The following is a consolidated list of the kernel parameters as implemented (mostly) by the __setup() macro and sorted into English Dictionary order (defined as ignoring all punctuation and sorting digits before letters in a case insensitive manner), and with descriptions where known.

Module parameters for loadable modules are specified only as the parameter name with optional '=' and value as appropriate, such as:

modprobe usbcore blinkenlights=1

Module parameters for modules that are built into the kernel image are specified on the kernel command line with the module name plus '.' plus parameter name, with '=' and value if appropriate, such as:

usbcore.blinkenlights=1

The text in square brackets at the beginning of the description states the restrictions on the kernel for the said kernel parameter to be valid. The restrictions referred to are that the relevant option is valid if:

```
ACPI    ACPI support is enabled.
ALSA    ALSA sound support is enabled.
APIC    APIC support is enabled.
APM     Advanced Power Management support is enabled.
AX25    Appropriate AX.25 support is enabled.
CD      Appropriate CD support is enabled.
DEVFS   devfs support is enabled.
DRM     Direct Rendering Management support is enabled.
EDD     BIOS Enhanced Disk Drive Services (EDD) is enabled
EFI     EFI Partitioning (GPT) is enabled
EIDE    EIDE/ATAPI support is enabled.
FB      The frame buffer device is enabled.
HW      Appropriate hardware is enabled.
IA-32   IA-32 aka i386 architecture is enabled.
IA-64   IA-64 architecture is enabled.
IOSCHED More than one I/O scheduler is enabled.
IP_PNP  IP DHCP, BOOTP, or RARP is enabled.
ISAPNP  ISA PnP code is enabled.
ISDN    Appropriate ISDN support is enabled.
JOY     Appropriate joystick support is enabled.
LP      Printer support is enabled.
LOOP    Loopback device support is enabled.
M68k    M68k architecture is enabled.
                These options have more detailed description inside of
                Documentation/m68k/kernel-options.txt.
MCA     MCA bus support is enabled.
MDA     MDA console support is enabled.
MOUSE   Appropriate mouse support is enabled.
MTD     MTD support is enabled.
NET     Appropriate network support is enabled.
NUMA    NUMA support is enabled.
NFS     Appropriate NFS support is enabled.
OSS     OSS sound support is enabled.
PARIDE  The ParIDE subsystem is enabled.
PARISC  The PA-RISC architecture is enabled.
PCI     PCI bus support is enabled.
PCMCIA  The PCMCIA subsystem is enabled.
PNP     Plug & Play support is enabled.
PPC     PowerPC architecture is enabled.
PPT     Parallel port support is enabled.
PS2     Appropriate PS/2 support is enabled.
RAM     RAM disk support is enabled.
S390    S390 architecture is enabled.
SCSI    Appropriate SCSI support is enabled.
                A lot of drivers has their options described inside of
                Documentation/scsi/.
SELINUX SELinux support is enabled.
SERIAL  Serial support is enabled.
SMP     The kernel is an SMP kernel.
SPARC   Sparc architecture is enabled.
SWSUSP  Software suspend is enabled.
```

```
TS      Appropriate touchscreen support is enabled.
USB     USB support is enabled.
USBHID  USB Human Interface Device support is enabled.
V4L     Video For Linux support is enabled.
VGA     The VGA console has been enabled.
VT      Virtual terminal support is enabled.
WDT     Watchdog support is enabled.
XT      IBM PC/XT MFM hard disk support is enabled.
X86-64  X86-64 architecture is enabled.
                More X86-64 boot options can be found in
                Documentation/x86_64/boot-options.txt .
```

In addition, the following text indicates that the option:

```
BUGS=   Relates to possible processor bugs on the said processor.
KNL     Is a kernel start-up parameter.
BOOT    Is a boot loader parameter.
```

Parameters denoted with BOOT are actually interpreted by the boot loader, and have no meaning to the kernel directly. Do not modify the syntax of boot loader parameters without extreme need or coordination with <Documentation/i386/boot.txt>.

Note that ALL kernel parameters listed below are CASE SENSITIVE, and that a trailing = on the name of any parameter states that that parameter will be entered as an environment variable, whereas its absence indicates that it will appear as a kernel argument readable via /proc/cmdline by programs running once the system is up.


```
53c7xx=         [HW,SCSI] Amiga SCSI controllers
                See header of drivers/scsi/53c7xx.c.
                See also Documentation/scsi/ncr53c7xx.txt.

acpi=           [HW,ACPI] Advanced Configuration and Power Interface
                Format: { force | off | ht | strict | noirq }
                force -- enable ACPI if default was off
                off -- disable ACPI if default was on
                noirq -- do not use ACPI for IRQ routing
                ht -- run only enough ACPI to enable Hyper Threading
                strict -- Be less tolerant of platforms that are not
                        strictly ACPI specification compliant.

                See also Documentation/pm.txt, pci=noacpi

acpi_sleep=     [HW,ACPI] Sleep options
                Format: { s3_bios, s3_mode }
                See Documentation/power/video.txt

acpi_sci=       [HW,ACPI] ACPI System Control Interrupt trigger mode
                Format: { level | edge | high | low }

acpi_irq_balance [HW,ACPI]
                ACPI will balance active IRQs
                default in APIC mode

acpi_irq_nobalance [HW,ACPI]
                ACPI will not move active IRQs (default)
                default in PIC mode

acpi_irq_pci=   [HW,ACPI] If irq_balance, clear listed IRQs for
                use by PCI
                Format: <irq>,<irq>...

acpi_irq_isa=   [HW,ACPI] If irq_balance, mark listed IRQs used by ISA
                Format: <irq>,<irq>...

acpi_osi=       [HW,ACPI] empty param disables _OSI

acpi_serialize  [HW,ACPI] force serialization of AML methods

acpi_skip_timer_override [HW,ACPI]
                Recognize and ignore IRQ0/pin2 Interrupt Override.
                For broken nForce2 BIOS resulting in XT-PIC timer.

acpi_dbg_layer= [HW,ACPI]
```

```
                Format: <int>
                Each bit of the <int> indicates an ACPI debug layer,
                1: enable, 0: disable. It is useful for boot time
                debugging. After system has booted up, it can be set
                via /proc/acpi/debug_layer.

acpi_dbg_level= [HW,ACPI]
                Format: <int>
                Each bit of the <int> indicates an ACPI debug level,
                1: enable, 0: disable. It is useful for boot time
                debugging. After system has booted up, it can be set
                via /proc/acpi/debug_level.

acpi_fake_ecdt  [HW,ACPI] Workaround failure due to BIOS lacking ECDT

acpi_generic_hotkey [HW,ACPI]
                Allow consolidated generic hotkey driver to
                override platform specific driver.
                See also Documentation/acpi-hotkey.txt.

enable_timer_pin_1 [i386,x86-64]
                Enable PIN 1 of APIC timer
                Can be useful to work around chipset bugs
                (in particular on some ATI chipsets).
