# Astra Linux


- 
- PowerTOP
  - 
  - 
  - PowerTOP
- TLP
  - 
  - 
- LMT
  - 
  - 


:

- Astra Linux Special Edition .10015-01 ( 1.7), .10015-10
- Astra Linux Special Edition .10015-17
- Astra Linux Special Edition .10015-37 ( 7.7)
- Astra Linux Special Edition .10152-02 ( 4.7)
- Astra Linux Special Edition .10015-01 ( 1.6) 20200327SE16 ( 5)
- Astra Linux Special Edition .10015-16 . 1
- Astra Linux Special Edition .10015-16 . 2
- Astra Linux Special Edition .10265-01 ( 8.1)
- Astra Linux Common Edition 2.12

, Astra Linux. :

- powertop ( powertop). Astra Linux;
- tlp ( tlp). :
  - Astra Linux Common Edition;
  - Astra Linux Special Edition .10015-01 ( 1.6) 20200327SE16 ( 5);
  - Astra Linux Special Edition x.7;
- laptop_mode ( laptop-mode-tools). :
  - Astra Linux Common Edition 2.12.42;
  - Astra Linux Special Edition x.7;

tlp laptop-mode . .

, laptop-mode ( , ) Astra Linux (fly-admin-power, powerdevil). , .

PowerTOP Intel . PowerTOP , , . , .

TLP laptop-mode-tools ( - LMT) , . , , / - .

:

- TLP , IBM/Lenovo ThinkPad;
- TLP , , , powerdevil, Astra Linux ;
- LMT , Astra Linux powerdevil;

- " laptop", .
, , , , .

( TLP):

- Laptop- "" ;
- ("turbo boost" / "turbo core") ("undervoltage");
- / ( intel_pstate);
- HWP ( HWP , );
- / (x86_energy_perf_policy);
- (Advanced Power Magement level, APM) ;
- AHCI (Link Power Management, ALPM) ;
- AHCI ( );
- PCIe (PCIe active state power management, ASPM);
- , PCIe;
- Intel/AMD Radeon GPU (KMS and DPM);

- / ;
- ;
- .
- / ;
- USB / ;
- / wifi, bluetooth, wwan / ;
- ;
- : / ;
- (Wake On LAN);
- WWAN bluetooth /;
- ( ThinkPad-);

# PowerTOP

powetop :

- Astra Linux Special Edition .10015-16 . 2;
- Astra Linux Special Edition .10265-01 ( 8.1);
- Astra Linux Common Edition 2.12.

.

- , , , , WEB-.

- , , , , . , SSD- Wi-Fi.

**(Asvanced Configuration and Power Interface, ACPI)** - , , , .

**C- ACPI (ACPI C-states)** - , ACPI, 4- : C0, C1, C2 C3. BIOS- C- . acpi_idle intel_idle.

```
sudo cat /sys/devices/system/cpu/cpuidle/current_driver
```

intel_idle - Intel, acpi_idle - ACPI.

**itel_idle** - , Intel. .

**- (CPU C-state)** - . (- ) . C0 . (C1 - Cn) .

**- (PC-state PCx)** - , . , 4- , C3, - C6, PC3.

. , . , , , . - cpufreq intel_pstates. intel_pstates , cpufreq, ACPI, , , - . :

```
sudo cat /sys/devices/system/cpu/cpu0/cpufreq/scaling_driver.
```

intel_pstate /sys/devices/system/cpu/intel_pstate/:

| | | |
|---|---|---|
| no_turbo | 0 1 | / CPU Turbo Boost. 1 |
| max_perf_pct | 0% - 100% | . 100%. 0% LFM ( ). |
| min_perf_pct | 0% - 100% | . 20%. 100% HFM ( ). |

## PowerTOP

PowerTOP .

