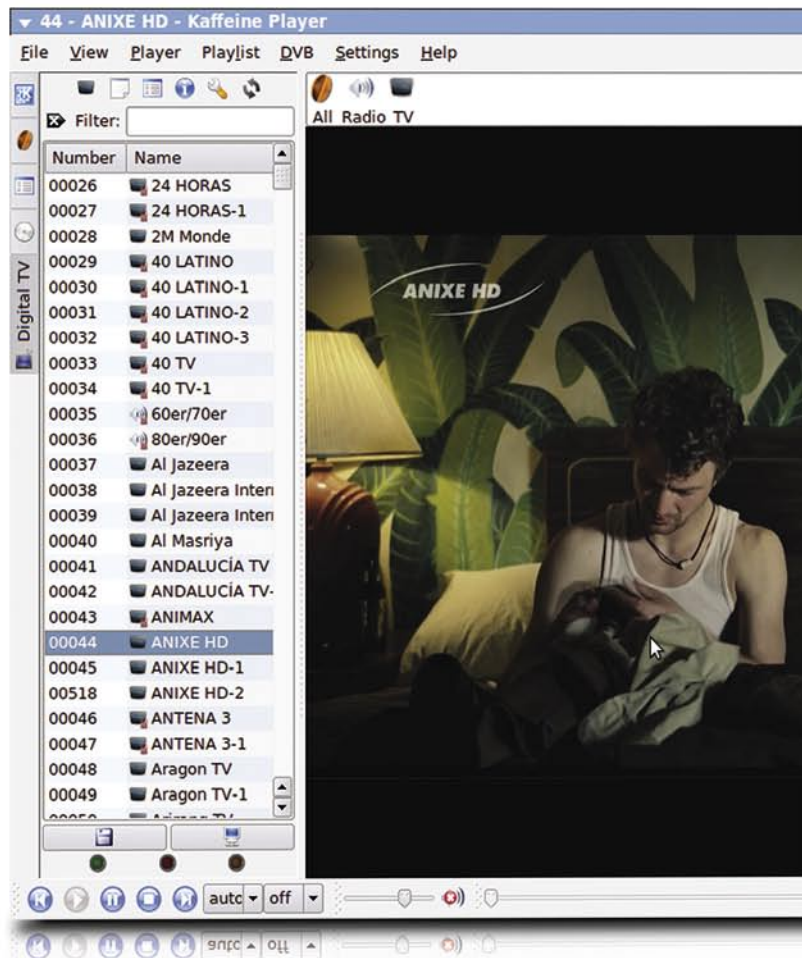


# NetUP Dual DVB-S2-CI

## 一款具备了两个 高清电视调谐器 的PC卡

在俄罗斯的莫斯科，有一家IPTV领域的公司。他们生产包括IPTV发布系统、DVB网关、条件访问系统甚至结算系统在内的各种IPTV网络产品。他们最新的研发项目是专业的高集成度的卫星电视接收卡，其主要目标是专业的DVB-IP网关市场、家庭影院以及卫星因特网系统。他们的接收卡不仅配备的两个DVBS2调谐器，而且还包含了两个通用接口卡的插槽，所有的这些都被容纳在一个仅占一个PCIe卡槽位置的PC卡上面。因为它面向专业市场，所以也能够在Linux下运行。这款卡可被用在机架内。通常情况下机架会同时安装两只接收卡。与常规的PC卡不同的是这款卡可以同时处理两个频道。如果在机柜中使用这款双调谐器的卡的话，就意味着你可以在一个机架单元内同时管理四个频道。



这款专业的接收卡也同样适合卫星电视收视用户，如果他在收看全屏高清转播的自己本地球队夺取欧洲杯的同时还可以用另一只眼睛来观看他所钟爱的电视剧的最新一集。喜欢涉猎中继信号的卫星电视爱好者们恐怕会从这款卡上得到更多的乐趣，他们可以同时关注两路不同的DVB-S2中继信号。真正的爱好者们会像专业用户一样将这款卡充分利用。如果要想真正从这款卡中得到乐趣，我推荐使用高端PC，因为这款卡不包括独立的H.264/MPEG2硬件解码器。