                The kernel tries to set a reasonable default.

disable_timer_pin_1 [i386,x86-64]
                Disable PIN 1 of APIC timer
                Can be useful to work around chipset bugs.

ad1816=         [HW,OSS]
                Format: <io>,<irq>,<dma>,<dma2>
                See also Documentation/sound/oss/AD1816.

ad1848=         [HW,OSS]
                Format: <io>,<irq>,<dma>,<dma2>,<type>

adlib=          [HW,OSS]
                Format: <io>

advansys=       [HW,SCSI]
                See header of drivers/scsi/advansys.c.

advwdt=         [HW,WDT] Advantech WDT
                Format: <iostart>,<iostop>

aedsp16=        [HW,OSS] Audio Excel DSP 16
                Format: <io>,<irq>,<dma>,<mss_io>,<mpu_io>,<mpu_irq>
                See also header of sound/oss/aedsp16.c.

aha152x=        [HW,SCSI]
                See Documentation/scsi/aha152x.txt.

aha1542=        [HW,SCSI]
                Format: <portbase>[,<buson>,<busoff>[,<dmaspeed>]]

aic7xxx=        [HW,SCSI]
                See Documentation/scsi/aic7xxx.txt.

aic79xx=        [HW,SCSI]
                See Documentation/scsi/aic79xx.txt.

amijoy.map=     [HW,JOY] Amiga joystick support
                Map of devices attached to JOY0DAT and JOY1DAT
                Format: <a>,<b>
                See also Documentation/kernel/input/joystick.txt

analog.map=     [HW,JOY] Analog joystick and gamepad support
                Specifies type or capabilities of an analog joystick
                connected to one of 16 gameports
                Format: <type1>,<type2>,..<type16>

apc=            [HW,SPARC]
                Power management functions (SPARCstation-4/5 + deriv.)
                Format: noidle
                Disable APC CPU standby support. SPARCstation-Fox does
                not play well with APC CPU idle - disable it if you have
                APC and your system crashes randomly.

apic=           [APIC,i386] Change the output verbosity whilst booting
                Format: { quiet (default) | verbose | debug }
                Change the amount of debugging information output
```

```
                when initialising the APIC and IO-APIC components.

apm=            [APM] Advanced Power Management
                See header of arch/i386/kernel/apm.c.

applicom=       [HW]
                Format: <mem>,<irq>

arcrimi=        [HW,NET] ARCnet - "RIM I" (entirely mem-mapped) cards
                Format: <io>,<irq>,<nodeID>

ataflop=        [HW,M68k]

atarimouse=     [HW,MOUSE] Atari Mouse

atascsi=        [HW,SCSI] Atari SCSI

atkbd.extra=    [HW] Enable extra LEDs and keys on IBM RapidAccess,
                EzKey and similar keyboards

atkbd.reset=    [HW] Reset keyboard during initialization

atkbd.set=      [HW] Select keyboard code set
                Format: <int> (2 = AT (default), 3 = PS/2)

atkbd.scroll=   [HW] Enable scroll wheel on MS Office and similar
                keyboards

atkbd.softraw=  [HW] Choose between synthetic and real raw mode
                Format: <bool> (0 = real, 1 = synthetic (default))

atkbd.softrepeat= [HW]
                Use software keyboard repeat

autotest        [IA64]

awe=            [HW,OSS] AWE32/SB32/AWE64 wave table synth
                Format: <io>,<memsize>,<isapnp>

aztcd=          [HW,CD] Aztech CD268 CDROM driver
                Format: <io>,0x79 (?)

baycom_epp=     [HW,AX25]
                Format: <io>,<mode>

baycom_par=     [HW,AX25] BayCom Parallel Port AX.25 Modem
                Format: <io>,<mode>
                See header of drivers/net/hamradio/baycom_par.c.

baycom_ser_fdx= [HW,AX25]
                BayCom Serial Port AX.25 Modem (Full Duplex Mode)
                Format: <io>,<irq>,<mode>[,<baud>]
                See header of drivers/net/hamradio/baycom_ser_fdx.c.

baycom_ser_hdx= [HW,AX25]
                BayCom Serial Port AX.25 Modem (Half Duplex Mode)
                Format: <io>,<irq>,<mode>
                See header of drivers/net/hamradio/baycom_ser_hdx.c.

blkmtd_device=  [HW,MTD]
blkmtd_erasesz=
blkmtd_ro=
blkmtd_bs=
blkmtd_count=

bttv.card=      [HW,V4L] bttv (bt848 + bt878 based grabber cards)
bttv.radio=     Most important insmod options are available as
                kernel args too.
bttv.pll=       See Documentation/video4linux/bttv/Insmod-options
bttv.tuner=     and Documentation/video4linux/bttv/CARDLIST

BusLogic=       [HW,SCSI]
                See drivers/scsi/BusLogic.c, comment before function
                BusLogic_ParseDriverOptions().

c101=           [NET] Moxa C101 synchronous serial card

cachesize=      [BUGS=IA-32] Override level 2 CPU cache size detection.
                Sometimes CPU hardware bugs make them report the cache
                size incorrectly. The kernel will attempt work arounds
                to fix known problems, but for some CPUs it is not
                possible to determine what the correct size should be.
```

```
                This option provides an override for these situations.

cdu31a=         [HW,CD]
                Format: <io>,<irq>[,PAS]
                See header of drivers/cdrom/cdu31a.c.

chandev=        [HW,NET] Generic channel device initialisation

checkreqprot    [SELINUX] Set initial checkreqprot flag value.
                Format: { "0" | "1" }
                See security/selinux/Kconfig help text.
                0 -- check protection applied by kernel (includes
                        any implied execute protection).
                1 -- check protection requested by application.
                Default value is set via a kernel config option.
                Value can be changed at runtime via
                        /selinux/checkreqprot.

clock=          [BUGS=IA-32,HW] gettimeofday timesource override.
                Forces specified timesource (if avaliable) to be used
                when calculating gettimeofday(). If specicified
                timesource is not avalible, it defaults to PIT.
                Format: { pit | tsc | cyclone | pmtmr }

hpet=           [IA-32,HPET] option to disable HPET and use PIT.
                Format: disable

cm206=          [HW,CD]
                Format: { auto | [<io>,][<irq>] }

com20020=       [HW,NET] ARCnet - COM20020 chipset
                Format:
                <io>[,<irq>[,<nodeID>[,<backplane>[,<ckp>[,<timeout>]]]]]

com90io=        [HW,NET] ARCnet - COM90xx chipset (IO-mapped buffers)
                Format: <io>[,<irq>]

com90xx=        [HW,NET]
                ARCnet - COM90xx chipset (memory-mapped buffers)
                Format: <io>[,<irq>[,<memstart>]]

condev=         [HW,S390] console device
conmode=

console=        [KNL] Output console device and options.

        tty<n>  Use the virtual console device <n>.

