Nvidia Astra Linux x86-64

-
- Astra Linux Special Edition .10015-01, .10015-10 (1.7) Astra Linux Special Edition .10015-37 (7.7)
  - 22.11.2023
  - 02.11.2023
  - 07.06.2023
  - 27.02.2023
- Astra Linux Special Edition .10015-01 (1.6) Astra Linux Common Edition
- NVidia
- NVidia
- Nvidia
  - nvidia-settings Nvidia
-
  - CAD Wine ("libGL error: failed to load driver: swrast")
  - OpenGL , Nvidia
  - Nvidia
  - PRIME Render Offload

:

- Astra Linux Special Edition .10015-01 .10015-01 (1.7)
- Astra Linux Special Edition .10015-37 (7.7)
- Astra Linux Special Edition .10015-01 (1.6)
- Astra Linux Special Edition .10015-16 . 1
- Astra Linux Common Edition (1.6)

- Nvidia
- Nvidia:

NVidia. "-" , . "-" .

, , Astra Linux Special Edition, :

- Astra Linux Special Edition .10015-01 (1.6) :
  - DKMS;
  - DKMS.
- Astra Linux Special Edition .10015-01 (1.7) :
  - DKMS.

NVidia Astra Linux Special Edition .10015-01 (1.7), DKMS, Astra Linux Special Edition .10015-01 (1.7).

NVidia Astra Linux Special Edition .10015-01 (1.6), DKMS, Astra Linux Common Edition.

DKMS "-" .

DKMS :

```
sudo apt install --reinstall <_>
```

Astra Linux Special Edition .10015-01, .10015-10 (1.7) Astra Linux Special Edition .10015-37 (7.7)

22.11.2023

2021-1126SE17 (1.7.1). .

:

- 340.108;
- 390.143;
- 460.84;
- 470.57;
- 495.44.

:

- 5.4.0:
  - linux-image-5.4.0-81-generic/linux-image-5.4.0-81-hardened;

02.11.2023

22.11.2023.

07.06.2023

2023-0426SE17 (1.7.4). .

:

- 340.108;
- 390.151;
- 470.129;
- 510.73.05;
- 525.78.01.

:

- 5.4.0:
  - linux-image-5.4.0-110-generic/linux-image-5.4.0-110-hardened;
- 5.10:
  - linux-image-5.10.176-1-generi/linux-image-5.10.176-1-hardened;
- 5.15.0:
  - linux-image-5.15.0-70-generic/linux-image-5.15.0-70-hardened/linux-image-5.15.0-70-lowlatency.

27.02.2023

2022-1110SE17 (1.7.3). .

:

- 340.108;
- 390.151;
- 460.91.03;
- 470.129.06
- 510.73.05;

:

- 5.4.0:
  - 5.4.0-110-generic / 5.4.0-110-hardened
- 5.10.0:
  - 5.10.142-1-generic / 5.10.142-1-hardened

Astra Linux Special Edition .10015-01 (1.6) Astra Linux Common Edition

DKMS, DKMS. .

04.07.2023. 20221220SE16 (12) . :

- 535.54.03
- 525.78.01
- 510.73.05
- 470.129.06
- 390.151

: 06.09.2022. :

- 340.108 (2.12.45 5.15.0-33, 1.6);
- 390.143 (2.12.45 5.15.0-33, 1.6);
- 460.84;
- 470.57;
- ~~495.44 (03.12.21, 06.12.21, 06.09.22);~~

- 510.73 (23.05.2022);
- 515.65.01 (06.09.22).

:

- 4.15.3:
  - 4.15.3-1-generic / 4.15.3-1-hardened (Astra Linux Special Edition 1.6);
  - 4.15.3-2-generic / 4.15.3-2-hardened (Astra Linux Special Edition 1.6 20200327SE16 (5));
  - 4.15.3-141-generic / 4.15.3-141-hardened (Astra Linux Special Edition 1.6 20210611SE16 7));
  - 4.15.3-154-generic / 4.15.3-154-hardened (Astra Linux Special Edition 1.6 20211008SE16 (9));
  - 4.15.3-177-generic / 4.15.3-177-hardened (Astra Linux Special Edition 1.6 20220829SE16 (11));
- 5.4.0:
  - 5.4.0-71-generic / 5.4.0-71-hardened (Astra Linux Special Edition 1.6 20210611SE16 (7));
  - 5.4.0-81-generic / 5.4.0-81-hardened (Astra Linux Special Edition 1.6 20211008SE16 (9));
- 5.10.0:
  - 5.10.0-1038.40-generic / 5.10.0-1038.40-hardened (Astra Linux Common Edition 2.12.43);
  - 5.10.0-1045-generic / 5.10.0-1045-hardened (Astra Linux Special Edition 1.6 20211008SE16 (9));
  - 5.10.0-1057-generic / 5.10.0-1057-hardened (06.09.22) (Astra Linux Special Edition 1.6 20220829SE16 (11));
- 5.15.0:
  - 5.15.0-33-generic / 5.15.0-33-hardened (340 390 2.12.45) (Astra Linux Special Edition 1.6 20220829SE16 (11)).