任何软件或者安装说明。在NetUP的支持网页上 ([http://www.hetup.tv/en-EN/dual\\_dvb-s2-ci\\_card.php](http://www.hetup.tv/en-EN/dual_dvb-s2-ci_card.php)) 提供了Linux操作系统的驱动程序。我的下一步是检查这款卡用了哪一种芯片组：Conexant CX23885。看到了这条信息，我开始检查这款卡是否被video4linux (下文简称v4l) 所支持。于是我转到了LinuxTV百科网站<http://www.linuxtv.org>上开始找到DVB-S(2)的条目上。在鼠标

### 安装

这款接收卡并未附带

### TELE-satellite World [www.TELE-satellite.com/...](http://www.TELE-satellite.com/...)

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Indonesian	Indonesia	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/bid/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/bid/netup.pdf</a>
Bulgarian	Български	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/bul/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/bul/netup.pdf</a>
Czech	Česky	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/ces/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/ces/netup.pdf</a>
German	Deutsch	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/deu/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/deu/netup.pdf</a>
English	English	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/eng/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/eng/netup.pdf</a>
Spanish	Español	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/esp/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/esp/netup.pdf</a>
Farsi	فارسی	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/far/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/far/netup.pdf</a>
French	Français	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/fra/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/fra/netup.pdf</a>
Hebrew	עברית	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/heb/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/heb/netup.pdf</a>
Greek	Ελληνικά	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/hel/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/hel/netup.pdf</a>
Croatian	Hrvatski	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/hrv/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/hrv/netup.pdf</a>
Italian	Italiano	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/ita/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/ita/netup.pdf</a>
Hungarian	Magyar	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/mag/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/mag/netup.pdf</a>
Mandarin	中文	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/man/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/man/netup.pdf</a>
Dutch	Nederlands	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/ned/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/ned/netup.pdf</a>
Polish	Polski	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/pol/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/pol/netup.pdf</a>
Portuguese	Português	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/por/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/por/netup.pdf</a>
Romanian	Românesc	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/rom/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/rom/netup.pdf</a>
Russian	Русский	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/rus/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/rus/netup.pdf</a>
Swedish	Svenska	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/sve/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/sve/netup.pdf</a>
Turkish	Türkçe	<a href="http://www.TELE-satellite.com/TELE-satellite-1003/tur/netup.pdf">www.TELE-satellite.com/TELE-satellite-1003/tur/netup.pdf</a>

Available online starting from 29 January 2010

轻点两次之后,我发现这款卡确实被支持! [http://www.linuxtv.org/wiki/index.php/NetUP\\_Dual\\_DVB\\_S2\\_CI](http://www.linuxtv.org/wiki/index.php/NetUP_Dual_DVB_S2_CI)



在完成了这些准备工作之后,我打开了我的运行着乌班图9.04的备用PC。我开始期待这款卡能够被自动检测出来。但是dmesg显示:不支持(图1)。因此,看上去像是绑定在乌班图9.04的默认版本

的v4l并不能够使用这款接收卡。幸运的是,在LinuxTV百科的接收卡页面上,有这么一条提示信息:您需要检查v4l的库以获得最新的源代码。这个库是基于多变源代码控制系统的。自然而然,为了能够检查你需要使用的源代码,你需要手动安装它。我的乌班图需要通过输入这条命令安装:

```
$ sudo apt-get install mercurial meld (图2)
```

然后,我输入了LinuxTV百科建议的命令,这能够得到所

需的核心模块并且程序得以编译:

```
$ hg clone http://linuxtv.org/hg/v4l-dvb/  
$ cd v4l-dvb  
$ make > /dev/null 2>&1  
$ sudo make install > /dev/null 2>&1
```