:

| | |
|---|---|

| | |
|---|---|
| sudo powertop | . . . |
| sudo powertop --html[=_] | HTML. _ - powertop.html. |
| sudo powertop --csv[=_] | CSV. _ - powertop.csv. |
| sudo powertop --debug | . 750 , , . . |
| sudo powertop --calibrate | . . |
| sudo powertop --auto_tune | ( ). |
| sudo powertop --workload=_ | . _ , . |
| sudo powertop --extech= | . |

:

| | |
|---|---|
| --version | |
| --time[=x] | |
| --iteration[=x] | |
| --quiet | |
| --help | |

### Overview

"Overview" , . , , , . :

1. /var/cache/posertop/;
2. , ;
3. , /sys/class/powecap/intel_rapl ( Astra Linux );
4. PowerTOP ( ).
   /var/cache/powertop/saved_results.powertop.
   PowerTOP , , :

```
for (( i=0 ;  i<1000;  i++ )) ; do sudo powertop –time=10 --html ; done
```

### Idle Stats

"Idle Stats" - . Intel - , .

### Frequency Stats

"Frequency Stats" . , Intel, intel_idle. , , "performance", .

### Device Stats

"Device Stats" , .

### Tunables

"Tunables" , . , , "Bad", - "Good". , . , . , , .
"Good"

```
sudo powertop --auto_tune
```

.

# TLP

tlp Astra Linux:

- Astra Linux Special Edition x.7;
- Astra Linux Special Edition .10015-01 1.6 - 20200327SE16 ( 5);
- Astra Linux Special Edition .10015-16 . 1 . 2
- Astra Linux Common Edition 2.12.19;
- : Debian stretch-backport, Astra Linux Special Edition Astra Linux Common Edition:

:

```
sudo apt update && sudo apt install tlp tlp-rdw
```

- linux-tools - ;

, tlp . /etc/default/tlp WOL_DISABLE :

```
WOL_DISABLE=N
```

:

```
sudo systemctl start tlp
```

.