NVidia Astra Linux x86-64. , .

NVidia

Astra Linux Special Edition .10015-01 (1.7) 2022-0819SE17 (1.7.2) fly-admin-driver ("" - " " - "" - " ".

1. /etc/X11/xorg.conf, ( ), :

   ```
   sudo mv /etc/X11/xorg.conf /etc/X11/xorg.conf.`date +%s`
   ```

2. Nouveau, /etc/modprobe.d/blacklist.conf

   ```
   blacklist nouveau
   options nouveau modeset=0
   ```

   /etc/initramfs-tools/modules nouveau modeset=1

   ```
   #nouveau modeset=1
   ```

   ```
   update-initramfs -u -k all
   ```

   :

   ```
   echo blacklist nouveau >> /etc/modprobe.d/blacklist.conf
   echo options nouveau modeset=0 >> /etc/modprobe.d/blacklist.conf
   sed -i -e "s/^[[:space:]]*nouveau[[:space:]]\+modeset[[:space:]]*=[[:
   space:]]*1/#nouveau modeset=1/" /etc/initramfs-tools/modules
   update-initramfs -u -k all
   ```

NVidia

1. . web-:
   a. Astra Linux Special Edition .10015-01 (1.7):

i. NVidia c DKMS . , . .
ii. NVidia DKMS :
1. 2023-0426SE17 (1.7.4): https://nextcloud.astralinux.ru/s/BRk25PEmoj6XqCQ.
2. 2022-1110SE17 (1.7.3): https://nextcloud.astralinux.ru/s/m5n4pewBAY5M2tM.
3. 2021-1126SE17 (1.7.1): https://nextcloud.astralinux.ru/s/xqqT3DgZjMJg8Wx.

b. Astra Linux Special Edition .10015-01 (1.6) 20221220SE16 (12) : https://nextcloud.astralinux.ru/s/nbmPKskMkQG7Xrc.
.

c. Astra Linux Special Edition .10015-01 (1.6), Astra Linux Special Edition .10015-16 . 1 Astra Linux Common Edition :
https://nextcloud.astralinux.ru/s/PCqFtS5MeY5MDM4.

2. . , /srv:

```
sudo tar xf ALSE1?-NVidia-all-*.tar.gz -C /srv
```

, , .

3. (. Astra Linux). , :

a. Astra Linux Special Edition .10015-01 (1.7):

```
deb file:/srv/ALSE17-NVidia-all-230607 1.7_x86-64 non-free
```

```
deb file:/srv/ALSE17-NVidia-all-230227 1.7_x86-64 non-free
```

b. Astra Linux Special Edition .10015-01 (1.6), Astra Linux Special Edition .10015-16 . 1 Astra Linux Common Edition:

```
deb file:/srv/ALSE16-NVidia-all-220906 smolensk non-free
```

" ", :

```
deb file:///srv/ALSE17-NVidia-all-230227 1.7_x86-64 non-free
```

4. :

a. Astra Linux Special Edition .10015-01 (1.7) (. Astra Linux Special Edition x.7: ,).
b. Astra Linux Common Edition , , /etc/apt/preferences.d/orel (. Astra Linux).

5. :

```
sudo apt update
```

6. nvidia-detect . (525 1.7.4.ext1):

```
sudo apt install nvidia-detect-525
```

:

```
sudo apt install nvidia-detect-510
sudo apt install nvidia-detect-495
sudo apt install nvidia-detect-470
sudo apt install nvidia-detect-460
sudo apt install nvidia-detect-390
sudo apt install nvidia-detect-340
```

7. :

```
nvidia-detect
```

8. :
    a. DKMS:
        i. 390 :

```
sudo apt install nvidia-driver-no-dkms-<_>
```

        ii. 340

```
sudo apt install nvidia-no-dkms-340
```

    b. DKMS:
        i. 390 :

```
sudo apt install nvidia-driver-<_>
```

        ii. 340:

```
sudo apt install nvidia-340
```

9. :

```
sudo reboot
```

Nvidia

Nvidia BIOS .