        ttyS<n>[,options]
                Use the specified serial port.  The options are of
                the form "bbbbpn", where "bbbb" is the baud rate,
                "p" is parity ("n", "o", or "e"), and "n" is bits.
                Default is "9600n8".

                See also Documentation/serial-console.txt.

        uart,io,<addr>[,options]
        uart,mmio,<addr>[,options]
                Start an early, polled-mode console on the 8250/16550
                UART at the specified I/O port or MMIO address,
                switching to the matching ttyS device later.  The
                options are the same as for ttyS, above.

cpcihp_generic= [HW,PCI] Generic port I/O CompactPCI driver
                Format:
                <first_slot>,<last_slot>,<port>,<enum_bit>[,<debug>]

cpia_pp=        [HW,PPT]
                Format: { parport<nr> | auto | none }

crashkernel=nn[KMG]@ss[KMG]
                [KNL] Reserve a chunk of physical memory to
                hold a kernel to switch to with kexec on panic.

cs4232=         [HW,OSS]
                Format: <io>,<irq>,<dma>,<dma2>,<mpuio>,<mpuirq>

cs89x0_dma=     [HW,NET]
                Format: <dma>

cs89x0_media=   [HW,NET]
                Format: { rj45 | aui | bnc }
```

```
cyclades=       [HW,SERIAL] Cyclades multi-serial port adapter.

dasd=           [HW,NET]
                See header of drivers/s390/block/dasd_devmap.c.

db9.dev[2|3]=   [HW,JOY] Multisystem joystick support via parallel port
                (one device per port)
                Format: <port#>,<type>
                See also Documentation/input/joystick-parport.txt

debug           [KNL] Enable kernel debugging (events log level).

decnet=         [HW,NET]
                Format: <area>[,<node>]
                See also Documentation/networking/decnet.txt.

devfs=          [DEVFS]
                See Documentation/filesystems/devfs/boot-options.

dhash_entries=  [KNL]
                Set number of hash buckets for dentry cache.

digi=           [HW,SERIAL]
                IO parameters + enable/disable command.

digiepca=       [HW,SERIAL]
                See drivers/char/README.epca and
                Documentation/digiepca.txt.

dmascc=         [HW,AX25,SERIAL] AX.25 Z80SCC driver with DMA
                support available.
                Format: <io_dev0>[,<io_dev1>[,..<io_dev32>]]

dmasound=       [HW,OSS] Sound subsystem buffers

dscc4.setup=    [NET]

dtc3181e=       [HW,SCSI]

earlyprintk=    [IA-32,X86-64]
                earlyprintk=vga
                earlyprintk=serial[,ttySn[,baudrate]]

                Append ",keep" to not disable it when the real console
                takes over.

                Only vga or serial at a time, not both.

                Currently only ttyS0 and ttyS1 are supported.

                Interaction with the standard serial driver is not
                very good.

                The VGA output is eventually overwritten by the real
                console.

eata=           [HW,SCSI]

eda=            [HW,PS2]

edb=            [HW,PS2]

edd=            [EDD]
                Format: {"of[f]" | "sk[ipmbr]"}
                See comment in arch/i386/boot/edd.S

eicon=          [HW,ISDN]
                Format: <id>,<membase>,<irq>

eisa_irq_edge=  [PARISC,HW]
                See header of drivers/parisc/eisa.c.

elanfreq=       [IA-32]
                See comment before function elanfreq_setup() in
                arch/i386/kernel/cpu/cpufreq/elanfreq.c.

elevator=       [IOSCHED]
                Format: {"as" | "cfq" | "deadline" | "noop"}
                See Documentation/block/as-iosched.txt and
                Documentation/block/deadline-iosched.txt for details.
```

```
elfcorehdr=     [IA-32]
                Specifies physical address of start of kernel core
                image elf header.
                See Documentation/kdump.txt for details.

enforcing       [SELINUX] Set initial enforcing status.
                Format: {"0" | "1"}
                See security/selinux/Kconfig help text.
                0 -- permissive (log only, no denials).
                1 -- enforcing (deny and log).
                Default value is 0.
                Value can be changed at runtime via /selinux/enforce.

es1370=         [HW,OSS]
                Format: <lineout>[,<micbias>]
                See also header of sound/oss/es1370.c.

es1371=         [HW,OSS]
                Format: <spdif>,[<nomix>,[<amplifier>]]
                See also header of sound/oss/es1371.c.

ether=          [HW,NET] Ethernet cards parameters
                This option is obsoleted by the "netdev=" option, which
                has equivalent usage. See its documentation for details.

eurwdt=         [HW,WDT] Eurotech CPU-1220/1410 onboard watchdog.
                Format: <io>[,<irq>]

fd_mcs=         [HW,SCSI]
                See header of drivers/scsi/fd_mcs.c.

fdomain=        [HW,SCSI]
                See header of drivers/scsi/fdomain.c.

floppy=         [HW]
                See Documentation/floppy.txt.

ftape=          [HW] Floppy Tape subsystem debugging options.
                See Documentation/ftape.txt.

gamecon.map[2|3]=
                [HW,JOY] Multisystem joystick and NES/SNES/PSX pad
                support via parallel port (up to 5 devices per port)
                Format: <port#>,<pad1>,<pad2>,<pad3>,<pad4>,<pad5>
                See also Documentation/input/joystick-parport.txt

gamma=          [HW,DRM]

gdth=           [HW,SCSI]
                See header of drivers/scsi/gdth.c.

gpt             [EFI] Forces disk with valid GPT signature but
                invalid Protective MBR to be treated as GPT.

gscd=           [HW,CD]
                Format: <io>

gt96100eth=     [NET] MIPS GT96100 Advanced Communication Controller

gus=            [HW,OSS]
                Format: <io>,<irq>,<dma>,<dma16>

gvp11=          [HW,SCSI]

hashdist=       [KNL,NUMA] Large hashes allocated during boot
                are distributed across NUMA nodes.  Defaults on
                for IA-64, off otherwise.
                Format: 0 | 1 (for off | on)

hcl=            [IA-64] SGI's Hardware Graph compatibility layer

hd=             [EIDE] (E)IDE hard drive subsystem geometry
                Format: <cyl>,<head>,<sect>

hd?=            [HW] (E)IDE subsystem
hd?lun=         See Documentation/ide.txt.

highmem=nn[KMG] [KNL,BOOT] forces the highmem zone to have an exact
                size of <nn>. This works even on boxes that have no
                highmem otherwise. This also works to reduce highmem
                size on bigger boxes.
```

```
hisax=          [HW,ISDN]
                See Documentation/isdn/README.HiSax.

hugepages=      [HW,IA-32,IA-64] Maximal number of HugeTLB pages.

