Fujitsu-Siemens Amilo M-7400
with Pingo 3.0 - Kernel 2.6.7

Report prepared by Ales Kosir, based on
http://www.angelfire.com/linux/notebook/fujitsu/m7400.html.

October 4, 2004

Standard boot by CD-ROM or DVD, standard install of Pingo for schools.

TechnicalData(PDF)

With the AMILO M you are getting yourself a truly mobile notebook. Coming in an elegant, slim design but with a large display and integrated wireless LAN it strikes a perfect balance between mobility and performance. Thanks to Centrino technology it is optimised for low power consumption, thus enabling extended battery life. An S-Video out port, IEEE 1394 and 3 USB 2.0 interfaces are built-in as standard to connect to all your digital peripherals and multimedia devices.

Specific configuration and information about the implemented devices:

= Operates
= Does not work
= Works partially
= I did not try it yet
= Under development
= Hardware information (use the command **lspci**)

[§] = Windows Specification

These components does not work:

- **S-Video**
- **Wireless Lan**
- **ACPI**

Motherboard

Fujitsu Siemens Computers
Mobile Intel® Pentium® M processor Centrino
1600 MHz

Intel 855GM+ICH4M Chipset

ACPI

Power System:
Li-Ion battery, 8 cells, 14.8V / 4400mAH
DC 19V, 3.42 A
Appr. 4:00 hrs battery runtime, depending on usage
Dynamic charge supported, ACPI 2.0 supported. External universal AC adapter: 110 240 V AC, 50-60HZ, output: 65W with 19V DC.

Operating conditions Operational: 5°C to 35°C (ambient temperature) 10% to 90% relative humidity, non-condensing AC input 100-240 V, 50-60 Hz.

On Suze Linux was reported:

> Install the package powersave. You do not need install additional ACPI-tools like cpufreqd. Everything is inside powersave.
> akpi is a good browser for /proc/acpi.

The powersave package is available only on Suze Linux as is patented by Fujitsu Powersave-Patent (EP 0 624 272).

See also for change of speed:

http://www.goof.com/pcg/marc/speedstep.html

Audio / Sound

00:1f.5 Multimedia audio controller: Intel Corp. 82801DB (ICH4) AC'97 Audio Controller (rev 03)

Cirrus logic CS4299-XQ, 2 built-in speakers, built-in microphone, microphone in, headphone out incl. S/PDIF support. 1 x volume regulator.

Cirrus Logic CS4299 rev. 4 - Intel 8280 1DB-ICH4 (Duplex)
Multimedia audio controller: Intel Corp. 82801DB AC'97 Audio (rev 03)
[§] Crystal WDM AC'97 Driver for ICH4; Resources: PCI-Bus 0, Device 31, Function 5

The OSS module is i810_audio and ALSA module is snd-intel8x0.

BIOS

Phoenix

IRQ Status CPU0 from /proc/interrupts:

```
 0:    8109336        XT-PIC  timer
 1:       4817        XT-PIC  i8042
 2:          0        XT-PIC  cascade
 8:          2        XT-PIC  rtc
 9:         15        XT-PIC  acpi
10:       3481        XT-PIC  yenta, eth0, ICH4, ohci1394, Intel 82801DB-ICH4
11:     662789        XT-PIC  uhci_hcd, uhci_hcd, uhci_hcd, ehci_hcd
```

```
 12:        99          XT-PIC  i8042
 14:     86438          XT-PIC  ide0
 15:      5967          XT-PIC  ide1
```

Dimensions and weight

326mm x 270mm x 30mm
2.6 kg (with 15 XGA, Li-Ion battery, HDD, Combo drive)

Kensington Lock support

Display / Monitor - LCD / CRT

To switch between the notebook display (LCD) and an external monitor (CRT) without booting, use CRT out for i855 from Andrea Merello.

DVD / CD-RW

Fujitsu MHT 2040AT
HL-DT-ST DVD+RW GCA-4040N

DVD+R/+RW DVD 8x / DVD+R 2.4x / DVD+RW 2.4x / CD 24x / CD-R 16x / CD-RW 8x

For viewing DVDs you must activate DMA.

Writing DVDs (DVD+RW)

FireWire / i.LINK® / IEEE 1394

02:03.0 FireWire (IEEE 1394): Lucent Microelectronics FW323 (rev 61) (prog-if 10 [OHCI])
    Subsystem: Unknown device 1734:1033
    Flags: bus master, medium devsel, latency 96, IRQ 10
    Memory at e0202000 (32-bit, non-prefetchable) [size=4K]
    Capabilities: [44] Power Management version 2

[§] OHCI-compliant IEEE 1394-Hostcontroller; Resources: IRQ 10, PCI-Bus 2, Device 3, Function 0

I can't try the FireWire port, because I do not have FireWire devices. It seems FireWire to work just fine.

Floppy Drive

This laptop does not have an internal floppy drive.

External floppy drive is working.

Graphic / VGA / Display

Shared memory, integrated in Intel 855GM chipset, up to 64MB.
Delivers intense, realistic 3D graphics with sharp images and enables balanced memory usage between graphics and system for optimal performance.
Optimised internal clock gating for 3D & display engines. Reduces chipset power consumption by intelligently clocking 3D & display engines based on application needs.
Image rotation, ability to rotate the screen image.