, :

```
sudo tlp start
```

TLP /etc/default/tlp. .
. :

```
# --------------------------------------------------------------------------------
# tlp -
# . : http://linrunner.de/en/tlp/docs/tlp-configuration.html

# : , # .

# 0 - , 1 - TLP.
TLP_ENABLE=1

# (AC, BAT) .
# .
TLP_DEFAULT_MODE=AC

# : 0= , 1= TLP_DEFAULT_MODE
# : TLP_DEFAULT_MODE=BAT (BAT) (AC).
TLP_PERSISTENT_DEFAULT=0

# laptop- () "" .
# laptop- , laptop- .
DISK_IDLE_SECS_ON_AC=0
DISK_IDLE_SECS_ON_BAT=2

# () .
MAX_LOST_WORK_SECS_ON_AC=15
MAX_LOST_WORK_SECS_ON_BAT=60

# : CPU , # , .
```

```
#     .
#  Intel Core i   intel_pstate:
# powersave(*), performance.
#       acpi-cpufreq:
# ondemand(*), powersave, performance, conservative, schedutil.
#     (*).
# :   tlp-stat -p        .
# :
#  powersave  intel_pstate  ondemand  acpi-cpufreq
#
#   " ".     ,
#   ,  !  **
#  ,    .
#CPU_SCALING_GOVERNOR_ON_AC=powersave
#CPU_SCALING_GOVERNOR_ON_BAT=powersave

#  /  ,   .
#       .
#   tlp-stat -p.
#CPU_SCALING_MIN_FREQ_ON_AC=0
#CPU_SCALING_MAX_FREQ_ON_AC=0
#CPU_SCALING_MIN_FREQ_ON_BAT=0
#CPU_SCALING_MAX_FREQ_ON_BAT=0

#   (HWP)   Intel P-state:
# performance, balance_performance, default, balance_power, power
#      .
# :   Intel Skylake       >= 4.10.
CPU_HWP_ON_AC=balance_performance
CPU_HWP_ON_BAT=balance_power

#   Intel P-state: 0..100 (%).
#  /   P-state    .
#      .
#   Intel Core i   intel_pstate.
#CPU_MIN_PERF_ON_AC=0
#CPU_MAX_PERF_ON_AC=100
#CPU_MIN_PERF_ON_BAT=0
#CPU_MAX_PERF_ON_BAT=30

#    "turbo boost": 0=, 1=
#   Intel Core i.
# :
# -       .
# - 1    ,    .
#CPU_BOOST_ON_AC=1
#CPU_BOOST_ON_BAT=0

#    /
# 0=, 1=.
SCHED_POWERSAVE_ON_AC=0
SCHED_POWERSAVE_ON_BAT=1

#    (Kernel NMI Watchdog):
# 0= (  ), 1= (   ).
NMI_WATCHDOG=0

#     ("undervolting") -     PHC.
#  /  :
# /sys/devices/system/cpu/cpu0/cpufreq/phc_controls
# :     ,  !
#PHC_CONTROLS="F:V F:V F:V F:V"

#    / :
# performance, balance-performance, default, balance-power, power.
#      .
#    msr   x86_energy_perf_policy   linux-tools ,     .
ENERGY_PERF_POLICY_ON_AC=performance
ENERGY_PERF_POLICY_ON_BAT=power

#    ;   ( : sda).
#       (: tlp diskid).
DISK_DEVICES="sda sdb"
```

```
#      : 1..254, 255 (1 -  , 254 - , 255 - ).
#  1..127    ; 255    .
#      .    'keep'
#    .
DISK_APM_LEVEL_ON_AC="254 254"
DISK_APM_LEVEL_ON_BAT="128 128"

#    :
# 0: spin down disabled
# 1..240: timeouts from 5s to 20min (in units of 5s)
# 241..251: timeouts from 30min to 5.5 hours (in units of 30min)
# . 'man hdparm'  .
#      .    'keep'
#    .
#DISK_SPINDOWN_TIMEOUT_ON_AC="0 0"
#DISK_SPINDOWN_TIMEOUT_ON_BAT="0 0"

#    : cfq, deadline, noop ( : cfq).
#      .    'keep'
#   ,    .
#DISK_IOSCHED="cfq cfq"

#   AHCI link power management (ALPM)   :
# min_power, med_power_with_dipm(*), medium_power, max_performance.
# (*)    >= 4.15,   .
#   ,     .
SATA_LINKPWR_ON_AC="med_power_with_dipm max_performance"
SATA_LINKPWR_ON_BAT="med_power_with_dipm min_power"

#  host-  AHCI link power management.
#   .
#SATA_LINKPWR_BLACKLIST="host1"

#     AHCI host-    :
# on=, auto=.
#  **: auto     .
#AHCI_RUNTIME_PM_ON_AC=on
#AHCI_RUNTIME_PM_ON_BAT=on

#   ()      .
AHCI_RUNTIME_PM_TIMEOUT=15

#    PCI (PCIe ASPM):
# default, performance, powersave.
PCIE_ASPM_ON_AC=performance