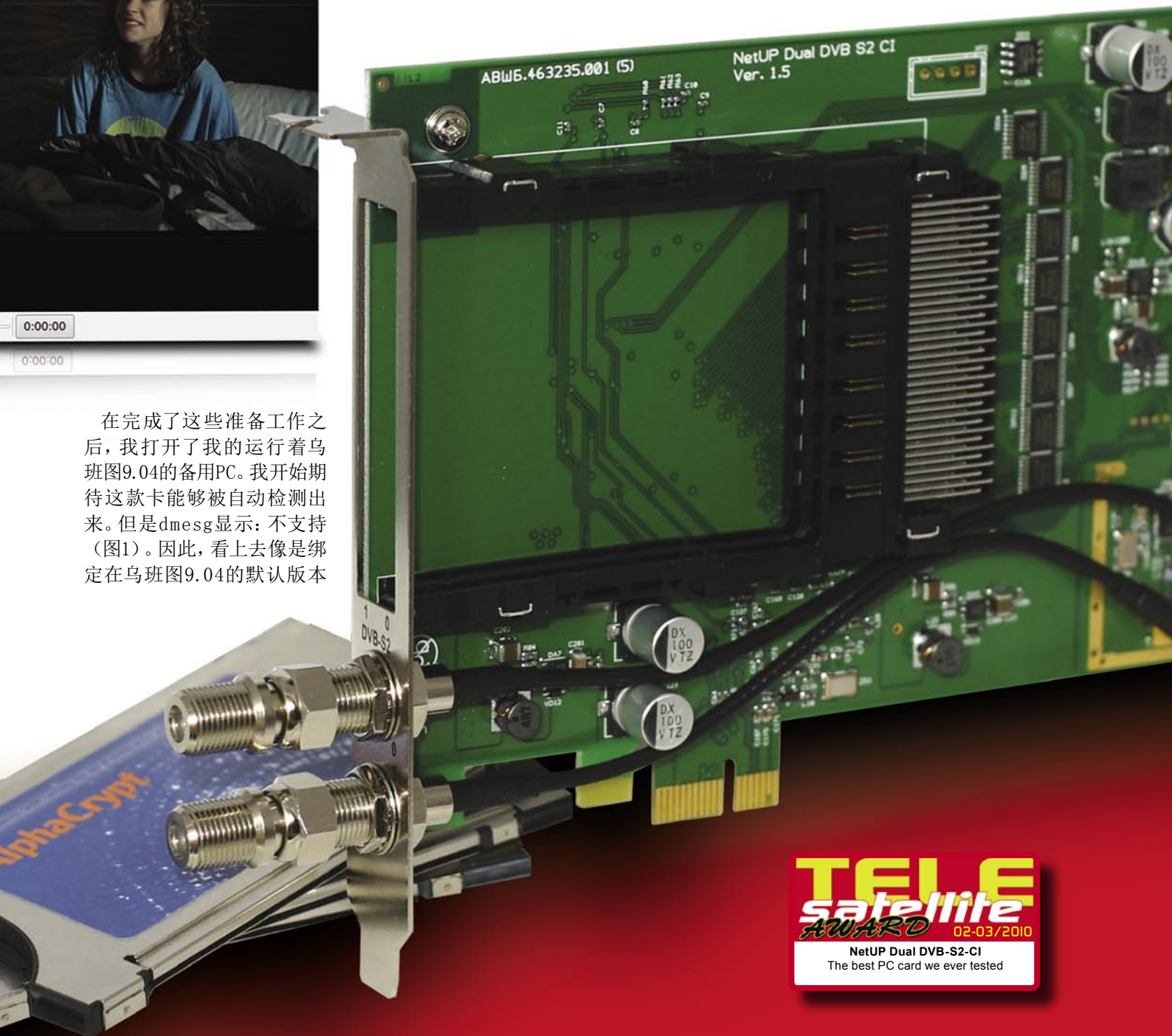
是检查所有一切是否都工作正常的时候了。我重新启动了我的电脑然后使用dmesg检查了一下接收卡的工作状态。棒极了!接收卡和附带的两个调谐器这次都被检测到并且可见(图3)。

在接收卡被检测到之后,

我们剩下的所有工作就是安装播放器来播放相应的刘。使用最简单的软件就是Kaffeine,这款软件可以通过输入如下命令安装:

```
$ sudo apt-get install kaffeine
```

