# Android-x86对于部分笔记本无法启动图形桌面的解决方案 #23

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**elliott10** commented on 17 May — openthos member

## Android-x86 启动图形桌面

### QEMU启动失败

尝试增加参数 “-vga std”；

### 官方推荐方法

http://www.android-x86.org/documents/how-to-boot-the-android-x86-live-cd-when-you-have-problems-with-your-graphiccard

修改启动参数：

> kernel initrd=/initrd.img root=/dev/ram0
> androidboot_hardware=generic_x86 acpi_sleep=s3_bios,s3_mode video=-16
> quiet SRC= DATA= DPI=240

去除“quiet”选项，可查看kernel启动信息；
增加“nomodeset”,不使kernel设置图形分辨率，让X设置；
增加“xforcevesa”,为X强行使用VESA驱动；
可用参数组合： "nomodeset"， "xforcevesa"，"nomodeset xforcevesa"

> 如果需要高分辨率，可手动配置grub启动选项：
> vga=788 (800x600)
> vga=791 (1024x768)
> vga=794 (1280x1024)
> vga=ask （ to see all available modes. )
> Android只支持16-bit模式。

### 使用的解决方案

“nomodeset vga=0x37E”
(37E 1920x1080x16 VESA)

### 还可尝试

参数“HWACCEL=0” 在“video = xxx”之前；
MESA ？

### Reference

http://grokbase.com/t/gg/android-x86/13183wrndv/help-android-x86-4-2-cant-boot-into-gui-just-command-line
https://groups.google.com/forum/#!msg/android-x86/Xz6MHJHpOLw/QlxAehyZtuoJ

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混合显卡配置

https://help.ubuntu.com/community/HybridGraphics

**elliott10** commented 29 days ago • edited openthos member

## Linux 图形系统

**vesa** 一个支持大部分显卡的通用驱动，不提供任何 2D 和 3D 加速功能。
**Uvesafb** 也是framebuffer 驱动，uvesafb 需要一个叫做 v86d 的用户空间虚拟化守护进程。可在非 x86 架构使用framebuffer 代码。它比标准的 vesafb 有更多的特性。

要充分发挥显卡性能，需安装厂商驱动程序。
推荐使用开源驱动（需要**KMS**）：

| Brand | Type | Driver | OpenGL | other |
|---|---|---|---|---|
| Intel | Open source | xf86-video-intel | mesa-libgl | i915 requires KMS |
| AMD/ATI | Open source | xf86-video-amdgpu/xf86-video-ati | mesa-libgl | radeon requires KMS |
| Nvidia | Open source | xf86-video-nouveau | mesa-libgl | Nouveau requires kernel mode setting(KMS) |

KMS冲突的内核启动参数："vga=" "video="，任何其它framebuffer drivers (如 uvesafb) 。
Intel Nvidia双显卡禁用KMS，内核启动参数："nomodeset i915.modeset=0 nouveau.modeset=0"

**Forcing Modes**

```
video=<conn>:<xres>x<yres>[M][R][-<bpp>][@<refresh>][i][m][eDd]

<conn>: Connector, e.g. DVI-I-1, see /sys/class/drm/ for available connectors
<xres> x <yres>: resolution
M: compute a CVT mode?
R: reduced blanking?
-<bpp>: color depth
@<refresh>: refresh rate
i: interlaced (non-CVT mode)
m: margins?
e: output forced to on
d: output forced to off
D: digital output forced to on (e.g. DVI-I connector)
```

例，要强制 DVI 使用 1024x768 85 Hz ，同时禁用 TV-out :
`video=DVI-I-1:1024x768@85 video=TV-1:d`
查看所有connectors状态：/sys/class/drm/*/status

## Android-x86图形系统

**Android uses framebuffer driver, no X**

- vesa driver
- uvesa driver
- hardware driver - KMS, non-KMS

**Use soft rendering by default**

- Buggy for 1366x768
- Very slow in 32-bit color depth

**Android-x86 implements hardware rendering using *Mesa library***

- Needs KMS driver

`Android graphic system —> drm_gralloc (HAL)` –> libGLES_mesa –> libdrm –> Kernel KMS driver –> GPU hardware`
Support： Intel integrated graphic chip， AMD Radeon， Vmware? (vmwgfx)

`- - - - -`
更改分辨率
vesa driver
`vga=xxx, vga=ask`

uvesa driver

```
UVESA_MODE=
```

hardware driver, no Mesa

```
video=1280x800-32
```

KMS + Mesa

```
setprop debug.drm.mode 1024x768
```

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