Display: 15" TFT XGA, 1024 x 768 pixel

Which Graphic Controller do you have? cat /proc/pci | grep -A 1 VGA
VGA compatible controller: PCI device 8086:3582 (Intel Corp.) (rev 2). IRQ 11.
[§] Intel® 82852/82855 GM/GME Graphics Controller; Resources: IRQ 11, PCI-Bus 0, Device 2, Function 0
[§] AIM 3.0 Part 01 Codec Driver CH-7009-A/CH-7011; Intel AIM 3.0 Codec; Intel® 82852/82855 GM/GME Graphics Controller

Open a shell/console and test 3D features with command
/usr/X11R6/bin/glxgears
The output should be approx. 750 Fps.

Harddisk

ICH4: chipset revision 3

ICH4: not 100% native mode: will probe irqs later

ide0: BM-DMA at 0x1810-0x1817, BIOS settings: hda:DMA, hdb:pio

ide1: BM-DMA at 0x1818-0x181f, BIOS settings: hdc:DMA, hdd:pio

hda: ST94019A, ATA DISK drive

Using cfq io scheduler

ide0 at 0x1f0-0x1f7,0x3f6 on irq 14

hdc: HL-DT-STCD-RW/DVD DRIVE GCC-4241N, ATAPI CD/DVD-ROM drive

ide1 at 0x170-0x177,0x376 on irq 15

hda: max request size: 1024KiB

hda: 78140160 sectors (40007 MB) w/2048KiB Cache, CHS=16383/255/63, UDMA (100)

Maybe you have to enable DMA for optimal performance.

Review the performance with »hdparm -T -t /dev/hda«

Deactivate DMA with »hdparm -d 0 /dev/hda«:
 /dev/hda:
  Timing buffer-cache reads: 128 MB in 0.21 seconds =609.52 MB/sec
  Timing buffered disk reads: 64 MB in 3.02 seconds = 21.19 MB/sec

Activate DMA with »hdparm -d 1 /dev/hda«:
 /dev/hda:
  Timing buffer-cache reads: 128 MB in 0.20 seconds = 640.00 MB/sec
  Timing buffered disk reads: 64 MB in 17.64 seconds = 3.63 MB/sec

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IrDA 

National Semiconductor
BIOS Configuration: FIR Enabled - Mode: FIR, Base I/O address: 2F8, Interrupt: IRQ 3, DMA channel: DMA 3
[§] Intel® 82801DBM LPC Interface Controller - 24CC; Infraredreceiver A: IBM SC-20H2987; Infraredreceiver B: SIR-Transceiver; Max. connection rate: 4000000 bps
[§] Resources: IRQ 03, DMA 01, Intput/Output Range 02F8-02FF

Start this script from Jordi (also works finde on Gentoo Linux):
setserial /dev/ttyS1 uart none port 0 irq 0

modprobe nsc-ircc irq=3 dma=1 io=0x2f8 dongle_id=0x09
modprobe irport
modprobe ircomm
modprobe ircomm-tty
irattach irda0 -s
irattach /dev/ircomm0 -s
echo 115200 > /proc/sys/net/irda/max_baud_rate

After starting you can check if everything is running correctly with `irdadump`. If everything goes as planned you should receive the following monitor-output every 3 seconds:

```
earth:~ # irdadump
13:42:57.118679 xid:cmd d04496e2 > ffffffff S=6 s=0 (14)
13:42:57.208957 xid:cmd d04496e2 > ffffffff S=6 s=1 (14)
13:42:57.298645 xid:cmd d04496e2 > ffffffff S=6 s=2 (14)
13:42:57.388923 xid:cmd d04496e2 > ffffffff S=6 s=3 (14)
13:42:57.478670 xid:cmd d04496e2 > ffffffff S=6 s=4 (14)
13:42:57.568914 xid:cmd d04496e2 > ffffffff S=6 s=5 (14)
13:42:57.658705 xid:cmd d04496e2 > ffffffff S=6 s=* earth hint=0500 [ PnP Computer ]
```

Keyboard

Standard Keyboard (101/102 keys)
Resources: IRQ 01

Launch Keys

Located left of the keyboard are 5 Launch Keys used to launch the following applications: wireless communication, e-mail, Internet browser, 2 user-programmable buttons.

+ Download Acer Hotkeys from http://www.informatik.hu-berlin.de/~tauber/acerhk
+ Before you compile the driver, change KERNELSRC in the Makefile to your path to the kernel build environment!
+ Do 'make' and copy the created file "acerhk.ko" to your kernel modules path "/lib/modules/<kernelversion>/kernel/drivers/char/".
+ Update module dependencies: depmod -a
+ Load the new module with 'modprobe acerhk poll=1' (add this line to /etc/init.d/boot.local for automated loading).
+ Now you are able to use these buttons. May be you add it to ~/.Xmodmap.

