptyq4 pty9  ptyu4 ptyw4 ptyy4 ram12    stderr    tty34  tty63  ttybc  ttydc  ttye9  ttyq9  ttysf  ttyu9  ttyw9  ttyy9  zero
fd0u820   ptya5   ptyc5 ptye5 ptyq5 pty9  ptyu5 ptyw5 ptyy5 ram13    stdin     tty35  tty7   ttybd  ttydd  ttye9  ttyq9  ttysf  ttyu9  ttyw9  ttyy9  zero
fd0u830   ptya6   ptyc6 ptye6 ptyq6 pty9  ptyu6 ptyw6 ptyy6 ram14    stdout    tty36  tty8   ttybe  ttyde  ttye9  ttyq9  ttysf  ttyu9  ttyw9  ttyy9  zero
full      ptya7   ptyc7 ptye7 ptyq7 pty9  ptyu7 ptyw7 ptyy7 ram15    tty       tty37  tty9   ttybf  ttydf  ttye9  ttyq9  ttysf  ttyu9  ttyw9  ttyy9  zero
fuse      ptya8   ptyc8 ptye8 ptyq8 pty9  ptyu8 ptyw8 ptyy8 ram2     tty0      tty38  ttya0  ttyc0  ttye0  ttyq0  ttys0  ttytc  ttyvc  ttyxc  ttyzc

```

```

root@crisovom-desktop:/home/cristovom/agrsm#
root@crisovom-desktop:/home/cristovom/agrsm# modprobe agrmodem
root@crisovom-desktop:/home/cristovom/agrsm# modprobe agrserial

```

Now observe the subdirectory: /dev after the two last command's typed in the terminal. This two command's previous typed will create the new element ttyAGS3 and too was add the following modules: agrmodem.ko + agrserial.ko into the kernel.