Kaffeine是主要依赖于一些KDE库的,并且它会安装比预期更多的软件包。但是仍然需要我手动选上一个漏掉的:libxine1-ffmpeg。这是进行H.264软件解码的软件。在全部安装结束后(整个安装过程会持续几分钟)我打开“Application”菜单



```

alex@linuxtv: ~
File Edit View Terminal Help
[ 11.580571] parport_pc 00:09: reported by Plug and Play ACPI
[ 11.580610] parport0: PC-style at 0x378, irq 7 [PCSP,TRISTATE]
[ 11.772230] Linux appgart interface v0.103
[ 11.795917] input: PC Speaker as /devices/platform/pcspkr/input/input4
[ 11.811397] pnp0v: using space parallel port driver
[ 11.857719] i2c-adapter i2c-0: nForce2 SMIbus adapter at 0x4c00
[ 11.857754] i2c-adapter i2c-1: nForce2 SMIbus adapter at 0x4c00
[ 11.175899] nvidia: module license "/NVIDIA" taints kernel.
[ 11.453990] ACPI: PCI Interrupt Link [APC3] enabled at IRQ 18
[ 11.454004] nvidia 0000:05:00.0: PCI INT A -> Link[APC3] -> GSI 18 (level, low) -> IRQ 18
[ 11.454011] nvidia 0000:05:00.0: setting latency timer to 64
[ 11.455361] WRRH: loading NVIDIA UNIX x86 Kernel Module 180.44 Mon Mar 23 14:59:19 PST 2009
[ 11.543666] synaptics was reset on resume, see synaptics_resume_reset if you have trouble on resume
[ 11.685356] Linux video capture interface: v2.00
[ 11.837543] cx23885 driver version 0.0.2 loaded
[ 11.837740] cx23885 0000:04:00:00: PCI INT A -> Link[APC4] -> GSI 19 (level, low) -> IRQ 19
[ 11.947365] cx23885[0]: Your board isn't known (yet) to the driver.
[ 11.947366] cx23885[0]: Try to pick one of the existing card configs via
[ 11.947368] cx23885[0]: card=> insmod option. Updating to the latest
[ 11.947369] cx23885[0]: version might help as well
[ 12.161231] pnp0use serial: ID: 10 00 64-0-input: PS/2 Generic Mouse as /devices/platform/10042/serial/input/input5
[ 13.405258] lp0: using parport0 (interrupt-driven).
[ 13.697633] Adding 1040620k swap on /dev/sda5. Priority:-1 extents:1 across:1040620k
[ 14.185486] EXT3 FS on sda1, internal journal
[ 15.325390] type=1505 audit(1256679311.921.2): operation="profile_load" name="/sbin/dhclient-script" name2="default" pid=1
[ 15.325391] type=1505 audit(1256679311.921.3): operation="profile_load" name="/sbin/dhclient3" name2="default" pid=1858
[ 15.325392] type=1505 audit(1256679311.921.4): operation="profile_load" name="/usr/lib/NetworkManager/nm-dhcp-client.action" name2="default" pid=1858
[ 15.325393] type=1505 audit(1256679311.921.5): operation="profile_load" name="/usr/lib/connman/scripts/dhclient-script" name2="default" pid=1858
[ 15.325394] type=1505 audit(1256679311.921.6): operation="profile_load" name="/usr/lib/cups/backend/cups-pdf" name2="default" pid=1858
[ 15.535155] type=1505 audit(1256679312.129.7): operation="profile_load" name="/usr/sbin/cupsd" name2="default" pid=1863
[ 15.625142] type=1505 audit(1256679312.221.8): operation="profile_load" name="/usr/sbin/tcpdump" name2="default" pid=1874
[ 23.852590] Bluetooth: BNEP (Ethernet Emulation) ver 1.3
[ 23.852591] Bluetooth: BNEP filters: protocol multicast
[ 23.866242] Bridge firewalling registered