keycode 147 = WLAN button
keycode 236 = Mail button
keycode 178 = WWW button

keycode 159 = P1
keycode 151 = P2

Klas Kalaß has made some improvement:
»I got the keys running fine. I installed the acerhk module and loaded it with: modprobe acerhk poll=1
But now the important part: I added the following to /usr/X11R6/lib/X11/xkb/symbols/inet
---
// Fujitsu Siemens Amilo M 7400

```
partial alphanumeric_keys
xkb_symbols "am7400" {
   name[Group1]= "Fujitsu Siemens Amilo M 7400 Laptop Keyboard";

   key <I20>   {      [ XF86AudioMute       ]      };
   key <I6C>  {      [ XF86Mail            ]      };
   key <I32>   {      [ XF86WWW             ]      };
   key <I1F>   {      [ XF86User1KB         ]      };
   key <I17>   {      [ XF86User2KB         ]      };
   key <I13>   {      [ XF86Launch0         ]      };
};
```

After that I needed to set "XkbLayout" in XF86Config-4 to "de(nodeadkeys)+inet (am7400)". Now XKEYBOARD will report the keys correctly and you may use KHotKeys (KDE Control Center) to assign arbitrary actions to a keypress. To be able to use the wlan button I execute 'sudo /usr/local/bin/wlan_toggle.sh' when pressing XF86Launch0.
I attached wlan_toggle.sh and my sudoers file (I use the intel driver). «

Hot Keys

The notebook uses hotkeys or key combinations for the following:
Fn-F1 help hotkey (does not work!)
Fn-F2 puts the computer in sleep mode (does not work!)
Fn-F3 display toggle, switches display output between display screen and external monitor or to dual view
Fn-F4 screen blank, turns the display screen backlight off to save power
Fn-F5 speaker on/off
Fn-PgUp home
Fn-PgDn end
Fn- --> screen brightness up
Fn- <-- screen brightness down

Hotkey Project | Hotkey Project Download

Multicard-Port

3 in 1 flash card port SD/MS/MMC.

[§] Winbond Memory Stick Storage (MS); Resources: IRQ 05
[§] Winbond Secure Digital Storage (SD/MMC); Resource: IRQ 06

I do not have any SD/MS/MMC.

NIC / Ethernet

Ethernet controller: Broadcom Corporation BCM4401 100Base-T (rev 01)
[§] Broadcom 440x 10/100 Integrated Controller; Resources: IRQ 10, PCI-Bus 2, Device 5, Function 0

eth0: Broadcom 4400 10/100BaseT Ethernet 00…

PCMCIA

CardBus bridge: Texas Instruments PCI1510 PC card Cardbus Controller
[§] Texas Instruments PCI-1510 CardBus Controller; Resources: IRQ 10, PCI-Bus 2, Device 9, Function 0

CardBus bridge: Texas Instruments PCI1510 PC card Cardbus Controller

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RAM

256 MB (Extended Memory) DDR SDRAM (Up to 2GB DDR SDRAM in 2 so-DIMM slot.)

Softmodem

00:1f.6 Modem: Intel Corp. 82801DB (ICH4) AC'97 Modem Controller (rev 03)

Built-in 56K, V.92 international modem

Intel Corp. 82801DB AC'97 Modem (rev. 03) (prog-if 00 [Generic])
[§] Agere Systems AC'97 Modem; Resources: IRQ 11 (10?), PCI-Bus 0, Device 31, Function 6; Input/Output Range 2400-24FF + 2000-207F

00:1f.6 Modem: Intel Corp. 82801DB AC'97 Modem (rev 03) (prog-if 00 [Generic])
Subsystem: Unknown device 1734:1033
Flags: bus master, medium devsel, latency 0, IRQ 10
I/O ports at 2400 [size=256]
I/O ports at 2000 [size=128]
Capabilities: [50] Power Management version 2

Modem works with slmodem drivers.

Download the latest modem driver

S-Video

This laptop have got a S-Video port. I can't see anything on TV, when I connect S-Video--->SCART to TV-set.

It is also possible to connect a screen (VGA). Thereto it is necessary to boot the notebook. While operating you can't switch the display. [Fn]+[F3] works only some seconds before booting the operating system.

Touchpad

Synaptics PS/2 Port Pointing Device (Touchpad with a left and right mouse button plus a 4-way scroll button)
Resources: IRQ 12

YaST are able to install the Synaptics driver from Peter Österlund, http://w1.894.telia.com/~u89404340/touchpad, itself.

You have to add/replace the InputDevice-section of /etc/X11/XF86config for the touchpad the following lines:

```
Section "InputDevice"
  Driver      "synaptics"
  Identifier      "Mouse[1]"
  Option     "Device"        "/dev/psaux"
```

```
  Option    "Protocol"      "auto-dev"
  Option    "LeftEdge"      "1700"
  Option    "RightEdge"     "5300"
  Option    "TopEdge"       "1700"
  Option    "BottomEdge"    "4200"
  Option    "FingerLow"     "25"
  Option    "FingerHigh"    "30"
  Option    "MaxTapTime"    "180"
  Option    "MaxTapMove"    "220"
  Option    "VertScrollDelta" "100"
  Option    "MinSpeed"      "0.06"
  Option    "MaxSpeed"      "0.12"
  Option    "AccelFactor"   "0.0010"
  #Option    "SHMConfig"     "on"
  #Option    "Repeater"      "/dev/ps2mouse"
EndSection
```

USB 

3 USB 2.0 Ports

Intel Corp. 82801DB USB EHCI Controller (1)
[§] Intel® 82801DB/DBM USB 2.0 extended Hostcontroller - 24CD; Resources: IRQ 11, PCI-Bus 0, Device 29, Function 7