```

root@crisovom-desktop:/home/cristovom/agrsm# ls /dev
adsp      hpet      ptya9 ptyc9 ptye9 ptyq9 pty9  ptyu9 ptyw9 ptyy9 ram3      tty1  tty39  ttya1  ttyc0  ttye0  ttyq0  ttys0  ttytc  ttyvc  ttyxc  ttyzc
agpgart   initctl  ptyaa ptyca ptyea ptyqa ptya  ptyua ptywa ptyya ram4      tty10 tty4   ttya2  ttyc1  ttye1  ttyq1  ttys0  ttytd  ttyvd  ttyxd  ttyzd
audio     input    ptyab ptycb ptyeb ptyqb ptyb  ptyub ptywb ptyyb ram5      tty11 tty40  ttya3  ttyc2  ttye2  ttyq2  ttys1  ttyte  ttyve  ttyxe  ttyze

```

bus	kmem	ptyac	ptycc	ptyec	ptyqc	ptysc	ptyuc	ptywc	ptyyc	ram6	tty12	tty41	ttya4	ttyc3	ttye3	ttyq3	ttyS1	ttytf	ttyvf	ttyxf	ttyzf
cdrom	kmsg	ptyad	ptycd	ptyed	ptyqd	ptysd	ptyud	ptywd	ptyyd	ram7	tty13	tty42	ttya5	ttyc4	ttye4	ttyq4	ttyS2	ttyu0	ttyw0	ttyy0	urandom
cdwr	log	ptyae	ptyce	ptyee	ptyqe	ptyse	ptyue	ptywe	ptyye	ram8	tty14	tty43	ttya6	ttyc5	ttye5	ttyq5	ttyS2	ttyu1	ttyw1	ttyy1	
usbdev1.1_ep00																					
console	loop0	ptyaf	ptycf	ptyef	ptyqf	ptysf	ptyuf	ptywf	ptyyf	ram9	tty15	tty44	ttya7	ttyc6	ttye6	ttyq6	ttyS3	ttyu2	ttyw2	ttyy2	
usbdev1.1_ep81																					
core	lp0	ptyb0	ptyd0	ptyp0	ptyr0	ptyt0	ptyv0	ptyx0	ptyz0	random	tty16	tty45	ttya8	ttyc7	ttye7	ttyq7	ttyS3	ttyu3	ttyw3	ttyy3	
usbdev1.2_ep00																					
disk	MAKEDEV	ptyb1	ptyd1	ptyp1	ptyr1	ptyt1	ptyv1	ptyx1	ptyz1	rtc	tty17	tty46	ttya9	ttyc8	ttye8	ttyq8	ttyS4	ttyu4	ttyw4	ttyy4	
usbdev1.2_ep81																					
dmmidi	mem	ptyb2	ptyd2	ptyp2	ptyr2	ptyt2	ptyv2	ptyx2	ptyz2	scd0	tty18	tty47	ttya10	ttyc9	ttye9	ttyq9	ttyS5	ttyu5	ttyw5	ttyy5	
usbdev2.1_ep00																					
dsp	midi	ptyb3	ptyd3	ptyp3	ptyr3	ptyt3	ptyv3	ptyx3	ptyz3	sda	tty19	tty48	ttya11	ttyc10	ttye10	ttyq10	ttyS6	ttyu6	ttyw6	ttyy6	
usbdev2.1_ep81																					
dvd	mixer	ptyb4	ptyd4	ptyp4	ptyr4	ptyt4	ptyv4	ptyx4	ptyz4	sda1	tty2	tty49	ttya12	ttyc11	ttye11	ttyq11	ttyS7	ttyu7	ttyw7	ttyy7	vcs
dvdwr	net	ptyb5	ptyd5	ptyp5	ptyr5	ptyt5	ptyv5	ptyx5	ptyz5	sdb	tty20	tty5	ttya13	ttyc12	ttye12	ttyq12	ttyS8	ttyu8	ttyw8	ttyy8	vcs1
fd	null	ptyb6	ptyd6	ptyp6	ptyr6	ptyt6	ptyv6	ptyx6	ptyz6	sdb1	tty21	tty50	ttya14	ttyc13	ttye13	ttyq13	ttyS9	ttyu9	ttyw9	ttyy9	vcs2
fd0	nvidia0	ptyb7	ptyd7	ptyp7	ptyr7	ptyt7	ptyv7	ptyx7	ptyz7	sdb5	tty22	tty51	ttya15	ttyc14	ttye14	ttyq14	ttyS10	ttyu10	ttyw10	ttyy10	vcs3
fd0u1040	nvidiaact1	ptyb8	ptyd8	ptyp8	ptyr8	ptyt8	ptyv8	ptyx8	ptyz8	sdb6	tty23	tty52	ttyAGS3	ttyc15	ttye15	ttyq15	ttyS11	ttyu11	ttyw11	ttyy11	vcs4
fd0u1120	oldmem	ptyb9	ptyd9	ptyp9	ptyr9	ptyt9	ptyv9	ptyx9	ptyz9	sdb7	tty24	tty53	ttyb0	ttyd0	ttyp0	ttyr0	ttyS12	ttyu12	ttyw12	ttyy12	vcs5
fd0u1440	parport0	ptyba	ptyda	ptypa	ptyra	ptyta	ptyva	ptyxa	ptyza	sequencer	tty25	tty54	ttyb1	ttyd1	ttyp1	ttyr1	ttyS13	ttyu13	ttyw13	ttyy13	vcs6
fd0u1600	port	ptybb	ptydb	ptypb	ptyrb	ptytb	ptyvb	ptyxb	ptyzb	sequencer2	tty26	tty55	ttyb2	ttyd2	ttyp2	ttyr2	ttyS14	ttyu14	ttyw14	ttyy14	vcs7
fd0u1680	ppp	ptybc	ptydc	ptypc	ptyrc	ptytc	ptyvc	ptyxc	ptyzc	sg0	tty27	tty56	ttyb3	ttyd3	ttyp3	ttyr3	ttyS15	ttyu15	ttyw15	ttyy15	vcsa
fd0u1722	psaux	ptybd	ptydd	ptypd	ptyrd	ptytd	ptyvd	ptyxd	ptyzd	sg1	tty28	tty57	ttyb4	ttyd4	ttyp4	ttyr4	ttyS16	ttyu16	ttyw16	ttyy16	vcsa1
fd0u1743	ptmx	ptybe	ptyde	ptype	ptyre	ptyte	ptyve	ptyxe	ptyze	sg2	tty29	tty58	ttyb5	ttyd5	ttyp5	ttyr5	ttyS17	ttyu17	ttyw17	ttyy17	vcsa2
fd0u1760	pts	ptybf	ptydf	ptypf	ptyrf	ptytf	ptyvf	ptyxf	ptyzf	shm	tty3	tty59	ttyb6	ttyd6	ttyp6	ttyr6	ttyS18	ttyu18	ttyw18	ttyy18	vcsa3
fd0u1840	ptya0	ptyc0	ptye0	ptyq0	ptyS0	ptyu0	ptyw0	ptyy0	ram0	snapshot	tty30	tty6	ttyb7	ttyd7	ttyp7	ttyr7	ttyS19	ttyu19	ttyw19	ttyy19	vcsa4
fd0u1920	ptya1	ptyc1	ptye1	ptyq1	ptyS1	ptyu1	ptyw1	ptyy1	ram1	snd	tty31	tty60	ttyb8	ttyd8	ttyp8	ttyr8	ttyS20	ttyu20	ttyw20	ttyy20	vcsa5
fd0u360	ptya2	ptyc2	ptye2	ptyq2	ptyS2	ptyu2	ptyw2	ptyy2	ram10	sndstat	tty32	tty61	ttyb9	ttyd9	ttyp9	ttyr9	ttyS21	ttyu21	ttyw21	ttyy21	vcsa6
fd0u720	ptya3	ptyc3	ptye3	ptyq3	ptyS3	ptyu3	ptyw3	ptyy3	ram11	sr0	tty33	tty62	ttyb10	ttyd10	ttyp10	ttyr10	ttyS22	ttyu22	ttyw22	ttyy22	vcsa7
fd0u800	ptya4	ptyc4	ptye4	ptyq4	ptyS4	ptyu4	ptyw4	ptyy4	ram12	stderr	tty34	tty63	ttyb11	ttyd11	ttyp11	ttyr11	ttyS23	ttyu23	ttyw23	ttyy23	xconsole
fd0u820	ptya5	ptyc5	ptye5	ptyq5	ptyS5	ptyu5	ptyw5	ptyy5	ram13	stdin	tty35	tty7	ttyb12	ttyd12	ttyp12	ttyr12	ttyS24	ttyu24	ttyw24	ttyy24	zero
fd0u830	ptya6	ptyc6	ptye6	ptyq6	ptyS6	ptyu6	ptyw6	ptyy6	ram14	stdout	tty36	tty8	ttyb13	ttyd13	ttyp13	ttyr13	ttyS25	ttyu25	ttyw25	ttyy25	
full	ptya7	ptyc7	ptye7	ptyq7	ptyS7	ptyu7	ptyw7	ptyy7	ram15	tty	tty37	tty9	ttyb14	ttyd14	ttyp14	ttyr14	ttyS26	ttyu26	ttyw26	ttyy26	
fuse	ptya8	ptyc8	ptye8	ptyq8	ptyS8	ptyu8	ptyw8	ptyy8	ram2	tty0	tty38	ttya0	ttyb15	ttyd15	ttyp15	ttyr15	ttyS27	ttyu27	ttyw27	ttyy27	