PCIE_ASPM_ON_BAT=powersave

#   Radeon (profile method): low, mid, high, auto, default;
# auto = mid on BAT, high on AC; default = use hardware defaults.
RADEON_POWER_PROFILE_ON_AC=high
RADEON_POWER_PROFILE_ON_BAT=low

#     Radeon (DPM): battery, performance.
RADEON_DPM_STATE_ON_AC=performance
RADEON_DPM_STATE_ON_BAT=battery

#   Radeon DPM: auto, low, high;  auto.
RADEON_DPM_PERF_LEVEL_ON_AC=auto
RADEON_DPM_PERF_LEVEL_ON_BAT=auto

#   WiFi: on=, off=;    .
WIFI_PWR_ON_AC=off
WIFI_PWR_ON_BAT=on

#     (wake on LAN): Y/N.
WOL_DISABLE=Y

#      Intel HDA, AC97 (  ).
#  0 , >=1   ( 1).
SOUND_POWER_SAVE_ON_AC=0
SOUND_POWER_SAVE_ON_BAT=1

#     ( HDA): Y/N.
SOUND_POWER_SAVE_CONTROLLER=Y
```

```
#      UltraBay/MediaBay: 0=, 1=.
#
#       .
# :   UltraBay/MediaBay    .
BAY_POWEROFF_ON_AC=0
BAY_POWEROFF_ON_BAT=0
#     (  sr0).
BAY_DEVICE="sr0"

#     PCI(e) : on=, auto= .
RUNTIME_PM_ON_AC=on
RUNTIME_PM_ON_BAT=auto

#   PCI(e),   .
# ( ).       lspci (1- ).
#RUNTIME_PM_BLACKLIST="bb:dd.f 11:22.3 44:55.6"

#   PCI(e),   .
#   "amdgpu nouveau nvidia radeon"
#       .
#  ""   .  tlp-stat -e   .
#   .
#RUNTIME_PM_DRIVER_BLACKLIST="amdgpu nouveau nvidia radeon"

# 0  , 1      USB   .
USB_AUTOSUSPEND=1

#    ( ).
#  lsusb   .
# :   (usbhid)  .
#USB_BLACKLIST="1111:2222 3333:4444"

#   Bluetooth      :
# 0= , 1=.
USB_BLACKLIST_BTUSB=0

#   Phone      :
# 0= , 1= (  ).
USB_BLACKLIST_PHONE=0

#  :
# 0= , 1=.
USB_BLACKLIST_PRINTER=1

#   WWAN:
# 0= , 1=.
USB_BLACKLIST_WWAN=1

#
#   .
#  lsusb   .
#USB_WHITELIST="1111:2222 3333:4444"

# 1         , 0
# ( ,     ).
#USB_AUTOSUSPEND_DISABLE_ON_SHUTDOWN=1

#         (Bluetooth, WiFi, WWAN)
#   : 0=, 1=.
# :  DEVICES_TO_DISABLE/ENABLE_ON_STARTUP/SHUTDOWN
# ,     !
RESTORE_DEVICE_STATE_ON_STARTUP=0

#       : bluetooth, wifi, wwan.
#DEVICES_TO_DISABLE_ON_STARTUP="bluetooth wifi wwan"

#       : bluetooth, wifi, wwan.
#DEVICES_TO_ENABLE_ON_STARTUP="wifi"

#       : bluetooth, wifi, wwan.
# ( ,   ).
#DEVICES_TO_DISABLE_ON_SHUTDOWN="bluetooth wifi wwan"

#       : bluetooth, wifi, wwan.
# (     ).
#DEVICES_TO_ENABLE_ON_SHUTDOWN="wwan"

#        : bluetooth, wifi, wwan.
#DEVICES_TO_ENABLE_ON_AC="bluetooth wifi wwan"
```

```
#        : bluetooth, wifi, wwan.
#DEVICES_TO_DISABLE_ON_BAT="bluetooth wifi wwan"

#           (   ): bluetooth, wifi, wwan.
#DEVICES_TO_DISABLE_ON_BAT_NOT_IN_USE="bluetooth wifi wwan"

#    ( ThinkPad,    tp-smapi  acpi-call.
#
# START_CHARGE_THRESH     STOP_CHARGE_THRESH
#  /   (  %)
#START_CHARGE_THRESH_BAT0=75
#STOP_CHARGE_THRESH_BAT0=80
#  Ultrabay / Slice / Replaceable battery (  %)
#START_CHARGE_THRESH_BAT1=75
#STOP_CHARGE_THRESH_BAT1=80

#      : 0=, 1=.
#RESTORE_THRESHOLDS_ON_BAT=1

# --------------------------------------------------------------------------------
# tlp-rdw -
#  : bluetooth, wifi, wwan.

# :
# -    ,  #
# -  -

#
#DEVICES_TO_DISABLE_ON_LAN_CONNECT="wifi wwan"
#DEVICES_TO_DISABLE_ON_WIFI_CONNECT="wwan"
#DEVICES_TO_DISABLE_ON_WWAN_CONNECT="wifi"

#
#DEVICES_TO_ENABLE_ON_LAN_DISCONNECT="wifi wwan"
#DEVICES_TO_ENABLE_ON_WIFI_DISCONNECT=""
#DEVICES_TO_ENABLE_ON_WWAN_DISCONNECT=""

#   /    :
#DEVICES_TO_ENABLE_ON_DOCK=""
#DEVICES_TO_DISABLE_ON_DOCK=""

#   /    :
#DEVICES_TO_ENABLE_ON_UNDOCK="wifi"
#DEVICES_TO_DISABLE_ON_UNDOCK=""
```