Wireless LAN 

ipw2200: Intel(R) PRO/Wireless 2200/2915 Network Driver, 0.11

ipw2200: Copyright(c) 2003-2004 Intel Corporation

ACPI: PCI interrupt 0000:02:06.0[A] -> GSI 10 (level, low) -> IRQ 10

ipw2200: Detected Intel PRO/Wireless 2200BG Network Connection

divert: allocating divert_blk for eth1

ipw2200: Radio Frequency Kill Switch is On:

Kill switch must be turned off for wireless networking to work.

divert: freeing divert_blk for eth0

divert: freeing divert_blk for eth1

ieee80211_crypt: unregistered algorithm 'NULL' (deinit)

ip_tables: (C) 2000-2002 Netfilter core team

b44.c:v0.94 (May 4, 2004)

ACPI: PCI interrupt 0000:02:05.0[A] -> GSI 10 (level, low) -> IRQ 10

divert: allocating divert_blk for eth0

02:06.0 Network controller: Intel Corp.: Unknown device 1043 (rev 04)
Subsystem: Intel Corp.: Unknown device 2527
Flags: medium devsel, IRQ 10
Memory at e0203000 (32-bit, non-prefetchable) [size=4K]
Capabilities: [dc] Power Management version 2

It was reported that the wireless works on Amilo if the chipset is 2100. This model is equipped with Intel PRO/Wireless 2200BG Network Connection. The ipw2200-0.11 driver for 2200 does not work with fsam7400-0.4.0.

Output of dmesg

Linux version 2.6.7-1.494.2.2custom (root@sneguljcica.pingo.org) (gcc version 3.3.3 20040412 (Red Hat Linux 3.3.3-7)) #1 Sat Sep 25 14:57:31 CEST 2004
BIOS-provided physical RAM map:
BIOS-e820: 0000000000000000 - 000000000009f800 (usable)
BIOS-e820: 000000000009f800 - 00000000000a0000 (reserved)
BIOS-e820: 00000000000ce000 - 00000000000d0000 (reserved)
BIOS-e820: 00000000000d8000 - 0000000000100000 (reserved)
BIOS-e820: 0000000000100000 - 000000000f6e0000 (usable)
BIOS-e820: 000000000f6e0000 - 000000000f6eb000 (ACPI data)
BIOS-e820: 000000000f6eb000 - 000000000f700000 (ACPI NVS)
BIOS-e820: 000000000f700000 - 0000000010000000 (reserved)
BIOS-e820: 00000000fec10000 - 00000000fec20000 (reserved)
BIOS-e820: 00000000ff800000 - 00000000ffc00000 (reserved)
BIOS-e820: 00000000fffffc00 - 0000000100000000 (reserved)
0MB HIGHMEM available.
246MB LOWMEM available.
zapping low mappings.
On node 0 totalpages: 63200

```
  DMA zone: 4096 pages, LIFO batch:1
  Normal zone: 59104 pages, LIFO batch:14
  HighMem zone: 0 pages, LIFO batch:1
DMI present.
ACPI: RSDP (v000 PTLTD                                    ) @ 0x000f64f0
ACPI: RSDT (v001 PTLTD  Montara  0x06040000  LTP 0x00000000) @ 0x0f6e6530
ACPI: FADT (v001 INTEL  MONTARAG 0x06040000 PTL  0x00000050) @
0x0f6eaed2
ACPI: BOOT (v001 PTLTD  $SBFTBL$ 0x06040000  LTP 0x00000001) @ 0x0f6eafd8
ACPI: SSDT (v001 INTEL    GV3Ref 0x00001001 MSFT 0x0100000e) @ 0x0f6e6560
ACPI: DSDT (v001 WISTRO FB2I     0x06040000 MSFT 0x0100000e) @ 0x00000000
ACPI: PM-Timer IO Port: 0x1008
Built 1 zonelists
Kernel command line: ro root=LABEL=/ rhgb quiet
mapped 4G/4G trampoline to ffff3000.
Initializing CPU#0
CPU 0 irqstacks, hard=023c2000 soft=023c1000
PID hash table entries: 1024 (order 10: 8192 bytes)
Detected 1618.588 MHz processor.
Using tsc for high-res timesource
Console: colour VGA+ 80x25
Dentry cache hash table entries: 32768 (order: 5, 131072 bytes)
Inode-cache hash table entries: 16384 (order: 4, 65536 bytes)
Memory: 246520k/252800k available (2004k kernel code, 5564k reserved, 651k data,
140k init, 0k highmem)
Calibrating delay loop... 3162.11 BogoMIPS
Security Scaffold v1.0.0 initialized
SELinux:  Initializing.
SELinux:  Starting in permissive mode
There is already a security framework initialized, register_security failed.
selinux_register_security:  Registering secondary module capability
Capability LSM initialized as secondary
Mount-cache hash table entries: 512 (order: 0, 4096 bytes)
CPU: After generic identify, caps: afe9f9bf 00000000 00000000 00000000
CPU: After vendor identify, caps:  afe9f9bf 00000000 00000000 00000000
CPU: L1 I cache: 32K, L1 D cache: 32K
CPU: After all inits, caps:        afe9f1bf 00000000 00000000 00000040
Intel machine check architecture supported.
Intel machine check reporting enabled on CPU#0.
CPU: Intel(R) Pentium(R) M processor 1.60GHz stepping 06
Enabling fast FPU save and restore... done.
Enabling unmasked SIMD FPU exception support... done.
Checking 'hlt' instruction... OK.
checking if image is initramfs...it isn't (no cpio magic); looks like an initrd
```