```
root@crisovom-desktop:/home/crisovom/agrsm#
```

```
root@crisovom-desktop:/home/crisovom/agrsm# lsmod | grep agr
```

```
agrserial          13984  0
```

```
agrmodem           1188644  1 agrserial
```

```
root@crisovom-desktop:/home/crisovom/agrsm#
```

Warning: The two command's following that will typed in the terminal will generate the new element's: **ttySAGR** and **modem** in the subdirectory: **/dev**. Here my experience will informe all the person that this two command's will must always are typed before of the command **wvdialconf** else the comnd: # **wvdialconf /etc/wvdial.conf** that follow will not find the modem on **/dev/ttySAGR**

```
root@crisovom-desktop:/home/crisovom/agrsm# ln -s /dev/ttyAGS3 /dev/ttySAGR
```

```
root@crisovom-desktop:/home/crisovom/agrsm# ln -s /dev/ttyAGS3 /dev/modem
```

```
root@crisovom-desktop:/home/crisovom/agrsm#
```

```
root@crisovom-desktop:/home/cristovom/agrsm# ls /dev
```

```
adsp      kmsg      ptyb0 ptyd4 pty8  ptyrc ptyu0 ptyw4 ptyy8 ram6      tty16 tty49 ttyAGS3 ttyd3 ttyp7 ttyrb  ttyta ttyve ttyy2
usbdev2.1_ep81
agpgart   log       ptyb1 ptyd5 pty9  ptyrd ptyu1 ptyw5 ptyy9 ram7      tty17 tty5  ttyb0  ttyd4 ttyp8 ttyrc  ttytb ttyvf ttyy3      vcs
audio     loop0    ptyb2 ptyd6 ptypa ptyre ptyu2 ptyw6 ptyya ram8      tty18 tty50 ttyb1  ttyd5 ttyp9 ttyrd  ttytc ttyw0 ttyy4      vcs1
bus       lp0      ptyb3 ptyd7 ptypb ptyrf ptyu3 ptyw7 ptyyb ram9      tty19 tty51 ttyb2  ttyd6 ttyra ttyre  ttytd ttyw1 ttyy5      vcs2
cdrom     MAKEDEV  ptyb4 ptyd8 ptycp ptyso ptyu4 ptyw8 ptyyc random   tty2  tty52 ttyb3  ttyd7 ttypb ttyrf  ttyte ttyw2 ttyy6      vcs3
cdrw      mem      ptyb5 ptyd9 ptydp ptyso ptyu5 ptyw9 ptyyd rtc      tty20 tty53 ttyb4  ttyd8 ttypc ttys0  ttytf ttyw3 ttyy7      vcs4
console   midi     ptyb6 ptyda ptype ptyso ptyu6 ptywa ptyye scd0     tty21 tty54 ttyb5  ttyd9 ttypd ttys0  ttyu0 ttyw4 ttyy8      vcs5
core      mixer    ptyb7 ptydb ptypf ptyso ptyu7 ptywb ptyyf sda      tty22 tty55 ttyb6  ttyda ttype ttys1  ttyu1 ttyw5 ttyy9      vcs6
disk      modem    ptyb8 ptydc ptyq0 ptyso ptyu8 ptywc ptyz0 sda1     tty23 tty56 ttyb7  ttydb ttypf ttys1  ttyu2 ttyw6 ttyya      vcs7
dmmidi    net      ptyb9 ptydd ptyq1 ptyso ptyu9 ptywd ptyz1 sdb      tty24 tty57 ttyb8  ttydc ttyq0 ttys2  ttyu3 ttyw7 ttyyb      vcsa
dsp        null     ptyba ptyde ptyq2 ptyso ptyua ptywe ptyz2 sdb1     tty25 tty58 ttyb9  ttydd ttyq1 ttys2  ttyu4 ttyw8 ttyyc      vcsa1
dvd       nvidia0  ptybb ptydf ptyq3 ptyso ptyub ptywf ptyz3 sdb5     tty26 tty59 ttyba  ttyde ttyq2 ttys3  ttyu5 ttyw9 ttyyd      vcsa2
dvdwr     nvidiactl ptybc ptye0 ptyq4 ptyso ptyuc ptyx0 ptyz4 sdb6     tty27 tty6  ttybb  ttydf ttyq3 ttys3  ttyu6 ttywa ttyye      vcsa3
fd        oldmem   ptybd ptye1 ptyq5 ptyso ptyud ptyx1 ptyz5 sdb7     tty28 tty60 ttybc  ttye0 ttyq4 ttys4  ttyu7 ttywb ttyyf      vcsa4