# LMT

laptop-mode-tools Astra Linux. Debian stretch:

> deb http://archive.debian.org/debian stretch main contrib non-free

:

```
sudo apt update && sudo apt install laptop-mode-tools
```

laptop-mode . .

LMT /etc/laptop-mode/laptop-mode.conf.
, /etc/laptop-mode/conf.d/ ("") .

CONTROL_*, /etc/laptop-mode/laptop-mode.conf ENABLE_AUTO_MODULES=1, LMT , CONTROL_* "auto". : auto-hibernate.conf battery-level-polling.conf ENABLE_* CONTROL_*.

```
```

```
grep -r '^\(CONTROL\|ENABLE\)_' /etc/laptop-mode/conf.d
```

hdparm sdparm.

LMT (hdparm -S), . (read-ahead, hdparm -a) , . LMT ( hdparm -B). 1 254. , 254 20 . , (, 128) . hdparm -S hdparm -B /etc/laptop-mode/laptop-mode.conf.

. .

CONTROL_MOUNT_OPTIONS ( on), LMT , commit=600,noatime. commit (jbd2) (commit=600 10 5 ).

(commit=600) 10 .
noatime ( ) . realtime.

CONTROL_MOUNT_OPTIONS nilfs2 ( NTFS).

### SSD-

Laptop- , SSD, , , , ALPM. .

' .
/etc/laptop-mode/conf.d/:

```
# cpufreq.conf
# ThinkPad T40/T42/T60 Example
#
CONTROL_CPU_FREQUENCY=1
BATT_CPU_MAXFREQ=fastest
BATT_CPU_MINFREQ=slowest
BATT_CPU_GOVERNOR=ondemand
BATT_CPU_IGNORE_NICE_LOAD=1
LM_AC_CPU_MAXFREQ=fastest
LM_AC_CPU_MINFREQ=slowest
LM_AC_CPU_GOVERNOR=ondemand
LM_AC_CPU_IGNORE_NICE_LOAD=1
NOLM_AC_CPU_MAXFREQ=fastest
NOLM_AC_CPU_MINFREQ=slowest
NOLM_AC_CPU_GOVERNOR=ondemand
NOLM_Acsudo ap_CPU_IGNORE_NICE_LOAD=0
CONTROL_CPU_THROTTLING=0
```

### Intel SATA

Intel SATA AHCI controller Aggressive Link Power Management: /.
/etc/laptop-mode/conf.d/intel-sata-powermgmt.conf

```
#
# Configuration file for Laptop Mode Tools module intel-sata-powermgmt.
#
# For more information, consult the laptop-mode.conf(8) manual page.
#
```

```
################################################################################
# Intel SATA power management settings
# ------------------------------------
#
#__COMMENT If you enable this setting, laptop mode tools will automatically enable the
#__COMMENT link power management mode of Intel AHCI compliant SATA chipsets.
#__COMMENT On newner kernels (4.6+), it can also help enabled AHCI Runtime PM savings
#
################################################################################

# Enable debug mode for this module
# Set to 1 if you want to debug this module
DEBUG=0

# Control Intel SATA chipset power management?
# Set to 0 to disable
CONTROL_INTEL_SATA_POWER="auto"


# Enable AHCI Runtime PM
# This feature was added with Linux kernels 4.6+
CONTROL_AHCI_RUNTIME_PM=1

# Handle power management of the Intel SATA host controller under specific
# circumstances. Legal values are "min_power" (maximum power saving at the
# expense of higher latencies), "medium_power" (reduce latencies to a minimum
# while still trying to enable power-saving features), "max_performance" (power
# management is disabled). Note that setting any level besides
# "max_performance" also disables device hotplug.
BATT_SATA_POLICY=min_power
LM_AC_SATA_POLICY=max_performance
NOLM_AC_SATA_POLICY=max_performance
```