```

(图1) 该卡未被Linux识别 |

```

alex@linuxtv: ~
File Edit View Terminal Help
alex@linuxtv:~$ sudo apt-get install mercurial
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
mercurial-common rcs
Suggested packages:
qt4-wish vim emacs python-mysqldb python-pygments python-openssl
The following NEW packages will be installed:
mercurial mercurial-common rcs
0 upgraded, 3 newly installed, 0 to remove and 0 not upgraded.
Need to get 86/973kB of archives.
After this operation, 461kB of additional disk space will be used.
Do you want to continue [Y/n]? yes
Selecting previously deselected package mercurial-common.
(Reading database ... 119069 files and directories currently installed.)
Unpacking mercurial-common (from .../mercurial-common_1.1.2-2ubuntu1_all.deb) ...
Selecting previously deselected package mercurial.
Unpacking mercurial (from .../mercurial_1.1.2-2ubuntu1_i386.deb) ...
Selecting previously deselected package rcs.
Unpacking rcs (from .../archives/rcs_5.7-24_i386.deb) ...
Processing triggers for man-db ...
Setting up mercurial-common (1.1.2-2ubuntu1) ...
Setting up rcs (5.7-24) ...
Processing triggers for python-support ...
alex@linuxtv:~$

```

(图2) Mercurial被安装 |

```

alex@linuxtv: ~
File Edit View Terminal Help
[ 11.685356] Linux video capture interface: v2.00
[ 11.837543] cx23885 driver version 0.0.2 loaded
[ 11.837740] CORE cx23885 0000:04:00:00: PCI INT A -> Link[APC4] -> GSI 19 (level, low) -> IRQ 19
[ 11.837910] CORE cx23885[0]: subsystem: 1055:2a2c, board: NetUP Dual DVB-S2 CI [card=17,autodetected]
[ 12.115146] ACPI: PCI Interrupt Link [APC1] enabled at IRQ 18
[ 12.115150] CMI00 0000:01:01:00: PCI INT A -> Link[APC1] -> GSI 15 (level, low) -> IRQ 15
[ 12.115180] snd-ca0106: Model 1009 Rev 00000000 Serial 10091462
[ 12.129799] cx23840 4-0044: cx23885 A/V decoder found @ 0x88 (cx23885[0])
[ 12.134037] cx23840 4-0044: firmware: requesting v4l-cx23885-avcore-01.fw
[ 12.161231] pnp0use serial: ID: 10 00 64-0-input: PS/2 Generic Mouse as /devices/platform/10042/serial/input/input5
[ 12.947370] cx23840 4-0044: loaded v4l-cx23885-avcore-01.fw firmware (16382 bytes)
[ 12.949140] cx23885 dvb_register() allocating 1 frontend(s)
[ 12.949143] cx23885[0]: cx23885 based dvb card
[ 13.009094] stv0900_init_internal: Create New Internal Structure!
[ 13.126848] stv0900_st_dvbs2_single
[ 13.143201] stv0900_set_mclk: Mclk set to 135000000, Quartz = 60000000
[ 13.145960] stv0900_get_mclk_freq: Calculated Mclk = 134000000
[ 13.161175] stv0900_get_mclk_freq: Calculated Mclk = 134000000
[ 13.161177] stv0900_attach: Attaching STV0900 demodulator(0)
[ 13.183999] STV1110 attached on addr=60!
[ 13.206876] LMB2x attached on addr=
[ 13.206881] DVB: registering new adapter (cx23885[0])
[ 13.206886] DVB: registering adapter 0 frontend 0 (STV0900 frontend)...
[ 13.213194] NetUP Dual DVB-S2 CI card port1 MAC=00:24:20:00:00:FA
[ 13.217448] cx23885 dvb_register() allocating 1 frontend(s)
[ 13.217450] cx23885[0]: cx23885 based dvb card
[ 13.217528] stv0900_init_internal
[ 13.217529] stv0900_init_internal: Find Internal Structure!
[ 13.217531] stv0900_attach: Attaching STV0900 demodulator(1)
[ 13.220094] STV1110 attached on addr=63!
[ 13.220095] LMB2x attached on addr=
[ 13.220097] DVB: registering new adapter (cx23885[0])
[ 13.220099] DVB: registering adapter 1 frontend 0 (STV0900 frontend)...
[ 13.230080] NetUP Dual DVB-S2 CI card port2 MAC=00:24:20:00:00:FB
[ 13.235587] cx23885 dev checkrevision()! Hardware revision = 0x24
[ 13.235594] cx23885[0]/0: found at 0000:04:00:00, rev: 3, irq: 19, latency: 0, mmio: 0xf0000000
[ 13.235600] cx23885 0000:04:00:00: setting latency timer to 64