fd0       parport0 ptybe ptye2 ptyq6 ptyso ptyue ptyx2 ptyz6 sequencer tty29 tty61 ttybd  ttye1 ttyq5 ttys5  ttyu8 ttywc ttyz0      vcsa5
fd0u1040  port     ptybf ptye3 ptyq7 ptyso ptyuf ptyx3 ptyz7 sequencer2 tty3  tty62 ttybe  ttye2 ttyq6 ttys6  ttyu9 ttywd ttyz1      vcsa6
fd0u1120  ppp      ptyc0 ptye4 ptyq8 ptyso ptyv0 ptyx4 ptyz8 sg0      tty30 tty63 ttybf  ttye3 ttyq7 ttys7  ttyua ttywe ttyz2      vcsa7
fd0u1440  psaux   ptyc1 ptye5 ptyq9 ptyso ptyv1 ptyx5 ptyz9 sg1      tty31 tty7  ttyc0  ttye4 ttyq8 ttys8  ttyub ttywf ttyz3      xconsole
fd0u1600  ptmx    ptyc2 ptye6 ptyqa ptyso ptyv2 ptyx6 ptyza sg2      tty32 tty8  ttyc1  ttye5 ttyq9 ttys9  ttyuc ttyx0 ttyz4      zero
fd0u1680  pts     ptyc3 ptye7 ptyqb ptyso ptyv3 ptyx7 ptyzb shm      tty33 tty9  ttyc2  ttye6 ttyqa ttysa  ttyud ttyx1 ttyz5
fd0u1722  ptya0   ptyc4 ptye8 ptyqc ptyt0 ptyv4 ptyx8 ptyzc snapshot tty34 ttya0 ttyc3  ttye7 ttyqb ttySAGR ttyue ttyx2 ttyz6
fd0u1743  ptya1   ptyc5 ptye9 ptyqd ptyt1 ptyv5 ptyx9 ptyzd snd      tty35 ttya1 ttyc4  ttye8 ttyqc ttysb  ttyuf ttyx3 ttyz7
fd0u1760  ptya2   ptyc6 ptyea ptyqe ptyt2 ptyv6 ptyxa ptyze sndstat  tty36 ttya2 ttyc5  ttye9 ttyqd ttysc  ttyv0 ttyx4 ttyz8
fd0u1840  ptya3   ptyc7 ptyeb ptyqf ptyt3 ptyv7 ptyxb ptyzf sr0      tty37 ttya3 ttyc6  ttyea ttyqe ttysd  ttyv1 ttyx5 ttyz9
fd0u1920  ptya4   ptyc8 ptyec ptyr0 ptyt4 ptyv8 ptyxc ram0  stderr  tty38 ttya4 ttyc7  ttyeb ttyqf ttyse  ttyv2 ttyx6 ttyza
fd0u360   ptya5   ptyc9 ptyed ptyr1 ptyt5 ptyv9 ptyxd ram1  stdin   tty39 ttya5 ttyc8  ttyec ttyr0 ttysf  ttyv3 ttyx7 ttyzb
fd0u720   ptya6   ptyca ptyee ptyr2 ptyt6 ptyva ptyxe ram10  stdout  tty4  ttya6 ttyc9  ttyed ttyr1 ttyt0  ttyv4 ttyx8 ttyzc
fd0u800   ptya7   ptycb ptyef ptyr3 ptyt7 ptyvb ptyxf ram11  tty    tty40 ttya7 ttyca  ttyee ttyr2 ttyt1  ttyv5 ttyx9 ttyzd
fd0u820   ptya8   ptycc ptyep0 ptyr4 ptyt8 ptyvc ptyy0 ram12  tty0    tty41 ttya8 ttycb  ttyef ttyr3 ttyt2  ttyv6 ttyxa ttyze
fd0u830   ptya9   ptycd ptypl ptyr5 ptyt9 ptyvd ptyy1 ram13  tty1    tty42 ttya9 ttycc  ttyp0 ttyr4 ttyt3  ttyv7 ttyxb ttyzf
full      ptyaa   ptyce ptyp2 ptyr6 ptyta ptyve ptyy2 ram14  tty10   tty43 ttyaa ttycd  ttyp1 ttyr5 ttyt4  ttyv8 ttyxc urandom
fuse      ptyab   ptycf ptyp3 ptyr7 ptytb ptyvf ptyy3 ram15  tty11   tty44 ttyab ttyce  ttyp2 ttyr6 ttyt5  ttyv9 ttyxd usbdev1.1_ep00
hpet     ptyac   ptyd0 ptyp4 ptyr8 ptytc ptyw0 ptyy4 ram2   tty12   tty45 ttyac ttycf  ttyp3 ttyr7 ttyt6  ttyva ttyxe usbdev1.1_ep81
initctl  ptyad   ptyd1 ptyp5 ptyr9 ptytd ptyw1 ptyy5 ram3   tty13   tty46 ttyad ttyd0  ttyp4 ttyr8 ttyt7  ttyvb ttyxf usbdev1.2_ep00
input    ptyae   ptyd2 ptyp6 ptyra ptyte ptyw2 ptyy6 ram4   tty14   tty47 ttyae ttyd1  ttyp5 ttyr9 ttyt8  ttyvc ttyy0 usbdev1.2_ep81
kmem     ptyaf   ptyd3 ptyp7 ptyrb ptytf ptyw3 ptyy7 ram5   tty15   tty48 ttyaf ttyd2  ttyp6 ttyra ttyt9  ttyvd ttyy1 usbdev2.1_ep00
```