### USB

/etc/laptop-mode/conf.d/runtime-pm.conf. ,  (, ,  USB),  .

```
#
# Configuration file for Laptop Mode Tools module runtime-pm
#
# For more information, consult the laptop-mode.conf(8) manual page.
#


################################################################################
# Runtime Power Management Settings
# ---------------------------------
#
#__COMMENT If you enable this setting, laptop mode tools will automatically enable
#__COMMENT the Runtime Power Management feature for all devices.
#__COMMENT
#__COMMENT NOTE: Some devices claim they support autosuspend, but implement it in a
#__COMMENT broken way. This can mean keyboards losing keypresses, or optical mice
#__COMMENT turning their LED completely off. If you have a device that misbehaves,
#__COMMENT add its DEVICE ID to the blacklist section below and complain to your
#__COMMENT hardware / device driver contact
#
################################################################################

# Enable debug mode for this module
# Set to 1 if you want to debug this module
DEBUG=0

# Enable Runtime autosuspend feature?
# Set to 0 to disable
CONTROL_RUNTIME_AUTOSUSPEND=1

# Set this to use opt-in/whitelist instead of opt-out/blacklist for deciding
# which devices should be autosuspended.
# AUTOSUSPEND_USE_WHITELIST=0 means AUTOSUSPEND_*_BLACKLIST will be used.
# AUTOSUSPEND_USE_WHITELIST=1 means AUTOSUSPEND_*_WHITELIST will be used.
AUTOSUSPEND_USE_WHITELIST=0

# The list of Device IDs that should not use autosuspend. Use system commands or
# look into sysfs to find out the IDs of your devices.
# Example: AUTOSUSPEND_DEVID_BLACKLIST="046d:c025 0123:abcd"
AUTOSUSPEND_RUNTIME_DEVID_BLACKLIST=""
```

```
# The list of device driver types that should not use autosuspend. The driver
# type is given by "DRIVER=..." in a device's uevent file.
# Example: AUTOSUSPEND_DEVID_BLACKLIST="usbhid usb-storage"
AUTOSUSPEND_RUNTIME_DEVTYPE_BLACKLIST="hub usbhid usb-storage"

# The list of Device IDs that should use autosuspend. Use system commands or
# look into sysfs to find out the IDs of your devices.
# Example: AUTOSUSPEND_DEVID_WHITELIST="046d:c025 0123:abcd"
AUTOSUSPEND_RUNTIME_DEVID_WHITELIST=""

# The list of device driver types that should use autosuspend. The driver
# type is given by "DRIVER=..." in a device's uevent file.
# Example: AUTOSUSPEND_DEVTYPE_WHITELIST="usbhid usb-storage"
AUTOSUSPEND_RUNTIME_DEVTYPE_WHITELIST=""

# Trigger auto-suspension of the deivce under conditional circumstances
# Warning: DO NOT CHANGE THESE DEFAUTLS UNLESS YOU KNOW
BATT_SUSPEND_RUNTIME=1
LM_AC_SUSPEND_RUNTIME=1
NOLM_AC_SUSPEND_RUNTIME=0

# Auto-Suspend timeout in seconds
# Number of seconds after which the USB devices should suspend
AUTOSUSPEND_TIMEOUT=2
```

/etc/laptop-mode/conf.d.

```
cat /proc/acpi/video/VID/LCD/brightness
```

### ThinkPad T40/T42

ThinkPad T40/T42 :

```
cat /sys/class/backlight/acpi_video0/brightness
cat /sys/class/backlight/acpi_video0/max_brightness
```