noirqbalance    [IA-32,SMP,KNL] Disable kernel irq balancing

i8042.direct    [HW] Put keyboard port into non-translated mode
i8042.dumbkbd   [HW] Pretend that controlled can only read data from
                     keyboard and can not control its state
                     (Don't attempt to blink the leds)
i8042.noaux     [HW] Don't check for auxiliary (== mouse) port
i8042.nokbd     [HW] Don't check/create keyboard port
i8042.nomux     [HW] Don't check presence of an active multiplexing
                     controller
i8042.nopnp     [HW] Don't use ACPIPnP / PnPBIOS to discover KBD/AUX
                     controllers
i8042.panicblink=
                [HW] Frequency with which keyboard LEDs should blink
                     when kernel panics (default is 0.5 sec)
i8042.reset     [HW] Reset the controller during init and cleanup
i8042.unlock    [HW] Unlock (ignore) the keylock

i810=           [HW,DRM]

i8k.ignore_dmi  [HW] Continue probing hardware even if DMI data
                indicates that the driver is running on unsupported
                hardware.
i8k.force       [HW] Activate i8k driver even if SMM BIOS signature
                does not match list of supported models.
i8k.power_status
                [HW] Report power status in /proc/i8k
                (disabled by default)
i8k.restricted  [HW] Allow controlling fans only if SYS_ADMIN
                capability is set.

ibmmcascsi=     [HW,MCA,SCSI] IBM MicroChannel SCSI adapter
                See Documentation/mca.txt.

icn=            [HW,ISDN]
                Format: <io>[,<membase>[,<icn_id>[,<icn_id2>]]]

ide=            [HW] (E)IDE subsystem
                Format: ide=nodma or ide=doubler or ide=reverse
                See Documentation/ide.txt.

ide?=           [HW] (E)IDE subsystem
                Format: ide?=noprobe or chipset specific parameters.
                See Documentation/ide.txt.

idebus=         [HW] (E)IDE subsystem - VLB/PCI bus speed
                See Documentation/ide.txt.

idle=           [HW]
                Format: idle=poll or idle=halt

ihash_entries=  [KNL]
                Set number of hash buckets for inode cache.

in2000=         [HW,SCSI]
                See header of drivers/scsi/in2000.c.

init=           [KNL]
                Format: <full_path>
                Run specified binary instead of /sbin/init as init
                process.

initcall_debug  [KNL] Trace initcalls as they are executed.  Useful
                for working out where the kernel is dying during
                startup.

initrd=         [BOOT] Specify the location of the initial ramdisk

inport.irq=     [HW] Inport (ATI XL and Microsoft) busmouse driver
                Format: <irq>

inttest=        [IA64]

io7=            [HW] IO7 for Marvel based alpha systems
                See comment before marvel_specify_io7 in
                arch/alpha/kernel/core_marvel.c.
```

```
ip=             [IP_PNP]
                See Documentation/nfsroot.txt.

ip2=            [HW] Set IO/IRQ pairs for up to 4 IntelliPort boards
                See comment before ip2_setup() in drivers/char/ip2.c.

ips=            [HW,SCSI] Adaptec / IBM ServeRAID controller
                See header of drivers/scsi/ips.c.

irqfixup        [HW]
                When an interrupt is not handled search all handlers
                for it. Intended to get systems with badly broken
                firmware running.

irqpoll         [HW]
                When an interrupt is not handled search all handlers
                for it. Also check all handlers each timer
                interrupt. Intended to get systems with badly broken
                firmware running.

isapnp=         [ISAPNP]
                Format: <RDP>,<reset>,<pci_scan>,<verbosity>

isolcpus=       [KNL,SMP] Isolate CPUs from the general scheduler.
                Format: <cpu number>,...,<cpu number>
                This option can be used to specify one or more CPUs
                to isolate from the general SMP balancing and scheduling
                algorithms. The only way to move a process onto or off
                an "isolated" CPU is via the CPU affinity syscalls.
                <cpu number> begins at 0 and the maximum value is
                "number of CPUs in system - 1".

                This option is the preferred way to isolate CPUs. The
                alternative -- manually setting the CPU mask of all
                tasks in the system -- can cause problems and
                suboptimal load balancer performance.

isp16=          [HW,CD]
                Format: <io>,<irq>,<dma>,<setup>

iucv=           [HW,NET]

js=             [HW,JOY] Analog joystick
                See Documentation/input/joystick.txt.

keepinitrd      [HW,ARM]

kstack=N        [IA-32,X86-64] Print N words from the kernel stack
                in oops dumps.

l2cr=           [PPC]

lapic           [IA-32,APIC] Enable the local APIC even if BIOS
                disabled it.

lasi=           [HW,SCSI] PARISC LASI driver for the 53c700 chip
                Format: addr:<io>,irq:<irq>

llsc*=          [IA64] See function print_params() in
                arch/ia64/sn/kernel/llsc4.c.

load_ramdisk=   [RAM] List of ramdisks to load from floppy
                See Documentation/ramdisk.txt.

lockd.udpport=  [NFS]

lockd.tcpport=  [NFS]

logibm.irq=     [HW,MOUSE] Logitech Bus Mouse Driver
                Format: <irq>

loglevel=       All Kernel Messages with a loglevel smaller than the
                console loglevel will be printed to the console. It can
                also be changed with klogd or other programs. The
                loglevels are defined as follows:

                0 (KERN_EMERG)          system is unusable
                1 (KERN_ALERT)          action must be taken immediately
                2 (KERN_CRIT)           critical conditions
                3 (KERN_ERR)            error conditions
                4 (KERN_WARNING)        warning conditions
                5 (KERN_NOTICE)         normal but significant condition
```

```
                6 (KERN_INFO)           informational
                7 (KERN_DEBUG)          debug-level messages

log_buf_len=n   Sets the size of the printk ring buffer, in bytes.
                Format: { n | nk | nM }
                n must be a power of two.  The default size
                is set in the kernel config file.

lp=0            [LP]    Specify parallel ports to use, e.g,
lp=port[,port...]       lp=none,parport0 (lp0 not configured, lp1 uses
lp=reset                first parallel port). 'lp=0' disables the
lp=auto                 printer driver. 'lp=reset' (which can be
                        specified in addition to the ports) causes
                        attached printers to be reset. Using
                        lp=port1,port2,... specifies the parallel ports
                        to associate lp devices with, starting with
                        lp0. A port specification may be 'none' to skip
                        that lp device, or a parport name such as
                        'parport0'. Specifying 'lp=auto' instead of a
                        port specification list means that device IDs
                        from each port should be examined, to see if
                        an IEEE 1284-compliant printer is attached; if
                        so, the driver will manage that printer.
                        See also header of drivers/char/lp.c.