```
root@crisovom-desktop:/home/cristovom/agrsm#
```

Note: After the installation of the Ubuntu 8.04.3 LTS in my computer, the content of the `wvdial.conf` was:

```
[Dialer Defaults]
```

```
Phone =
```

```
Username =
```

```
Password =
```

```
New PPPD = yes
```

Warning: Always before of change any file of the Linux Operating System is most important do copy of the file to avoid problems. Type the next command to backup.

```
root@cristovom-desktop:/home/cristovom/agrsm# cp /etc/ wvdial.conf /etc/ wvdial.conf.backup
root@cristovom-desktop:/home/cristovom/agrsm#
root@cristovom-desktop:/home/cristovom/agrsm# wvdialconf /etc/wvdial.conf
```

```
Editing `'/etc/wvdial.conf'.
```

```
Scanning your serial ports for a modem.
```

```
ttyS0<*1>: ATQ0 V1 E1 -- failed with 2400 baud, next try: 9600 baud ----- In this region -----
ttyS0<*1>: ATQ0 V1 E1 -- failed with 9600 baud, next try: 115200 baud
ttyS0<*1>: ATQ0 V1 E1 -- and failed too at 115200, giving up. * The slots: ttyS0 and ttyS1 display
ttyS1<*1>: ATQ0 V1 E1 -- failed with 2400 baud, next try: 9600 baud that the modem is not Founded
ttyS1<*1>: ATQ0 V1 E1 -- failed with 9600 baud, next try: 115200 baud or stucked
ttyS1<*1>: ATQ0 V1 E1 -- and failed too at 115200, giving up. ----- until here -----
Modem Port Scan<*1>: S2 S3
ttySAGR<*1>: ATQ0 V1 E1 -- OK
ttySAGR<*1>: ATQ0 V1 E1 Z -- OK
ttySAGR<*1>: ATQ0 V1 E1 S0=0 -- OK
ttySAGR<*1>: ATQ0 V1 E1 S0=0 &C1 -- OK
ttySAGR<*1>: ATQ0 V1 E1 S0=0 &C1 &D2 -- OK
ttySAGR<*1>: ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0 -- OK
ttySAGR<*1>: Modem Identifier: ATI -- Agere SoftModem Version 2.1.40
ttySAGR<*1>: Speed 4800: AT -- OK
ttySAGR<*1>: Speed 9600: AT -- OK
ttySAGR<*1>: Speed 19200: AT -- OK
ttySAGR<*1>: Speed 38400: AT -- OK
ttySAGR<*1>: Speed 57600: AT -- OK
ttySAGR<*1>: Speed 115200: AT -- OK
ttySAGR<*1>: Max speed is 115200; that should be safe.
ttySAGR<*1>: ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0 -- OK
```

```
Found a modem on /dev/ttySAGR.
```

```
Modem configuration written to /etc/wvdial.conf.
```

```
ttySAGR<Info>: Speed 115200; init "ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0"
```

```
root@cristovom-desktop:/home/cristovom/agrsm#
```

At once after have executed the command previous, the content of `wvdial.conf` file will change to:

```
[Dialer Defaults]
Init1 = ATZ
Init2 = ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0
Modem Type = Analog Modem
Baud = 115200
New PPPD = yes
Modem = /dev/ttySAGR
ISDN = 0
; Phone = <Target Phone Number>
; Password = <Your Password>
; Username = <Your Login Name>
```

Warning: No use the parameter Baud = 115200 because will not have synchronization in connection and `wvdial dialer` will dial without stop after each fail of connection. The modem 56K only approach until 57600 in maximum.

Now all persons will know as adjust the `wvdial.conf` file to connect the Internet. In terminal type the following command as root user:

```
root@crisovom-desktop:/home/crisovom/agrsm# gedit /etc/wvdial.conf
[Dialer Defaults]
Modem = /dev/ttySAGR
Baud = 57600
Phone = +-+---+-+
Username = crisovom@uol.com.br - Here use any other address of log in
Password = *****
Init1 = ATZ
Init2 = ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0
Auto DNS = 1
Stupid Mode = 1
New PPPD = yes
ISDN = 0
Modem Type = Analog Modem
; Phone = <Target Phone Number>
```



```
; Password = <Your Password>
; Username = <Your Login Name>
```

Add **the lines in color orange that lack:** Baud = 57600, Phone = used number to connect, Username = any log in, Password = , Auto DNS = 1 and Stupid Mode = 1 All this lines are necessary to an good connection. After Save this file, exit.