Freeing initrd memory: 192k freed
NET: Registered protocol family 16
PCI: PCI BIOS revision 2.10 entry at 0xfd6c4, last bus=3
PCI: Using configuration type 1
mtrr: v2.0 (20020519)
ACPI: Subsystem revision 20040326
ACPI: IRQ9 SCI: Edge set to Level Trigger.
ACPI: Interpreter enabled
ACPI: Using PIC for interrupt routing
ACPI: PCI Root Bridge [PCI0] (00:00)
PCI: Probing PCI hardware (bus 00)
PCI: Ignoring BAR0-3 of IDE controller 0000:00:1f.1
PCI: Transparent bridge - 0000:00:1e.0
ACPI: PCI Interrupt Routing Table [_SB_.PCI0._PRT]
ACPI: PCI Interrupt Routing Table [_SB_.PCI0.PCIB._PRT]
ACPI: PCI Interrupt Link [LNKA] (IRQs 10 *11)
ACPI: PCI Interrupt Link [LNKB] (IRQs *10 11)
ACPI: PCI Interrupt Link [LNKC] (IRQs 10 *11)
ACPI: PCI Interrupt Link [LNKD] (IRQs *11)
ACPI: PCI Interrupt Link [LNKE] (IRQs *10 11)
ACPI: PCI Interrupt Link [LNKF] (IRQs *10 11)
ACPI: PCI Interrupt Link [LNKG] (IRQs *10 11)
ACPI: PCI Interrupt Link [LNKH] (IRQs 10 *11)
ACPI: Embedded Controller [EC] (gpe 28)
Linux Plug and Play Support v0.97 (c) Adam Belay
usbcore: registered new driver usbfs
usbcore: registered new driver hub
PCI: Using ACPI for IRQ routing
ACPI: PCI Interrupt Link [LNKA] enabled at IRQ 11
ACPI: PCI interrupt 0000:00:02.0[A] -> GSI 11 (level, low) -> IRQ 11
ACPI: PCI interrupt 0000:00:1d.0[A] -> GSI 11 (level, low) -> IRQ 11
ACPI: PCI Interrupt Link [LNKD] enabled at IRQ 11
ACPI: PCI interrupt 0000:00:1d.1[B] -> GSI 11 (level, low) -> IRQ 11
ACPI: PCI Interrupt Link [LNKC] enabled at IRQ 11
ACPI: PCI interrupt 0000:00:1d.2[C] -> GSI 11 (level, low) -> IRQ 11
ACPI: PCI Interrupt Link [LNKH] enabled at IRQ 11
ACPI: PCI interrupt 0000:00:1d.7[D] -> GSI 11 (level, low) -> IRQ 11
ACPI: PCI interrupt 0000:00:1f.1[A] -> GSI 11 (level, low) -> IRQ 11
ACPI: PCI Interrupt Link [LNKB] enabled at IRQ 10
ACPI: PCI interrupt 0000:00:1f.3[B] -> GSI 10 (level, low) -> IRQ 10
ACPI: PCI interrupt 0000:00:1f.5[B] -> GSI 10 (level, low) -> IRQ 10
ACPI: PCI interrupt 0000:00:1f.6[B] -> GSI 10 (level, low) -> IRQ 10
ACPI: PCI Interrupt Link [LNKF] enabled at IRQ 10
ACPI: PCI interrupt 0000:02:03.0[A] -> GSI 10 (level, low) -> IRQ 10

ACPI: PCI Interrupt Link [LNKE] enabled at IRQ 10
ACPI: PCI interrupt 0000:02:05.0[A] -> GSI 10 (level, low) -> IRQ 10
ACPI: PCI Interrupt Link [LNKG] enabled at IRQ 10
ACPI: PCI interrupt 0000:02:06.0[A] -> GSI 10 (level, low) -> IRQ 10
ACPI: PCI interrupt 0000:02:09.0[A] -> GSI 10 (level, low) -> IRQ 10
TC classifier action (bugs to netdev@oss.sgi.com cc hadi@cyberus.ca)
vesafb: probe of vesafb0 failed with error -6
Simple Boot Flag at 0x36 set to 0x1
apm: BIOS version 1.2 Flags 0x03 (Driver version 1.16ac)
apm: overridden by ACPI.
audit: initializing netlink socket (disabled)
audit(1097004123.481:0): initialized
Total HugeTLB memory allocated, 0
VFS: Disk quotas dquot_6.5.1
Dquot-cache hash table entries: 1024 (order 0, 4096 bytes)
SELinux: Registering netfilter hooks
Initializing Cryptographic API
ksign: Installing public key data
Loading keyring
- Added public key B2E9E89CBA6B26AA
- User ID: Red Hat, Inc. (Kernel Module GPG key)
ksign: invalid packet (ctb=00)
Unable to load default keyring: error=74
pci_hotplug: PCI Hot Plug PCI Core version: 0.5
ACPI: Processor [CPU0] (supports C1 C2 C3, 8 throttling states)
ACPI: Thermal Zone [THRS] (40 C)
ACPI: Thermal Zone [THRC] (46 C)
isapnp: Scanning for PnP cards...
isapnp: No Plug & Play device found
Real Time Clock Driver v1.12
Linux agpgart interface v0.100 (c) Dave Jones
agpgart: Detected an Intel 855 Chipset.
agpgart: Maximum main memory to use for agp memory: 195M
agpgart: Detected 8060K stolen memory.
agpgart: AGP aperture is 128M @ 0xe8000000
Serial: 8250/16550 driver $Revision: 1.90 $ 8 ports, IRQ sharing enabled
ttyS1 at I/O 0x2f8 (irq = 3) is a 16550A
ACPI: PCI interrupt 0000:00:1f.6[B] -> GSI 10 (level, low) -> IRQ 10
RAMDISK driver initialized: 16 RAM disks of 16384K size 1024 blocksize
divert: not allocating divert_blk for non-ethernet device lo
Uniform Multi-Platform E-IDE driver Revision: 7.00alpha2
ide: Assuming 33MHz system bus speed for PIO modes; override with idebus=xx
ICH4: IDE controller at PCI slot 0000:00:1f.1
PCI: Enabling device 0000:00:1f.1 (0005 -> 0007)