```

(图3) NetUP卡被成功检测出来 |

里的“Sound and Video”。我在“Kaffeine”上面点击了一下，欢迎界面就出来了(图4)。

## 收视

在Kaffeine菜单里，我点击了“Digital TV”(

数字电视)，这有点像那个基于Windows的ProgDVB(虽然功能相对少一些)。下一步是搜索所有能够收到的频道，可以通过点击“C”或者进入“DVB”菜单点击“Channels”(频道)来实现。频道搜索界面非常直观，并且Kaffeine可以通过某些转发器发送的网络信息表

来扫描整颗卫星的所有转发器。在这一步骤持续几分钟之后，完整的频道列表会被显示出来(图5)。

然而，Kaffeine并不能显示两个调谐器，因为它本身不是用来配合这种复杂的接收卡使用的。解决方案是使用更先进的软件，例如MythTV, VLC或者MPlayer。但是在换成其它DVB播放器之前，我检查了Kaffeine的信号质量与信号强度指示。显然这个指示是不正确的(报告为3%和98%)。

我设法使用卫星信号场强仪来测量这两个指标，最后得到Anixe HD的信噪比是6dB。从这个角度看，这意味着有用信号的功率是噪声功率的两倍，从而可以认定NetUP接收卡是市面上最灵敏的接收卡之一。

## 实战

锁定时间在这款接收卡上表现得十分出色。扫描东经13度的热鸟卫星全部转发器的时间平均仅为4分47秒。这款卡甚至还有一个隐藏的亮点：它能够接收16APSK DVB-S2的频道！这种调制方式通常被一些不希望被普通收视用户收看而隐藏起来的频道所使用。不幸的是，我们的90cm的碟形天线还不足以从我所在的地方正常地接收到热鸟卫星上的这类信号。但是，我还是能够得到一些马赛克。如果你距离HOTBIRD主波束足够近的话，请一下11.334H、11.373H以及11.432V这几组牺牲纠错码来提高画质的频率。