```
root@crisovom-desktop:/home/crisovom/agrsm# cp /etc/wvdial.conf /etc/wvdial.conf.generated
```

Warning: Until here still lack complete with the adjust in most important **rc.local file** of the **subdirectory: /etc** else all the that us done will lost when the computer execute an **new boot**. Below understand all the process of **Bootup** that all the computers will execute when any Linux operating System is installed. When pressed ON in CPU, the process will begin with following steps:

```
BIOS → MBR → GRUB → Linux operating System → Linux Kernel → The process init → rc.local file(The last file executed into init in Ubuntu and Fedora) or boot.local file in the SUSE Linux or openSUSE Linux. The rc.local file will load the modules: agrmodem.ko + agrserial.ko in the kernel the each new Bootup and the Links Symbolics: ln -s /dev/ttyAGS3 /dev/ttySAGR and ln -s /dev/ttyAGS3 /dev/modem will keep fixed in subdirectory: /dev.
```

Now use the CD of the Ubuntu 8.04.3 LTS and install the following command: setserial, after execute the steps:

```
root@crisovom-desktop:/home/crisovom/agrsm# cp /etc/rc.local /etc/rc.local.backup
root@crisovom-desktop:/home/crisovom/agrsm#
root@crisovom-desktop:/home/crisovom/agrsm# gedit /etc/rc.local
```

The content of the **rc.local file** is:

```
#!/bin/sh -e
#
# rc.local
#
# This script is executed at the end of each multiuser runlevel.
# Make sure that the script will "exit 0" on success or any other
```

```
# value on error.
#
# In order to enable or disable this script just change the execution
# bits.
#
# By default this script does nothing.

exit 0

    Add the following commands:

#!/bin/sh -e
#
# rc.local
#
# This script is executed at the end of each multiuser runlevel.
# Make sure that the script will "exit 0" on success or any other
# value on error.
#
# In order to enable or disable this script just change the execution
# bits.
#
# By default this script does nothing.
modprobe agrmodem
modprobe agrserial
ln -s /dev/ttyAGS3 /dev/ttySAGR
ln -s /dev/ttyAGS3 /dev/modem
setserial -g /dev/ttyS*
exit 0

    After Save this rc.local file in icon diskette, exit of this file to continue.

root@cristovom-desktop:/home/cristovom/agrsm# cp /etc/rc.local /etc/rc.local.generated
root@cristovom-desktop:/home/cristovom/agrsm#
root@cristovom-desktop:/home/cristovom/agrsm# setserial -g /dev/ttyS*
/dev/ttyS0, UART: 16550A, Port: 0x03f8, IRQ: 4
/dev/ttyS1, UART: 16550A, Port: 0x02f8, IRQ: 3
```

```
/dev/ttyS2, UART: unknown, Port: 0x03e8, IRQ: 4
/dev/ttyS3, UART: unknown, Port: 0x02e8, IRQ: 3
/dev/ttySAGR, UART: 16550A, Port: 0xb400, IRQ: 10
root@cristovom-desktop:/home/cristovom#
```

The last command typed, will display the content of IRQ 10, I/O port at 0xb400 and the Link Symbolic: ttySAGR finded by wvdialconf used by modem.

```
root@cristovom-desktop:/home/cristovom/agrsm# cat /proc/interrupts
```

```
      CPU0
 0:   239582   XT-PIC-XT      timer
 1:    1839   XT-PIC-XT      i8042
 2:         0   XT-PIC-XT      cascade
 5:    465   XT-PIC-XT      Ensoniq AudioPCI
 6:         4   XT-PIC-XT      floppy
 7:         1   XT-PIC-XT      parport0
 8:         3   XT-PIC-XT      rtc
 9:         1   XT-PIC-XT      acpi

-----
10:         187   XT-PIC-XT * The appear IRQ 10, after the loading of the modules: agrmodem.ko + agrserial.ko
                        in Kernel

-----
11:         59   XT-PIC-XT      uhci_hcd:usb1, uhci_hcd:usb2
12:   221376   XT-PIC-XT      i8042
14:   15348   XT-PIC-XT      libata
15:   35238   XT-PIC-XT      libata
NMI:         0   Non-maskable interrupts
LOC:         0   Local timer interrupts
RES:         0   Rescheduling interrupts
CAL:         0   function call interrupts
TLB:         0   TLB shootdowns
TRM:         0   Thermal event interrupts
SPU:         0   Spurious interrupts
ERR:         0
MIS:         0
root@cristovom-desktop:/home/cristovom/agrsm#
```

```
root@cristovom-desktop:/home/cristovom/agrsm# cat /proc/ioports
```

```
0000-001f : dma1
0020-0021 : pic1
0040-0043 : timer0
0050-0053 : timer1
0060-006f : keyboard