Nvidia Nouveau :

1. /etc/X11/xorg.conf;

```
sudo rm /etc/X11/xorg.conf
sudo dpkg-reconfigure xserver-xorg
```

2. Nvidia:

```
sudo apt remove --purge --yes --force-yes nvidia*
sudo apt remove --purge --yes --force-yes libnvidia*
sudo apt remove --purge --yes --force-yes xserver-xorg-video-n*
for nvdeb in `dpkg -l | grep nvidia`; do
    sudo apt remove --purge --yes --force-yes $nvdeb
done
```

3. GL mesa :

```
sudo apt install --reinstall --yes --force-yes xserver-xorg-core libgl1
libgl1-mesa-dri libgl1-mesa-glx libglapi-mesa libgles2 libgles2-mesa
libglew2.? libglewmx1.13 libglu1-mesa libglvnd0 libglx-mesa0 libglx0
```

4. Nvidia:

```
for nvdriver in `find /lib/modules -type f -name "nvidia*"`; do
    echo "$nvdriver"
    sudo mv -f $nvdriver ${nvdriver}-$$-backup
done
sudo depmod -a
```

5. ( ) /etc/modprobe.d/blacklist.conf, Nouveau:

> # blacklist nouveau
> # options nouveau modeset=0

6. /etc/initramfs-tools/modules

> nouveau modeset=1

```
sudo update-initramfs -u -k all
```

7. .

> Nvidia Nvidia astra-nvidia, .

nvidia-settings Nvidia

- Astra Linux Special Edition .10015-01 1.7, Astra Linux Special Edition .10015-01 1.6 Astra Linux Common Edition nvidia-settings 470.57.01 : nvidia-settings-signed-220720.tar.gz web-. . Astra Linux ;
- Astra Linux Special Edition .10015-01 (1.7) nvidia-settings Nvidia ;
- Astra Linux Common Edition nvidia-settings .

CAD Wine ("libGL error: failed to load driver: swrast")

Nvidia CAD Wine (. wine Astra Linux) "libGL error: failed to load driver: swrast". Nvidia /usr/lib/i386-linux-gnu/libGL.so.1:

```
sudo rm /usr/lib/i386-linux-gnu/libGL.so.1
```

OpenGL , Nvidia

> Astra Linux Special Edition .10015-01 (1.4/1.5). Astra Linux Special Edition .10015-01 (1.6) OpenGL , .

/etc/X11/fly-dm/Xsetup :

Xsetup

```
#! /bin/sh
# Xsetup - run as root before the login dialog appears

#xconsole -geometry 480x130-0-0 -notify -verbose -fn fixed -exitOnFail -file /dev/xconsole &

if [ -x /usr/sbin/pdp-flbl ]; then
  find /dev/dri -type c -exec /usr/sbin/pdp-flbl :::ehole {} \;
  find /dev -name nvidia*  -type c -exec /usr/sbin/pdp-flbl :::ehole {} \;
  /usr/sbin/pdp-flbl -R :::ehole /proc/driver/nvidia \;
fi

/usr/bin/fly-dm-set-dpi.sh
```

Nvidia

, BIOS : , .

:

1. Nvidia.
2. Nvidia. :

```
lspci | grep -E "VGA|3D"
```

```
01:00.0 3D controller [0302]: NVIDIA Corporation Device [10de:139b] (rev a2)
```

PCI , "01:00.0". lspci , - . , . .. "01:00.0" :

```
BusID "PCI:1:0:0"
```

3. , Nvidia ( ) */etc/X11/xorg.conf* :

/etc/X11/xorg.conf

```
Section "Module"
    Load "modesetting"
EndSection

Section "Device"
    Identifier "nvidia"
    Driver "nvidia"
    BusID "PCI:X:Y:Z"
    Option "AllowEmptyInitialConfiguration"
EndSection
```

BusID "PCI:X:Y:Z" - PCI Nvidia.

4. /usr/local/bin/nvidia_switch.sh :

/usr/local/bin/nvidia_switch.sh

```
xrandr --setprovideroutputsource modesetting NVIDIA-0
xrandr --auto
xrandr --dpi 96
```

:

```
chmod +x /usr/local/bin/nvidia_switch.sh
```

5. /etc/X11/fly-dm/Xsetup :

```
#! /bin/sh
# Xsetup - run as root before the login dialog appears
#xconsole -geometry 480x130-0-0 -notify -verbose -fn fixed -exitOnFail -file /dev/xconsole &
/usr/local/bin/nvidia_switch.sh
if [ -x /usr/sbin/pdp-flbl ]; then find /dev/dri -type c -exec /usr/sbin/pdp-flbl :::ehole {} \;; fi
/usr/bin/fly-dm-set-dpi.sh
```

6. .

PRIME Render Offload

NVIDIA 435.17 PRIME Render Offload - Nvidia. xf86-video-modesetting, xf86-video-amdgpu (450.57), xf86-video-intel (455.38) iGPU . NVIDIA :

```
__NV_PRIME_RENDER_OFFLOAD=1 __GLX_VENDOR_LIBRARY_NAME="nvidia"
__VK_LAYER_NV_optimus="NVIDIA_only" <_>
```