这款NetUP双调谐器接收卡会令高级卫星爱好者产生浓



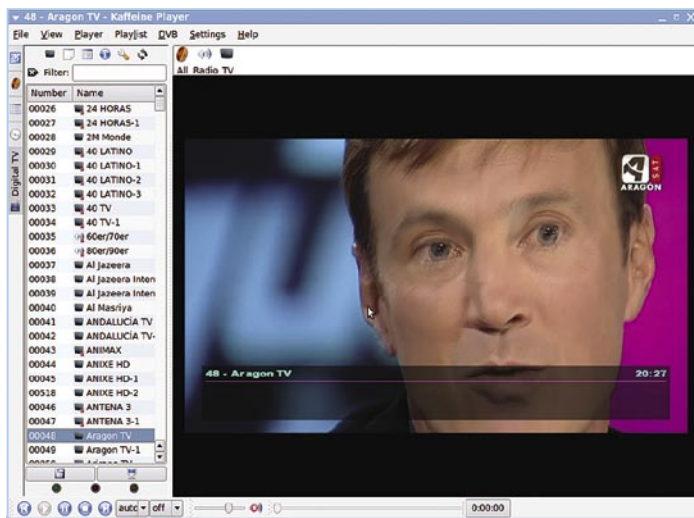
厚的兴趣, 并且还非常适合使用DVB-S2卫星信号的专业用户。

调谐器的灵敏度出类拔萃。这款接收卡需要工作在

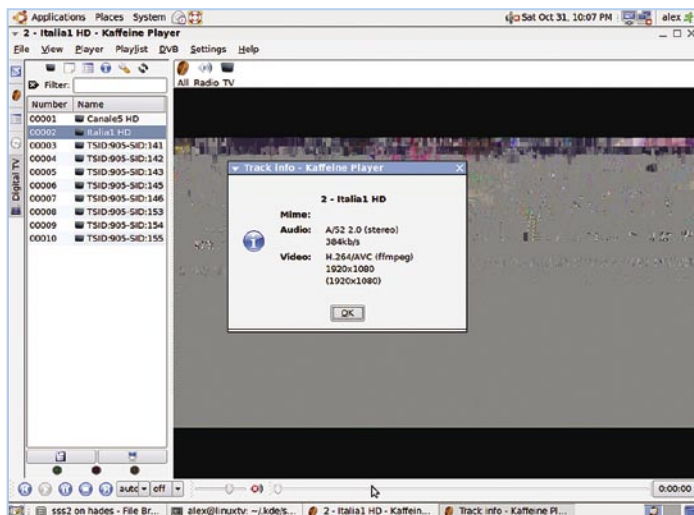
Linux操作系统中, 并且需要安装人员具备部分软件背景。但是, 出去这一点困难之外, NetUP接收卡仍然是一款完美的PC接收卡。



(图4) DVB播放器程序Kaffeine的欢迎界面!



(图5) 几分钟后, 菜单显示所有频道被已经收到!



(图6) NetUP卡的独特功能之一就是能够接收16APSK, 通常用于一些广播商, 例如通过东经13度热鸟卫星从意大利播出的意大利电视1台高清频道!

## 专家意见



Alexandru Porosanu  
TELE-satellite  
Test Center  
Romania

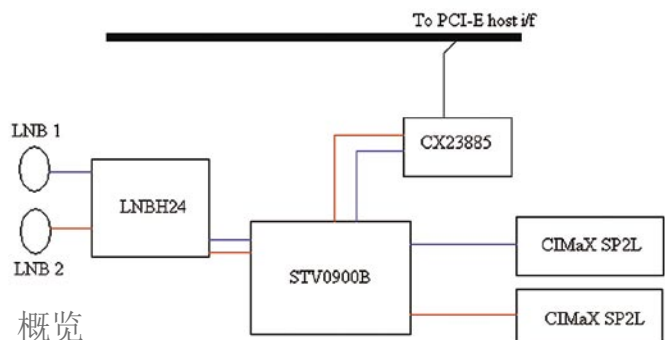
- + 每块卡具备两个独立的调谐器
- 基于Linux的高稳定性
- 出类拔萃的调谐器灵敏度
- 同时支持DVB-S和DVB-S2双标准

- 生产商不对该卡做任何软件支持  
对于MPEG2或H.264没有硬件加速措施

## TECHNICAL DATA

<b>Manufacturer</b>	NetUP, Olof Palme Str. 1, Sect. 7, Moscow, Russia
<b>Phone</b>	+7 495 510 1025 (ext 0) - general questions +7 495 510 1025 (ext 1) - technical support
<b>Fax</b>	+7 499 143 5521
<b>Email</b>	info@netup.tv
<b>Website</b>	www.netup.tv
<b>Model</b>	NetUP Dual DVB-S2-Cl
<b>Function</b>	Two Tuners DVB-S2 PCIe card
<b>Frequency Range</b>	950 - 2150 MHz
<b>Systems</b>	DVB-S, DVB-S2
<b>Transmission Modes</b>	MPEG-2, MPEG-4 (software)
<b>Demodulator DVB-S</b>	QPSK
<b>Demodulator DVB-S2</b>	QPSK, 8PSK, 16APSK, 32APSK
<b>DiSEqC</b>	up to 2.0
<b>CI Slots</b>	2 for any professional CA modules (PowerCAM Pro, Aston Pro Solutions, etc.)
<b>Connectors</b>	2 x F
<b>Software</b>	Linux

## 技术信息



## 概览

- 4层PCB
- 双通用接口条件收视卡插槽
- 长PCI-E设计

## 元器件概况

- 1个STM STV 0900B——双解调器可以应对DVB-S、QPSK、DVB-S2 QPSK、8PSK、16APSK (目前在欧洲和美国数字电视广播系统中用到的所有标准); 同样支持低电压 (3.3V)
- 1个STM LNBH24——双LNB支持和控制; 兼容DiSEqC 2.0回馈信号及22kHz音频信号检测; 支持未经滤波的DiSEqC信号输出。
- 2个SCM Microsystems' CIMaX SP2L——CI接口驱动
- 1个Conexant - PCI快速广播音/视频解码器, 支持两组MPEG转发器流。