

Linux Tech Tips for Wireless Setup using Debian as Example:

Summary Steps to make wireless work in WPA mode.

- Install the latest *ndiswrapper* from sources
- Download an old driver for Win98 and install it
- Configure WPA correctly

Wireless Chipset VT6655

The chip is a Via VT6655. It is currently not supported by a native driver in some Linux versions but you can survive with an emulator.

ndiswrapper is a Linux kernel module that encapsulates Windows network drivers and lets Linux users access all their functionalities. Check out the associated web site on:

ndiswrapper.sourceforge.net

See VIA website for VIA VT6655 drivers. Inside the ZIP file is a directory called “*windows98ME2000XP*”, within which you will find these files:

```
891b23e6b475aebb26b8a07fef9d73eb VNWL5A.sys
17a711d4271db402dcfa59e8c4084ddb VNWL5B.sys
3918dc675b662e1c0434d53a8a450b86 VNWL.inf
```

They are shown here together with their MD5 signatures to help check out you have the right files.

Install the driver inside *ndiswrapper* with:

```
ndiswrapper -i VNWL.inf
```

Then load the module with:

```
modprobe ndiswrapper
```

If all goes well, *dmesg* should tell you have a new ethernet device called *wlan0*, supporting WEP, TKIP with WPA, WPA2, WPA2PSK. At that point you should be able to test out the chip e.g. by scanning your neighborhood for Wi-Fi networks:

```
# ifconfig wlan0 up
# iwlist wlan0 scanning
```

Getting crypto to work

Crypto support is now nicely integrated into Debian. To use a WEP-encrypted network, edit */etc/network/interfaces* to look like this:

```
# auto wlan0
iface wlan0 inet dhcp
```

```
wireless-essid [Insert your network name here]
wireless-key [Insert your WEP key here]
```

To use a WPA-encrypted network it would look like this:

```
# auto wlan0
iface wlan0 inet dhcp
wpa-ssid [Insert your network name here]
wpa-driver wext
wpa-psk [Insert your WPA key here]
wpa-key-mgmt WPA-PSK
wpa-group TKIP
```

Un-comment the first line (auto wlan0) if you want the wireless interface to be brought up at boot time, otherwise bring it up manually whenever needed with `ifup wlan0`. The settings provided here make use of DHCP, check out the Debian documentation for a static IP configuration.

If the defaults on your network correspond to the defaults for *wpa_supplicant*, you may probably just specify network name and WPA key.

An important point: the *driver* for *wpa_supplicant* should be **wext** and not *ndiswrapper*.

For additional information about how to configure */etc/network/interfaces*, you may want to check out the associated Debian pages.