lpj=n           [KNL]
                Sets loops_per_jiffy to given constant, thus avoiding
                time-consuming boot-time autodetection (up to 250 ms per
                CPU). 0 enables autodetection (default). To determine
                the correct value for your kernel, boot with normal
                autodetection and see what value is printed. Note that
                on SMP systems the preset will be applied to all CPUs,
                which is likely to cause problems if your CPUs need
                significantly divergent settings. An incorrect value
                will cause delays in the kernel to be wrong, leading to
                unpredictable I/O errors and other breakage. Although
                unlikely, in the extreme case this might damage your
                hardware.

ltpc=           [NET]
                Format: <io>,<irq>,<dma>

mac5380=        [HW,SCSI] Format:
                <can_queue>,<cmd_per_lun>,<sg_tablesize>,<hostid>,<use_tags>

mac53c9x=       [HW,SCSI] Format:
                <num_esps>,<disconnect>,<nosync>,<can_queue>,<cmd_per_lun>,<sg_tablesize>,<hostid>,<use_tags>

machvec=        [IA64] Force the use of a particular machine-vector
                (machvec) in a generic kernel.
                Example: machvec=hpzx1_swiotlb

mad16=          [HW,OSS] Format:
                <io>,<irq>,<dma>,<dma16>,<mpu_io>,<mpu_irq>,<joystick>

maui=           [HW,OSS]
                Format: <io>,<irq>

max_loop=       [LOOP] Maximum number of loopback devices that can
                be mounted
                Format: <1-256>

maxcpus=        [SMP] Maximum number of processors that an SMP kernel
                should make use of

max_addr=[KMG]  [KNL,BOOT,ia64] All physical memory greater than or
                equal to this physical address is ignored.

max_luns=       [SCSI] Maximum number of LUNs to probe.
                Should be between 1 and 2^32-1.

max_report_luns=
                [SCSI] Maximum number of LUNs received.
                Should be between 1 and 16384.

mca-pentium     [BUGS=IA-32]

mcatest=        [IA-64]

mcd=            [HW,CD]
                Format: <port>,<irq>,<mitsumi_bug_93_wait>
```

```
mcdx=           [HW,CD]

mce             [IA-32] Machine Check Exception

md=             [HW] RAID subsystems devices and level
                See Documentation/md.txt.

mdacon=         [MDA]
                Format: <first>,<last>
                Specifies range of consoles to be captured by the MDA.

mem=nn[KMG]     [KNL,BOOT] Force usage of a specific amount of memory
                Amount of memory to be used when the kernel is not able
                to see the whole system memory or for test.
                [IA-32] Use together with memmap= to avoid physical
                address space collisions. Without memmap= PCI devices
                could be placed at addresses belonging to unused RAM.

mem=nopentium   [BUGS=IA-32] Disable usage of 4MB pages for kernel
                memory.

memmap=exactmap [KNL,IA-32] Enable setting of an exact
                E820 memory map, as specified by the user.
                Such memmap=exactmap lines can be constructed based on
                BIOS output or other requirements. See the memmap=nn@ss
                option description.

memmap=nn[KMG]@ss[KMG]
                [KNL] Force usage of a specific region of memory
                Region of memory to be used, from ss to ss+nn.

memmap=nn[KMG]#ss[KMG]
                [KNL,ACPI] Mark specific memory as ACPI data.
                Region of memory to be used, from ss to ss+nn.

memmap=nn[KMG]$ss[KMG]
                [KNL,ACPI] Mark specific memory as reserved.
                Region of memory to be used, from ss to ss+nn.

meye.*=         [HW] Set MotionEye Camera parameters
                See Documentation/video4linux/meye.txt.

mga=            [HW,DRM]

mousedev.tap_time=
                [MOUSE] Maximum time between finger touching and
                leaving touchpad surface for touch to be considered
                a tap and be reported as a left button click (for
                touchpads working in absolute mode only).
                Format: <msecs>
mousedev.xres=  [MOUSE] Horizontal screen resolution, used for devices
                reporting absolute coordinates, such as tablets
mousedev.yres=  [MOUSE] Vertical screen resolution, used for devices
                reporting absolute coordinates, such as tablets

mpu401=         [HW,OSS]
                Format: <io>,<irq>

MTD_Partition=  [MTD]
                Format: <name>,<region-number>,<size>,<offset>

MTD_Region=     [MTD] Format:
                <name>,<region-number>[,<base>,<size>,<buswidth>,<altbuswidth>]

mtdparts=       [MTD]
                See drivers/mtd/cmdline.c.

mtouchusb.raw_coordinates=
                [HW] Make the MicroTouch USB driver use raw coordinates
                ('y', default) or cooked coordinates ('n')

n2=             [NET] SDL Inc. RISCom/N2 synchronous serial card

NCR_D700=       [HW,SCSI]
                See header of drivers/scsi/NCR_D700.c.

ncr5380=        [HW,SCSI]

ncr53c400=      [HW,SCSI]

ncr53c400a=     [HW,SCSI]
```

```
ncr53c406a=     [HW,SCSI]

ncr53c8xx=      [HW,SCSI]

netdev=         [NET] Network devices parameters
                Format: <irq>,<io>,<mem_start>,<mem_end>,<name>
                Note that mem_start is often overloaded to mean
                something different and driver-specific.
                This usage is only documented in each driver source
                file if at all.

nfsaddrs=       [NFS]
                See Documentation/nfsroot.txt.

nfsroot=        [NFS] nfs root filesystem for disk-less boxes.
                See Documentation/nfsroot.txt.

nmi_watchdog=   [KNL,BUGS=IA-32] Debugging features for SMP kernels

no387           [BUGS=IA-32] Tells the kernel to use the 387 maths
                emulation library even if a 387 maths coprocessor
                is present.

noalign         [KNL,ARM]

noapic          [SMP,APIC] Tells the kernel to not make use of any
                IOAPICs that may be present in the system.

noasync         [HW,M68K] Disables async and sync negotiation for
                all devices.

nobats          [PPC] Do not use BATs for mapping kernel lowmem
                on "Classic" PPC cores.

nocache         [ARM]

nodisconnect    [HW,SCSI,M68K] Disables SCSI disconnects.

noexec          [IA-64]

noexec          [IA-32,X86-64]
                noexec=on: enable non-executable mappings (default)
                noexec=off: disable nn-executable mappings

nofxsr          [BUGS=IA-32]

nohlt           [BUGS=ARM]

no-hlt          [BUGS=IA-32] Tells the kernel that the hlt
                instruction doesn't work correctly and not to
                use it.

nohalt          [IA-64] Tells the kernel not to use the power saving
                function PAL_HALT_LIGHT when idle. This increases
                power-consumption. On the positive side, it reduces
                interrupt wake-up latency, which may improve performance
                in certain environments such as networked servers or
                real-time systems.

noirqdebug      [IA-32] Disables the code which attempts to detect and
                disable unhandled interrupt sources.

noisapnp        [ISAPNP] Disables ISA PnP code.

noinitrd        [RAM] Tells the kernel not to load any configured
                initial RAM disk.

nointroute      [IA-64]

nolapic         [IA-32,APIC] Do not enable or use the local APIC.