ACPI: PCI interrupt 0000:00:1f.1[A] -> GSI 11 (level, low) -> IRQ 11
ICH4: chipset revision 3
ICH4: not 100% native mode: will probe irqs later
    ide0: BM-DMA at 0x1810-0x1817, BIOS settings: hda:DMA, hdb:pio
    ide1: BM-DMA at 0x1818-0x181f, BIOS settings: hdc:DMA, hdd:pio
hda: ST94019A, ATA DISK drive
Using cfq io scheduler
ide0 at 0x1f0-0x1f7,0x3f6 on irq 14
hdc: HL-DT-STCD-RW/DVD DRIVE GCC-4241N, ATAPI CD/DVD-ROM drive
ide1 at 0x170-0x177,0x376 on irq 15
hda: max request size: 1024KiB
hda: 78140160 sectors (40007 MB) w/2048KiB Cache, CHS=16383/255/63, UDMA (100)
 hda: hda1 hda2 hda3
hdc: ATAPI 24X DVD-ROM CD-R/RW drive, 2048kB Cache, UDMA(33)
Uniform CD-ROM driver Revision: 3.20
ide-floppy driver 0.99.newide
usbcore: registered new driver hiddev
usbcore: registered new driver usbhid
drivers/usb/input/hid-core.c: v2.0:USB HID core driver
mice: PS/2 mouse device common for all mice
i8042.c: Detected active multiplexing controller, rev 1.9.
serio: i8042 AUX0 port at 0x60,0x64 irq 12
serio: i8042 AUX1 port at 0x60,0x64 irq 12
serio: i8042 AUX2 port at 0x60,0x64 irq 12
serio: i8042 AUX3 port at 0x60,0x64 irq 12
serio: i8042 KBD port at 0x60,0x64 irq 1
input: AT Translated Set 2 keyboard on isa0060/serio0
md: md driver 0.90.0 MAX_MD_DEVS=256, MD_SB_DISKS=27
NET: Registered protocol family 2
IP: routing cache hash table of 512 buckets, 16Kbytes
TCP: Hash tables configured (established 16384 bind 4681)
Initializing IPsec netlink socket
NET: Registered protocol family 1
NET: Registered protocol family 17
speedstep-centrino: found unsupported CPU with Enhanced SpeedStep: send /proc/cpuinfo to Jeremy Fitzhardinge <jeremy@goop.org>
ACPI: (supports S0 S3 S4 S5)
md: Autodetecting RAID arrays.
md: autorun ...
md: ... autorun DONE.
RAMDISK: Compressed image found at block 0
VFS: Mounted root (ext2 filesystem).
kjournald starting. Commit interval 5 seconds