/etc/laptop-mode/conf.d:

```
# lcd-brightness.conf
# ThinkPad T40/T42 Example
#
DEBUG=0
CONTROL_BRIGHTNESS=1
BATT_BRIGHTNESS_COMMAND="echo 0"
LM_AC_BRIGHTNESS_COMMAND="echo 7"
NOLM_AC_BRIGHTNESS_COMMAND="echo 7"
BRIGHTNESS_OUTPUT="/sys/class/backlight/thinkpad_screen/brightness"
```

### ThinkPad T60

ThinkPad T60 :

```
cat /sys/class/backlight/thinkpad_screen/max_brightness
cat /sys/class/backlight/thinkpad_screen/brightness
```

/etc/laptop-mode/conf.d:

```
# lcd-brightness.conf
# ThinkPad T60 Example
#
DEBUG=0
CONTROL_BRIGHTNESS=1
BATT_BRIGHTNESS_COMMAND="echo 0"
LM_AC_BRIGHTNESS_COMMAND="echo 7"
NOLM_AC_BRIGHTNESS_COMMAND="echo 7"
BRIGHTNESS_OUTPUT="/sys/class/backlight/acpi_video0/brightness"
```

/etc/laptop-mode/conf.d/terminal-blanking.conf:

```
# terminal-blanking.conf
# ThinkPad T40/T42/T60 Example
#
DEBUG=0
CONTROL_TERMINAL=1
TERMINALS="/dev/tty1"
BATT_TERMINAL_BLANK_MINUTES=1
BATT_TERMINAL_POWERDOWN_MINUTES=2
LM_AC_TERMINAL_BLANK_MINUTES=10
LM_AC_TERMINAL_POWERDOWN_MINUTES=10
NOLM_AC_TERMINAL_BLANK_MINUTES=10
NOLM_AC_TERMINAL_POWERDOWN_MINUTES=10
```

### Ethernet

/etc/laptop-mode/conf.d/ethernet.conf:

```
# ethernet.conf
# ThinkPad T40/T42/T60 Example
#
DEBUG=0
CONTROL_ETHERNET=1
LM_AC_THROTTLE_ETHERNET=0
NOLM_AC_THROTTLE_ETHERNET=0
DISABLE_WAKEUP_ON_LAN=1
DISABLE_ETHERNET_ON_BATTERY=1
ETHERNET_DEVICES="eth0"
```

. :

- /etc/laptop-mode/conf.d/wireless-power.conf ( "iwconfig wlan0 power on/off"), ( Intel , . );
- /etc/laptop-mode/conf.d/wireless-ipw-power.conf Intel ipw. IPW3945, IPW2200 IPW2100. iwpriv IPW3945, iwconfig iwpriv IPW2100 IPW220.. /usr/share/laptop-mode-tools/modules/wireless-ipw-power for details.
- /etc/laptop-mode/conf.d/wireless-iwl-power.conf Intel iwl4965, iwl3945 iwlagn ( 4965, 5100, 5300, 5350, 5150, 1000, 6000)

, LMT , .

iwlagn ( 5300 , , ). IWL_AC_POWER IWL_BATT_POWER /etc/laptop-mode/conf.d/wireless-iwl-power.conf , /sys/class/net/wlan*/device /power_level . ("iwconfig wlan0 power on/off") .

## Audio

### AC97

/etc/laptop-mode/conf.d/ac97-powersave.conf:

```
# ac97-powersave.conf
# ThinkPad T40/T42/T60 Example
#
DEBUG=0
CONTROL_AC97_POWER=1
```

### Intel HDA

/etc/laptop-mode/conf.d/intel-hda-powersave.conf:

```
# intel-hda-powersave.conf
# ThinkPad T40/T42/T60 Example
#
DEBUG=0
CONTROL_INTEL_HDA_POWER=1
BATT_INTEL_HDA_POWERSAVE=1
LM_AC_INTEL_HDA_POWERSAVE=1
NOLM_AC_INTEL_HDA_POWERSAVE=0
INTEL_HDA_DEVICE_TIMEOUT=10
INTEL_HDA_DEVICE_CONTROLLER=0
```