0070-0077 : rtc
0080-008f : dma page reg
00a0-00a1 : pic2
00c0-00df : dma2
00f0-00ff : fpu
0170-0177 : 0000:00:04.1
    0170-0177 : libata
01f0-01f7 : 0000:00:04.1
    01f0-01f7 : libata
02f8-02ff : serial
0376-0376 : 0000:00:04.1
    0376-0376 : libata
0378-037a : parport0
03c0-03df : vga+
03f0-03f1 : pnp 00:02
03f2-03f5 : floppy
03f6-03f6 : 0000:00:04.1
    03f6-03f6 : libata
03f7-03f7 : floppy DIR
03f8-03ff : serial
04d0-04d1 : pnp 00:02
0778-077a : parport0
0cf8-0cff : PCI conf1
b400-b4ff : 0000:00:09.0
b800-b83f : 0000:00:07.0
    b800-b83f : Ensoniq AudioPCI
d000-d01f : 0000:00:04.3
    d000-d01f : uhci_hcd
d400-d41f : 0000:00:04.2
    d400-d41f : uhci_hcd
d800-d80f : 0000:00:04.1
    d800-d80f : libata
e400-e47f : pnp 00:03
    e400-e403 : ACPI PM1a_EVT_BLK
    e404-e405 : ACPI PM1a_CNT_BLK
    e408-e40b : ACPI PM_TMR
    e410-e415 : ACPI CPU throttle
```

```
e420-e423 : ACPI GPE0_BLK
e800-e80f : 0000:00:04.4
e800-e80f : pnp 00:03
e800-e807 : vt596_smbus
root@crisovom-desktop:/home/crisovom/agrsm#
```

Begin the connection with the command: wvdial &

Now all the persons will test the dialing. Press the seat belt to this journey and see the force of the powerful command wvdial created by [Dave Coombs](#) and [Avery Pennarun](#) typed below. The character & will avoid that connection break and will keep connected all time.

```
root@crisovom-desktop:/home/crisovom/agrsm# wvdial &
[1] 5659
root@crisovom-desktop:/home/crisovom# --> WvDial: Internet dialer version 1.60
--> Initializing modem.
--> Sending: ATZ
ATZ
OK
--> Sending: ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0
ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0
OK
--> Modem initialized.
--> Sending: ATDT30096707
--> Waiting for carrier.
ATDT30096707 - The connection will wait + or - 33 seconds to adjust all the synchronization. No do nothing,
Wait, please until the connection complete all your work. The lines below will automaticly launched through
of the connection.
CONNECT 45333 V42bis
--> Carrier detected. Starting PPP immediately.
--> Starting pppd at Tue Mar 9 22:53:54 2010
--> Pid of pppd: 5660
--> Using interface ppp0
--> pppd: 080[06][08](0[06][08]
--> pppd: 080[06][08](0[06][08]
--> pppd: 080[06][08](0[06][08]
--> pppd: 080[06][08](0[06][08]
```

```
--> local IP address 200.98.6.85
--> pppd: 080[06][08](0[06][08]
--> remote IP address 200.168.189.85
--> pppd: 080[06][08](0[06][08]
--> primary DNS address 200.221.11.101
--> pppd: 080[06][08](0[06][08]
--> secondary DNS address 200.147.255.100
--> pppd: 080[06][08](0[06][08] - Warning: It is the last line showed and will inform that already is
connected. Now type in icon of the browser Firefox and after in menu guide: File, next type in Mode offline
to remark to Mode online. If leave in Mode offline, then the browser Firefox will not access any link. Ready
go to Address guide and type: http://ubuntu.com or http://distrowatch.com to test. After have connected use
others link of your preference and Welcome to the internet using the Ubuntu 8.04.3 LTS or any other version
through of the Lucent V.92 56K Internal Modem - agere systems.
```

To exit of this connection use o command: `Ctrl+C`

Type in keyboard: `Ctrl+C` to exit and wait until watch the terminal displayed below. When you type `Ctrl+C` in keyboard will not displayed nothing in the terminal, only wait.

```
root@cristovom-desktop:/home/cristovom/agrsm#
```

After type the following command below

```
root@cristovom-desktop:/home/cristovom/agrsm# fg wvdial
wvdial
```

Again type the same command: `Ctrl+C` when see the word wvdial and wait until watch the terminal
Caught signal 2: Attempting to exit gracefully...

```
--> Terminating on signal 15
--> pppd: 080[06][08](0[06][08]
--> Connect time 12.3 minutes.
--> pppd: 080[06][08](0[06][08]
--> pppd: 080[06][08](0[06][08]
--> Disconnecting at Tue Mar 9 23:06:14 2010
root@cristovom-desktop:/home/cristovom/agrsm# - Here all the persons will no connected with Internet.
```

Warning: Now edit the following file:

```
root@crisovom-desktop:/home/cristovom/agrsm# gedit /etc/ppp/options and check to the commands:
```