noltlbs         [PPC] Do not use large page/tlb entries for kernel
                lowmem mapping on PPC40x.

nomce           [IA-32] Machine Check Exception

noresidual      [PPC] Don't use residual data on PReP machines.

noresume        [SWSUSP] Disables resume and restores original swap
                space.

no-scroll       [VGA] Disables scrollback.
```

```
                This is required for the Braillex ib80-piezo Braille
                reader made by F.H. Papenmeier (Germany).

nosbagart       [IA-64]

nosmp           [SMP] Tells an SMP kernel to act as a UP kernel.

nosync          [HW,M68K] Disables sync negotiation for all devices.

notsc           [BUGS=IA-32] Disable Time Stamp Counter

nousb           [USB] Disable the USB subsystem

nowb            [ARM]

opl3=           [HW,OSS]
                Format: <io>

opl3sa=         [HW,OSS]
                Format: <io>,<irq>,<dma>,<dma2>,<mpu_io>,<mpu_irq>

opl3sa2=        [HW,OSS] Format:
                <io>,<irq>,<dma>,<dma2>,<mss_io>,<mpu_io>,<ymode>,<loopback>[,<isapnp>,<multiple]

oprofile.timer= [HW]
                Use timer interrupt instead of performance counters

optcd=          [HW,CD]
                Format: <io>

osst=           [HW,SCSI] SCSI Tape Driver
                Format: <buffer_size>,<write_threshold>
                See also Documentation/scsi/st.txt.

panic=          [KNL] Kernel behaviour on panic
                Format: <timeout>

parkbd.port=    [HW] Parallel port number the keyboard adapter is
                connected to, default is 0.
                Format: <parport#>
parkbd.mode=    [HW] Parallel port keyboard adapter mode of operation,
                0 for XT, 1 for AT (default is AT).
                Format: <mode>

parport=        [HW,PPT] Specify parallel ports. 0 disables.
                Format: { 0 | auto | 0xBBB[,IRQ[,DMA]] }
                Use 'auto' to force the driver to use any
                IRQ/DMA settings detected (the default is to
                ignore detected IRQ/DMA settings because of
                possible conflicts). You can specify the base
                address, IRQ, and DMA settings; IRQ and DMA
                should be numbers, or 'auto' (for using detected
                settings on that particular port), or 'nofifo'
                (to avoid using a FIFO even if it is detected).
                Parallel ports are assigned in the order they
                are specified on the command line, starting
                with parport0.

parport_init_mode=      [HW,PPT]
                Configure VIA parallel port to operate in
                a specific mode. This is necessary on Pegasos
                computer where firmware has no options for setting
                up parallel port mode and sets it to spp.
                Currently this function knows 686a and 8231 chips.
                Format: [spp|ps2|epp|ecp|ecpepp]

pas2=           [HW,OSS] Format:
                <io>,<irq>,<dma>,<dma16>,<sb_io>,<sb_irq>,<sb_dma>,<sb_dma16>

pas16=          [HW,SCSI]
                See header of drivers/scsi/pas16.c.

pcbit=          [HW,ISDN]

pcd.            [PARIDE]
                See header of drivers/block/paride/pcd.c.
                See also Documentation/paride.txt.

pci=option[,option...]  [PCI] various PCI subsystem options:
        off             [IA-32] don't probe for the PCI bus
        bios            [IA-32] force use of PCI BIOS, don't access
                        the hardware directly. Use this if your machine
```

```
                        has a non-standard PCI host bridge.
        nobios          [IA-32] disallow use of PCI BIOS, only direct
                        hardware access methods are allowed. Use this
                        if you experience crashes upon bootup and you
                        suspect they are caused by the BIOS.
        conf1           [IA-32] Force use of PCI Configuration
                        Mechanism 1.
        conf2           [IA-32] Force use of PCI Configuration
                        Mechanism 2.
        nosort          [IA-32] Don't sort PCI devices according to
                        order given by the PCI BIOS. This sorting is
                        done to get a device order compatible with
                        older kernels.
        biosirq         [IA-32] Use PCI BIOS calls to get the interrupt
                        routing table. These calls are known to be buggy
                        on several machines and they hang the machine
                        when used, but on other computers it's the only
                        way to get the interrupt routing table. Try
                        this option if the kernel is unable to allocate
                        IRQs or discover secondary PCI buses on your
                        motherboard.
        rom             [IA-32] Assign address space to expansion ROMs.
                        Use with caution as certain devices share
                        address decoders between ROMs and other
                        resources.
        irqmask=0xMMMM  [IA-32] Set a bit mask of IRQs allowed to be
                        assigned automatically to PCI devices. You can
                        make the kernel exclude IRQs of your ISA cards
                        this way.
        pirqaddr=0xAAAAA        [IA-32] Specify the physical address
                        of the PIRQ table (normally generated
                        by the BIOS) if it is outside the
                        F0000h-100000h range.
        lastbus=N       [IA-32] Scan all buses thru bus #N. Can be
                        useful if the kernel is unable to find your
                        secondary buses and you want to tell it
                        explicitly which ones they are.
        assign-busses   [IA-32] Always assign all PCI bus
                        numbers ourselves, overriding
                        whatever the firmware may have done.
        usepirqmask     [IA-32] Honor the possible IRQ mask stored
                        in the BIOS $PIR table. This is needed on
                        some systems with broken BIOSes, notably
                        some HP Pavilion N5400 and Omnibook XE3
                        notebooks. This will have no effect if ACPI
                        IRQ routing is enabled.
        noacpi          [IA-32] Do not use ACPI for IRQ routing
                        or for PCI scanning.
        routeirq        Do IRQ routing for all PCI devices.
                        This is normally done in pci_enable_device(),
                        so this option is a temporary workaround
                        for broken drivers that don't call it.
        firmware        [ARM] Do not re-enumerate the bus but instead
                        just use the configuration from the
                        bootloader. This is currently used on
                        IXP2000 systems where the bus has to be
                        configured a certain way for adjunct CPUs.

pcmv=           [HW,PCMCIA] BadgePAD 4

pd.             [PARIDE]
                See Documentation/paride.txt.

pdcchassis=     [PARISC,HW] Disable/Enable PDC Chassis Status codes at
                boot time.
                Format: { 0 | 1 }
                See arch/parisc/kernel/pdc_chassis.c

pf.             [PARIDE]
                See Documentation/paride.txt.

pg.             [PARIDE]
                See Documentation/paride.txt.

pirq=           [SMP,APIC] Manual mp-table setup
                See Documentation/i386/IO-APIC.txt.

plip=           [PPT,NET] Parallel port network link
                Format: { parport<nr> | timid | 0 }
                See also Documentation/parport.txt.