EXT3-fs: mounted filesystem with ordered data mode.
Freeing unused kernel memory: 140k freed
SELinux: Disabled at runtime.
SELinux: Unregistering netfilter hooks
Synaptics Touchpad, model: 1
 Firmware: 13.8
 180 degree mounted touchpad
 Sensor: 18
 new absolute packet format
 Touchpad has extended capability bits
 -> 4 multi-buttons, i.e. besides standard buttons
 -> multifinger detection
 -> palm detection
input: SynPS/2 Synaptics TouchPad on isa0060/serio4
NET: Registered protocol family 10
Disabled Privacy Extensions on device 0235a140(lo)
IPv6 over IPv4 tunneling driver
divert: not allocating divert_blk for non-ethernet device sit0
[drm] Initialized i830 1.3.2 20021108 on minor 0:
[drm] Initialized i830 1.3.2 20021108 on minor 1:
mtrr: base(0xe8020000) is not aligned on a size(0x300000) boundary
ACPI: AC Adapter [AC] (on-line)
ACPI: Battery Slot [BAT0] (battery present)
ACPI: Power Button (FF) [PWRF]
ACPI: Lid Switch [LID]
ACPI: Sleep Button (CM) [SLP2]
ACPI: PCI interrupt 0000:00:1d.7[D] -> GSI 11 (level, low) -> IRQ 11
ehci_hcd 0000:00:1d.7: EHCI Host Controller
PCI: Setting latency timer of device 0000:00:1d.7 to 64
ehci_hcd 0000:00:1d.7: irq 11, pci mem 123bb000
ehci_hcd 0000:00:1d.7: new USB bus registered, assigned bus number 1
PCI: cache line size of 32 is not supported by device 0000:00:1d.7
ehci_hcd 0000:00:1d.7: USB 2.0 enabled, EHCI 1.00, driver 2004-May-10
hub 1-0:1.0: USB hub found
hub 1-0:1.0: 6 ports detected
USB Universal Host Controller Interface driver v2.2
ACPI: PCI interrupt 0000:00:1d.0[A] -> GSI 11 (level, low) -> IRQ 11
uhci_hcd 0000:00:1d.0: UHCI Host Controller
PCI: Setting latency timer of device 0000:00:1d.0 to 64
uhci_hcd 0000:00:1d.0: irq 11, io base 00001820
uhci_hcd 0000:00:1d.0: new USB bus registered, assigned bus number 2
hub 2-0:1.0: USB hub found
hub 2-0:1.0: 2 ports detected
ACPI: PCI interrupt 0000:00:1d.1[B] -> GSI 11 (level, low) -> IRQ 11

uhci_hcd 0000:00:1d.1: UHCI Host Controller
PCI: Setting latency timer of device 0000:00:1d.1 to 64
uhci_hcd 0000:00:1d.1: irq 11, io base 00001840
uhci_hcd 0000:00:1d.1: new USB bus registered, assigned bus number 3
hub 3-0:1.0: USB hub found
hub 3-0:1.0: 2 ports detected
ACPI: PCI interrupt 0000:00:1d.2[C] -> GSI 11 (level, low) -> IRQ 11
uhci_hcd 0000:00:1d.2: UHCI Host Controller
PCI: Setting latency timer of device 0000:00:1d.2 to 64
uhci_hcd 0000:00:1d.2: irq 11, io base 00001860
uhci_hcd 0000:00:1d.2: new USB bus registered, assigned bus number 4
hub 4-0:1.0: USB hub found
hub 4-0:1.0: 2 ports detected
usb 3-1: new low speed USB device using address 2
input: USB HID v1.10 Mouse [Logitech Optical USB Mouse] on usb-0000:00:1d.1-1
EXT3 FS on hda2, internal journal
device-mapper: 4.1.0-ioctl (2003-12-10) initialised: dm@uk.sistina.com
cdrom: open failed.
Adding 1020116k swap on /dev/hda3. Priority:-1 extents:1
NTFS driver 2.1.15 [Flags: R/O MODULE].
NTFS volume version 3.1.
ohci1394: $Rev: 1223 $ Ben Collins <bcollins@debian.org>
ACPI: PCI interrupt 0000:02:03.0[A] -> GSI 10 (level, low) -> IRQ 10
ohci1394: fw-host0: Unexpected PCI resource length of 1000!
ohci1394: fw-host0: OHCI-1394 1.0 (PCI): IRQ=[10] MMIO=[e0202000-e02027ff]
Max Packet=[2048]
IA-32 Microcode Update Driver: v1.14 <tigran@veritas.com>
microcode: No new microdata for cpu 0
ieee1394: Host added: ID:BUS[0-00:1023] GUID[04e40a0012002034]
parport0: PC-style at 0x378 [PCSPP,TRISTATE]
SCSI subsystem initialized
inserting floppy driver for 2.6.7-1.494.2.2custom
floppy0: no floppy controllers found
b44.c:v0.94 (May 4, 2004)
ACPI: PCI interrupt 0000:02:05.0[A] -> GSI 10 (level, low) -> IRQ 10
divert: allocating divert_blk for eth0
eth0: Broadcom 4400 10/100BaseT Ethernet 00:0a:e4:27:e0:5b
ieee80211_crypt: registered algorithm 'NULL'
ipw2200: Intel(R) PRO/Wireless 2200/2915 Network Driver, 0.11
ipw2200: Copyright(c) 2003-2004 Intel Corporation
ACPI: PCI interrupt 0000:02:06.0[A] -> GSI 10 (level, low) -> IRQ 10
ipw2200: Detected Intel PRO/Wireless 2200BG Network Connection
divert: allocating divert_blk for eth1
ipw2200: Radio Frequency Kill Switch is On:

Kill switch must be turned off for wireless networking to work.
divert: freeing divert_blk for eth0
divert: freeing divert_blk for eth1
ieee80211_crypt: unregistered algorithm 'NULL' (deinit)
ip_tables: (C) 2000-2002 Netfilter core team
b44.c:v0.94 (May 4, 2004)
ACPI: PCI interrupt 0000:02:05.0[A] -> GSI 10 (level, low) -> IRQ 10
divert: allocating divert_blk for eth0
eth0: Broadcom 4400 10/100BaseT Ethernet 00:0a:e4:27:e0:5b
ip_tables: (C) 2000-2002 Netfilter core team
b44: eth0: Link is down.
eth0: no IPv6 routers present
Linux Kernel Card Services
  options: [pci] [cardbus] [pm]
ACPI: PCI interrupt 0000:02:09.0[A] -> GSI 10 (level, low) -> IRQ 10
Yenta: CardBus bridge found at 0000:02:09.0 [1734:1033]
Yenta: Using CSCINT to route CSC interrupts to PCI
Yenta: Routing CardBus interrupts to PCI
Yenta TI: socket 0000:02:09.0, mfunc 0x01001002, devctl 0x64
Yenta: ISA IRQ mask 0x0098, PCI irq 10
Socket status: 30000007
cs: IO port probe 0x0c00-0x0cff: clean.
cs: IO port probe 0x0100-0x04ff: excluding 0x378-0x37f 0x4d0-0x4d7
cs: IO port probe 0x0a00-0x0aff: clean.
parport0: PC-style at 0x378 [PCSPP,TRISTATE]
lp0: using parport0 (polling).
lp0: console ready
Acer Travelmate hotkey driver v0.5.16
Debug: sleeping function called from invalid context at include/asm/semaphore.h:119
in_atomic():0[expected: 0], irqs_disabled():1
 [<0211c651>] __might_sleep+0x82/0x8c
 [<021394cb>] sys_init_module+0x28d/0x2e5
NET: Registered protocol family 23
nsc-ircc, Found chip at base=0x02e
nsc-ircc, driver loaded (Dag Brattli)
divert: not allocating divert_blk for non-ethernet device irda0
IrDA: Registered device irda0
nsc-ircc, Using dongle: IBM31T1100 or Temic TFDS6000/TFDS6500
IrCOMM protocol (Dag Brattli)
divert: not allocating divert_blk for non-ethernet device irda1
mtrr: base(0xe8020000) is not aligned on a size(0x300000) boundary
ACPI: PCI interrupt 0000:00:1f.5[B] -> GSI 10 (level, low) -> IRQ 10
PCI: Setting latency timer of device 0000:00:1f.5 to 64
intel8x0_measure_ac97_clock: measured 49417 usecs

intel8x0: clocking to 48000

Output of lspci

00:00.0 Host bridge: Intel Corp. 82852/855GM Host Bridge (rev 02)
00:00.1 System peripheral: Intel Corp. 855GM/GME GMCH Memory I/O Control Registers (rev 02)
00:00.3 System peripheral: Intel Corp. 855GM/GME GMCH Configuration Process Registers (rev 02)
00:02.0 VGA compatible controller: Intel Corp. 82852/855GM Integrated Graphics Device (rev 02)
00:02.1 Display controller: Intel Corp. 82852/855GM Integrated Graphics Device (rev 02)
00:1d.0 USB Controller: Intel Corp. 82801DB (ICH4) USB UHCI #1 (rev 03)
00:1d.1 USB Controller: Intel Corp. 82801DB (ICH4) USB UHCI #2 (rev 03)
00:1d.2 USB Controller: Intel Corp. 82801DB (ICH4) USB UHCI #3 (rev 03)
00:1d.7 USB Controller: Intel Corp. 82801DB (ICH4) USB2 EHCI Controller (rev 03)
00:1e.0 PCI bridge: Intel Corp. 82801BAM/CAM PCI Bridge (rev 83)
00:1f.0 ISA bridge: Intel Corp. 82801DBM LPC Interface Controller (rev 03)
00:1f.1 IDE interface: Intel Corp. 82801DBM (ICH4) Ultra ATA Storage Controller (rev 03)
00:1f.3 SMBus: Intel Corp. 82801DB/DBM (ICH4) SMBus Controller (rev 03)
00:1f.5 Multimedia audio controller: Intel Corp. 82801DB (ICH4) AC'97 Audio Controller (rev 03)
00:1f.6 Modem: Intel Corp. 82801DB (ICH4) AC'97 Modem Controller (rev 03)
02:03.0 FireWire (IEEE 1394): Lucent Microelectronics FW323 (rev 61)
02:05.0 Ethernet controller: Broadcom Corporation BCM4401 100Base-T (rev 01)
02:06.0 Network controller: Intel Corp. Intel(R) PRO/Wireless 2200BG (rev 05)
02:09.0 CardBus bridge: Texas Instruments PCI1510 PC card Cardbus Controller

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References:

Fujitsu Siemens Linux Support

LINUX on Laptops
This is an index of information and documentation of interest to those who now use or are considering using the Linux operating system on a notebook or laptop computer.

LINUX on Centrino™ Laptops

UNIX with mobile computers
The TuxMobil site (former known as MobiliX) is dedicated to **Mobile UniX** systems. It

leads you to a lot of useful hands-on information about installing and running **Linux, BSD, Solaris and other UniXes** on laptops, PDAs, cell phones, wearables and other mobile computer devices. You may find the Linux-Mobile-Guide and the Infrared-HOWTO, a survey of supported PCMCIA/CF cards, other mobile hardware surveys, some links to databases of stolen laptops and PDAs, a survey of laptop manufacturers and their Linux status, software for mobile computers and the `linux-laptop` mailing list. For even more information see the navigation bar above, the A-Z index or the sitemap.

LINUX on a laptop
Linux on specific laptops.

Fujitsu-Siemens and Linux

Fujitsu-Siemens Amilo A-7600 (© Janne Nurminen)
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LINUX Software (RPM)