```
asyncmap 0
noauto
crtscts
lock
hide-password
modem
proxyarp
lcp-echo-interval 30
lcp-echo-failure 4
noipx
```

All this commands can not have the character '#' typed before of each command else will not executed and will to all the users comments.

The driver: `agrsm-20080203.tar.gz` too will compile and install in following Linux distribution: Fedora 7, openSUSE 10.3, and openSUSE 11.0. In Fedora 7 the connection lock and the computer will freeze. Was test the `gnome-ppp` dialer, but without success to connect the UOL provedor.

Tip: To the `new Ubuntu 10.04 LTS Lucid Operating System`, all the persons after have installed this system will duty execute the instructions of this tutorial with the `new download` of the `scanModem script file` to detect the exact driver for the `Lucent V.92 56K Internal Modem - agere systems`. In following links: <http://linmodems.technion.ac.il/packages/Itmodem/sv92> all will find the two last drivers: `agrsm-20080203.tar.gz` and `agrsm-20080418.tar.gz` to download and in <http://linmodems.technion.ac.il/packages/Itmodem/11c11040> will get the driver: `agrsm-20090502.tar.gz`. If the `scanModem script file` detected the driver: `agrsm-20090502.tar.gz`, then copy this file to subdirectory: `/home/cristovom`, after begin the as instructions of this tutorial with enough attention to no make an error when typed. If appear any error after have typed the command: `make`, please stop here and execute the following steps:

```
root@crisovom-desktop:/home/cristovom/agrsm# cd /home/cristovom
root@crisovom-desktop:/home/cristovom#
root@crisovom-desktop:/home/cristovom# rm -rf /home/cristovom/agrsm
root@crisovom-desktop:/home/cristovom#
```

After this, execute the `download` of the driver previous `agrsm-20080418.tar.gz` and use all the

information to `compile` and `install this driver` with this tutorial. If no appear any error after have `typed the command: make`, good luck continue with the next command: `make install` that no will appear error and stop when activate the `modem`. Use the same method if the `scanModem script file` find `the driver: agrsm-20080418.tar.gz` to `new Ubuntu 10.04 LTS Lucid Operating System`. If the compilation and installation `no appear problem`, good luck continue with all the steps until activate the `Lucent V.92 56K Internal Modem - agere systems`.

Tip: When `update the headers, library and modules` of the `kernel` into `Ubuntu Operating System` by `Internet`, before of `Bootup this system`, execute the steps:

```
root@cristovom-desktop:/home/cristovom/agrsm# cp /etc/rc.local.backup /etc/rc.local
```

```
root@cristovom-desktop:/home/cristovom/agrsm#
```

```
root@cristovom-desktop:/home/cristovom/agrsm# cp /etc/wvdial.conf /et/wvdial.conf
```

Warning: If was installed the driver `nvidia` or `ATI`, then no forget of execute the command:

```
root@cristovom-desktop:/home/cristovom/agrsm# cp /etc/X11/xorg.conf.backup /etc/X11/xorg.conf
```

Now execute the process of `Bootup`

```
root@cristovom-desktop:/home/cristovom/agrsm# reboot
```

The `solution to this problem serious of compile and install the the driver: agrsm-20080203.tar.gz` to `Lucent V.92 56K Internal Modem - agere systems` is give in this tutorial to all the personal of the `Canonical`. All the secret of this mystery was revealed to help the all that have `this modem installed in motherboard` get activate this `modem` to access the `Internet`. Is terrible after `the installation` of the powerful `Ubuntu Operating System` or any other `Linux` distribution `the user` no get activate the `modem` to access the `Internet`. Most users is not successful in this hard work because have not an tutorial or an book that teach the execute all the steps necessary to activate the modem. Was defeat various times and each failure was meet an new information to test. I be not technical and too no be engineer, but be formed in mathematical in `F.F.C.L Oswaldo Cruz` here in `São Paulo` in the year of 1987. Never was study `Linux Operating System, Windows and Programming Language` in faculty because my course was to mathematics teachers. When possible was participate in solution of problems challenge of the magazine mathematics teacher from the `Mathematics Institute and Statistics` of the `USP`.

Was learn the install `Ubuntu Operating System` in `my computer` using the book: `A Practical Guide to Ubuntu Linux` by `Mark G. Sobell`. Before of solve this problem serious of `compile and install the the driver: agrsm-20080203.tar.gz` to `Lucent V.92 56K Internal Modem - agere systems` too was study the following `Programming Languages: C, Assembly Language` through of good books and now was begin study in powerful `Python` Language and was develop my first small program of geometry.

Hardware used in this tutorial(It is my first computer)

- Processor: Pentium III of 1 Ghz
- Motherboard: ASUS
- Hard Disk: Seagate
- Video board: GeForce 6200 from the nvidia Corporation
- Sound board: PCI 3D SOUND CARD of the Creative Labs
- DVD Recorder: LG
- Modem PCI: Lucent V.92 56K Internal Modem
- Display LCD: SAMSUNG of 17"
- Mouse Optical: Microsoft
- Keyboard USB: Microsoft

Books imported of the amazon to reference

1. Ubuntu Unleashed Copyright 2007 by Sams Publishing – Andrew Hudson and Paul Hudson
2. A Practical Guide to Ubuntu Linux Copyright 2008 by Prentice Hall – Mark G. Sobell
3. Ubuntu Linux Copyright 2007 by Apress – Keir Thomas