pnpacpi=        [ACPI]
```

```
                { off }

pnpbios=        [ISAPNP]
                { on | off | curr | res | no-curr | no-res }

pnp_reserve_irq=
                [ISAPNP] Exclude IRQs for the autoconfiguration

pnp_reserve_dma=
                [ISAPNP] Exclude DMAs for the autoconfiguration

pnp_reserve_io= [ISAPNP] Exclude I/O ports for the autoconfiguration
                Ranges are in pairs (I/O port base and size).

pnp_reserve_mem=
                [ISAPNP] Exclude memory regions for the
                autoconfiguration.
                Ranges are in pairs (memory base and size).

profile=        [KNL] Enable kernel profiling via /proc/profile
                Format: [schedule,]<number>
                Param: "schedule" - profile schedule points.
                Param: <number> - step/bucket size as a power of 2 for
                        statistical time based profiling.

processor.max_cstate=   [HW,ACPI]
                Limit processor to maximum C-state
                max_cstate=9 overrides any DMI blacklist limit.

prompt_ramdisk= [RAM] List of RAM disks to prompt for floppy disk
                before loading.
                See Documentation/ramdisk.txt.

psmouse.proto=  [HW,MOUSE] Highest PS2 mouse protocol extension to
                probe for; one of (bare|imps|exps|lifebook|any).
psmouse.rate=   [HW,MOUSE] Set desired mouse report rate, in reports
                per second.
psmouse.resetafter=     [HW,MOUSE]
                Try to reset the device after so many bad packets
                (0 = never).
psmouse.resolution=
                [HW,MOUSE] Set desired mouse resolution, in dpi.
psmouse.smartscroll=
                [HW,MOUSE] Controls Logitech smartscroll autorepeat.
                0 = disabled, 1 = enabled (default).

pss=            [HW,OSS] Personal Sound System (ECHO ESC614)
                Format:
                <io>,<mss_io>,<mss_irq>,<mss_dma>,<mpu_io>,<mpu_irq>

pt.             [PARIDE]
                See Documentation/paride.txt.

quiet=          [KNL] Disable log messages

r128=           [HW,DRM]

raid=           [HW,RAID]
                See Documentation/md.txt.

ramdisk=        [RAM] Sizes of RAM disks in kilobytes [deprecated]
                See Documentation/ramdisk.txt.

ramdisk_blocksize=      [RAM]
                See Documentation/ramdisk.txt.

ramdisk_size=   [RAM] Sizes of RAM disks in kilobytes
                New name for the ramdisk parameter.
                See Documentation/ramdisk.txt.

rdinit=         [KNL]
                Format: <full_path>
                Run specified binary instead of /init from the ramdisk,
                used for early userspace startup. See initrd.

reboot=         [BUGS=IA-32,BUGS=ARM,BUGS=IA-64] Rebooting mode
                Format: <reboot_mode>[,<reboot_mode2>[,...]]
                See arch/*/kernel/reboot.c.

reserve=        [KNL,BUGS] Force the kernel to ignore some iomem area

resume=         [SWSUSP]
```

```
                Specify the partition device for software suspend

rhash_entries=  [KNL,NET]
                Set number of hash buckets for route cache

riscom8=        [HW,SERIAL]
                Format: <io_board1>[,<io_board2>[,...<io_boardN>]]

ro              [KNL] Mount root device read-only on boot

root=           [KNL] Root filesystem

rootdelay=      [KNL] Delay (in seconds) to pause before attempting to
                mount the root filesystem

rootflags=      [KNL] Set root filesystem mount option string

rootfstype=     [KNL] Set root filesystem type

rw              [KNL] Mount root device read-write on boot

S               [KNL] Run init in single mode

sa1100ir        [NET]
                See drivers/net/irda/sa1100_ir.c.

sb=             [HW,OSS]
                Format: <io>,<irq>,<dma>,<dma2>

sbni=           [NET] Granch SBNI12 leased line adapter

sbpcd=          [HW,CD] Soundblaster CD adapter
                Format: <io>,<type>
                See a comment before function sbpcd_setup() in
                drivers/cdrom/sbpcd.c.
```



```
sc1200wdt=      [HW,WDT] SC1200 WDT (watchdog) driver
                Format: <io>[,<timeout>[,<isapnp>]]

scsi_debug_*=   [SCSI]
                See drivers/scsi/scsi_debug.c.

scsi_default_dev_flags=
                [SCSI] SCSI default device flags
                Format: <integer>

scsi_dev_flags= [SCSI] Black/white list entry for vendor and model
                Format: <vendor>:<model>:<flags>
                (flags are integer value)

scsi_logging=   [SCSI]

selinux         [SELINUX] Disable or enable SELinux at boot time.
                Format: { "0" | "1" }
                See security/selinux/Kconfig help text.
                0 -- disable.
                1 -- enable.
                Default value is set via kernel config option.
                If enabled at boot time, /selinux/disable can be used
                later to disable prior to initial policy load.

serialnumber    [BUGS=IA-32]

sg_def_reserved_size=   [SCSI]

sgalaxy=        [HW,OSS]
                Format: <io>,<irq>,<dma>,<dma2>,<sgbase>

shapers=        [NET]
                Maximal number of shapers.

sim710=         [SCSI,HW]
```

```
                See header of drivers/scsi/sim710.c.

simeth=         [IA-64]
simscsi=

sjcd=           [HW,CD]
                Format: <io>,<irq>,<dma>
                See header of drivers/cdrom/sjcd.c.

