

Astra Linux Special Edition 1.4 (U)EFI BIOS

1. GPT. , Live CD Parted Magic >= 6.6. gparted gdisk, . ESP. ESP 100 . ESP FAT.



, Windows 7 (U)EFI, ESP ,... Windows 7 ;

2. USB-, (U)EFI BIOS. USB- , 100 , ef (ESP), FAT, :

```
/EFI
/EFI/Boot
```

/EFI/Boot bootx64.efi. bootx64.efi EDK. USB- (FAT, FAT32, EXT, NTFS) .

deb- GRUB2 >=1.99-8. debian (Ubuntu , ,), . :

```
grub-common, grub2-common, grub-efi-amd64-bin, grub-efi-amd64;
```

3. , . ;

4. «». « » , , « /dev/_». <Alt+F2> :

```
chroot /target
```

5. , , GRUB, fly-admin-grubeditor:

```
dpkg -l | grep grub
```

- , :

```
dpkg --purge _
```

6. USB- deb GRUB2.

gettext efibootmgr .

7. boot_EFI, ESP :

```
/EFI
/EFI/Boot
/EFI/grub
```



Windows 7 (U)EFI, ESP ,... Windows 7 . /EFI/grub;

8. :

```
grub-install --boot-directory=/boot_EFI/EFI
```

```
/boot_EFI/EFI/grub/ grub2;
```

9. :

```
grub-mkimage -o /boot_EFI/EFI/grub/grub.efi -p /EFI/grub -O x86_64-efi acpi ata ata_pthru bitmap bitmap_scale boot cat chain cmp configfile cpio date
datetime echo efi_gop elf ext2 extcmd fat fixvideo font fshelp gettext gfxmenu gfxterm gptsync gzio halt help hfs hfsplus jpeg keylayouts keystatus linux
loadbios loadenv ls lspci mmap msdospart multiboot2 multiboot normal part_gpt part_msdos parttool png probe read reboot regexp search_fs_file
search_fs_uuid search_label search serial terminal terminfo true uhci usb usb_keyboard usb usbms usbserial_common video_fb videoinfo video
```

```
/boot_EFI/EFI/grub/ grub.efi, .
```



```
. grub.efi , at_keyboard,... GRUB2;
```

10. grub.cfg. Windows 7 (U)EFI

GRUB2 Windows 7, /etc/grub.d/40_custom :

/etc/grub.d/40_custom

```
menuentry "Windows 7 x86_64 UEFI-GPT" {
search --file --no-floppy --set=root /EFI/Microsoft/Boot/BOOTMGFW.EFI
chainloader /EFI/Microsoft/Boot/BOOTMGFW.EFI
}
```

```
, BOOTMGFW.EFI ESP- /EFI/Microsoft/Boot/, . :
```

```
grub-mkconfig -o /boot_EFI/EFI/grub/grub.cfg
```

BIOS . grub.cfg :

reboot=a,w

```
menuentry 'Astra GNU/Linux, with Linux <>-generic'
```

```
menuentry 'Astra GNU/Linux, with Linux <>-generic ( )'
```

```
linux /boot/vmlinuz-<>generic root=UUID=_UUID.
```

BIOS «». grub.cfg :

noefi

```
menuentry 'Astra GNU/Linux, with Linux <>-generic'
```

```
menuentry 'Astra GNU/Linux, with Linux <>-generic ( )'
```

```
linux /boot/vmlinuz-<>generic root=UUID=_UUID;
```

11. EFI, /boot_EFI/EFI/grub/grub.efi /boot_EFI/EFI/Boot bootx64.efi.



```
Windows 7 (U)EFI, bootx64.efi . , bootx64_bak.efi;
```

12. GRUB2. ESP-, chroot- exit . USB-;

13. USB- , UEFI Shell. . , fs0 ESP-. :

fs0:

```
cd \EFI\grub grub.efi. , GRUB2, 'Astra GNU/Linux, with Linux <>-generic' .
```



Windows 7 (U)EFI GRUB2 Windows 7, GRUB2 «Windows 7 x86_64 UEFI-GPT», Windows 7;

14. , EFI- /sys/firmware/efi. EFI . efibootmgr, . :

```
efibootmgr -v
```

, GRUB2, :

```
efibootmgr -L "GRUB Boot Manager" -d /dev/sda -p 1 -l \\EFI\\grub\\grub.efi -c -v
```

GRUB Boot Manager — , BIOS, -d /dev/sda —, ESP-, -p 1 — ESP-(1), -l \\EFI\\grub\\grub.efi — grub.efi ESP-. \\ , Windows 7, :

```
efibootmgr -L "Windows Boot Manager" -d /dev/sda -p 1 -l \\EFI\\Microsoft\\Boot\\BOOTMGFW.EFI -c -v
```

:

- efibootmgr -v (, Boot0004*);
- :

```
efibootmgr -b 0004 -B 0004
```

15. , BIOS «GRUB Boot Manager».