slram=          [HW,MTD]

smart2=         [HW]
                Format: <io1>[,<io2>[,...,<io8>]]

snd-ad1816a=    [HW,ALSA]

snd-ad1848=     [HW,ALSA]

snd-ali5451=    [HW,ALSA]

snd-als100=     [HW,ALSA]

snd-als4000=    [HW,ALSA]

snd-azt2320=    [HW,ALSA]

snd-cmi8330=    [HW,ALSA]

snd-cmipci=     [HW,ALSA]

snd-cs4231=     [HW,ALSA]

snd-cs4232=     [HW,ALSA]

snd-cs4236=     [HW,ALSA]

snd-cs4281=     [HW,ALSA]

snd-cs46xx=     [HW,ALSA]

snd-dt019x=     [HW,ALSA]

snd-dummy=      [HW,ALSA]

snd-emu10k1=    [HW,ALSA]

snd-ens1370=    [HW,ALSA]

snd-ens1371=    [HW,ALSA]

snd-es968=      [HW,ALSA]

snd-es1688=     [HW,ALSA]

snd-es18xx=     [HW,ALSA]

snd-es1938=     [HW,ALSA]

snd-es1968=     [HW,ALSA]

snd-fm801=      [HW,ALSA]

snd-gusclassic= [HW,ALSA]

snd-gusextreme= [HW,ALSA]

snd-gusmax=     [HW,ALSA]

snd-hdsp=       [HW,ALSA]

snd-ice1712=    [HW,ALSA]

snd-intel8x0=   [HW,ALSA]

snd-interwave=  [HW,ALSA]

snd-interwave-stb=
                [HW,ALSA]

snd-korg1212=   [HW,ALSA]

snd-maestro3=   [HW,ALSA]
```

```
snd-mpu401=     [HW,ALSA]

snd-mtpav=      [HW,ALSA]

snd-nm256=      [HW,ALSA]

snd-opl3sa2=    [HW,ALSA]

snd-opti92x-ad1848=
                [HW,ALSA]

snd-opti92x-cs4231=
                [HW,ALSA]

snd-opti93x=    [HW,ALSA]

snd-pmac=       [HW,ALSA]

snd-rme32=      [HW,ALSA]

snd-rme96=      [HW,ALSA]

snd-rme9652=    [HW,ALSA]

snd-sb8=        [HW,ALSA]

snd-sb16=       [HW,ALSA]

snd-sbawe=      [HW,ALSA]

snd-serial=     [HW,ALSA]

snd-sgalaxy=    [HW,ALSA]

snd-sonicvibes= [HW,ALSA]

snd-sun-amd7930=
                [HW,ALSA]

snd-sun-cs4231= [HW,ALSA]

snd-trident=    [HW,ALSA]

snd-usb-audio=  [HW,ALSA,USB]

snd-via82xx=    [HW,ALSA]

snd-virmidi=    [HW,ALSA]

snd-wavefront=  [HW,ALSA]

snd-ymfpci=     [HW,ALSA]

sonicvibes=     [HW,OSS]
                Format: <reverb>

sonycd535=      [HW,CD]
                Format: <io>[,<irq>]

sonypi.*=       [HW] Sony Programmable I/O Control Device driver
                See Documentation/sonypi.txt

specialix=      [HW,SERIAL] Specialix multi-serial port adapter
                See Documentation/specialix.txt.

spia_io_base=   [HW,MTD]
spia_fio_base=
spia_pedr=
spia_peddr=

sscape=         [HW,OSS]
                Format: <io>,<irq>,<dma>,<mpu_io>,<mpu_irq>

st=             [HW,SCSI] SCSI tape parameters (buffers, etc.)
                See Documentation/scsi/st.txt.

st0x=           [HW,SCSI]
                See header of drivers/scsi/seagate.c.

sti=            [PARISC,HW]
                Format: <num>
```

```
                Set the STI (builtin display/keyboard on the HP-PARISC
                machines) console (graphic card) which should be used
                as the initial boot-console.
                See also comment in drivers/video/console/sticore.c.

sti_font=       [HW]
                See comment in drivers/video/console/sticore.c.

stifb=          [HW]
                Format: bpp:<bpp1>[:<bpp2>[:<bpp3>...]]

swiotlb=        [IA-64] Number of I/O TLB slabs

switches=       [HW,M68k]

sym53c416=      [HW,SCSI]
                See header of drivers/scsi/sym53c416.c.

t128=           [HW,SCSI]
                See header of drivers/scsi/t128.c.

tdfx=           [HW,DRM]

thash_entries=  [KNL,NET]
                Set number of hash buckets for TCP connection

time            Show timing data prefixed to each printk message line

tipar.timeout=  [HW,PPT]
                Set communications timeout in tenths of a second
                (default 15).

tipar.delay=    [HW,PPT]
                Set inter-bit delay in microseconds (default 10).

tmc8xx=         [HW,SCSI]
                See header of drivers/scsi/seagate.c.

tmscsim=        [HW,SCSI]
                See comment before function dc390_setup() in
                drivers/scsi/tmscsim.c.

tp720=          [HW,PS2]

trix=           [HW,OSS] MediaTrix AudioTrix Pro
                Format:
                <io>,<irq>,<dma>,<dma2>,<sb_io>,<sb_irq>,<sb_dma>,<mpu_io>,<mpu_irq>

tsdev.xres=     [TS] Horizontal screen resolution.
tsdev.yres=     [TS] Vertical screen resolution.

turbografx.map[2|3]=    [HW,JOY]
                TurboGraFX parallel port interface
                Format:
                <port#>,<js1>,<js2>,<js3>,<js4>,<js5>,<js6>,<js7>
                See also Documentation/input/joystick-parport.txt

u14-34f=        [HW,SCSI] UltraStor 14F/34F SCSI host adapter
                See header of drivers/scsi/u14-34f.c.

uart401=        [HW,OSS]
                Format: <io>,<irq>

uart6850=       [HW,OSS]
                Format: <io>,<irq>

usbhid.mousepoll=
                [USBHID] The interval which mice are to be polled at.

video=          [FB] Frame buffer configuration
                See Documentation/fb/modedb.txt.

vga=            [BOOT,IA-32] Select a particular video mode
                See Documentation/i386/boot.txt and
                Documentation/svga.txt.
                Use vga=ask for menu.
                This is actually a boot loader parameter; the value is
                passed to the kernel using a special protocol.

vmalloc=nn[KMG] [KNL,BOOT] Forces the vmalloc area to have an exact
                size of <nn>. This can be used to increase the
                minimum size (128MB on x86). It can also be used to
```

```
                        decrease the size and leave more room for directly
                        mapped kernel RAM.

        vmhalt=         [KNL,S390]

        vmpoff=         [KNL,S390]

        waveartist=     [HW,OSS]
                        Format: <io>,<irq>,<dma>,<dma2>

        wd33c93=        [HW,SCSI]
                        See header of drivers/scsi/wd33c93.c.

        wd7000=         [HW,SCSI]
                        See header of drivers/scsi/wd7000.c.

        wdt=            [WDT] Watchdog
                        See Documentation/watchdog/watchdog.txt.

        xd=             [HW,XT] Original XT pre-IDE (RLL encoded) disks.
        xd_geo=         See header of drivers/block/xd.c.

        xirc2ps_cs=     [NET,PCMCIA]
                        Format:
                        <irq>,<irq_mask>,<io>,<full_duplex>,<do_sound>,<lockup_hack>[,<irq2>[,<irq3>[,<irq4>]]]
```

Changelog:

```
2000-06-??      Mr. Unknown
        The last known update (for 2.4.0) - the changelog was not kept before.

2002-11-24      Petr Baudis <pasky@ucw.cz>
                Randy Dunlap <randy.dunlap@verizon.net>
        Update for 2.5.49, description for most of the options introduced,
        references to other documentation (C files, READMEs, ..), added S390,
        PPC, SPARC, MTD, ALSA and OSS category. Minor corrections and
        reformatting.

2005-10-19      Randy Dunlap <rdunlap@xenotime.net>
        Lots of typos, whitespace, some reformatting.
```

TODO

```
        Add documentation for ALSA options.
        Add more DRM drivers.
```


Back to post.

Latst updated on:**January 14, 2009** by MatrixBuild v0.1r1