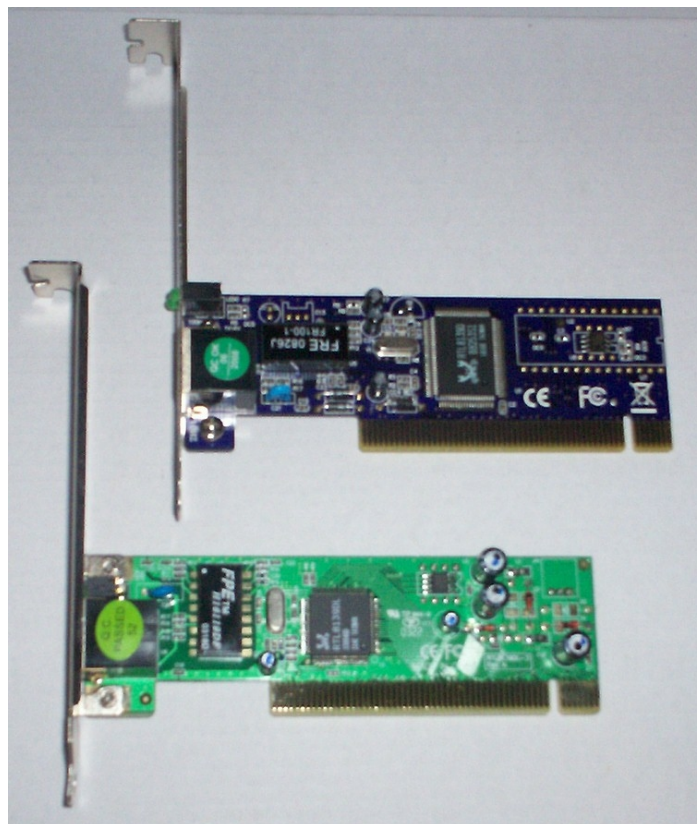


## ISSUES WITH THE REALTEK RTL-8139D BASED NETWORK CARD and RHEL5 or CENTOS 5.2 LINUX

The Realtek RTL-8139 chip has been around now for some time. The newer versions of this chip are the D series or DL which stands for the Low Profile flatpack package 100-pin PQFP/LQFP. These chips are used in Laptops, Desktops and PCI Network Interface Cards used to add additional 10/100Mbps network ports to a computer. PCI network cards based on the RTL-8139D are the cheapest available in the industry hence their popularity.



*Realtek RTL8139D*



*RTL8139D Network Interface Cards from Repotec RP-1624WK (top) and a generic manufacturer both made in China*

Issues with these cards include the following:

- 1) 8139too device ethX does not seem to be present, delaying initializing
- 2) RHEL 5.0 doesn't detect my realtek rtl8139d lan card
- 3) Centos multiple NIC's - one not loading

The issue stems from the fact that the Linux O/S caters for more than 1 Realtek 8139 chip driver compounded with the fact that there may be a problem with the mii module known as the Module Loader Bug. Some Realtek 8139 NIC's work out of the box (like the generic green board above) and others like the Repotec RP-1624WK need a blacklist entry in modprobe.conf as follows.

Centos 5.2 provides 2 drivers for the 8139 – the more recent “8139too” and the “8139cp”. When the system boots it may become confused and select the wrong driver as evidenced in these /var/log/messages  
*Dec 12 20:15:29 mypc kernel: 8139cp: 10/100 PCI Ethernet driver v1.2 (Mar 22, 2004)*  
*Dec 12 20:15:29 mypc kernel: 8139cp 0000:01:02.0: This (id 10ec:8139 rev 10) is not an 8139C+ compatible chip*  
*Dec 12 20:15:29 mypc kernel: 8139cp 0000:01:02.0: Try the "8139too" driver instead.*  
*Dec 12 20:15:29 mypc kernel: 8139cp 0000:01:06.0: This (id 10ec:8139 rev 10) is not an 8139C+ compatible chip*  
*Dec 12 20:15:29 mypc kernel: 8139cp 0000:01:06.0: Try the "8139too" driver instead.*

The problem is “8139cp” and “8139too” are conflicting, and you get the support from the one which loads first.

Test this by removing “8139cp” by doing the following commands :

```
modprobe -r 8139cp
modprobe 8139too
ifconfig
```

If your interface appears, than you need to use “8139too”.

Add 8139cp to /etc/modprobe.conf blacklist by inserting "blacklist 8139cp".

Example /etc/modprobe.conf

```
[root@mypc log]# more /etc/modprobe.conf
blacklist 8139cp
alias eth0 8139too
alias eth1 8139too
alias scsi_hostadapter ata_piix
alias snd-card-0 snd-hda-intel
options snd-card-0 index=0
options snd-hda-intel index=0
# I2C module options
alias char-major-89 i2c-dev
```

You should now re-edit your Network Configuration and restart the network service.

## Other issues reported from the net

1) A local supplier recently supplied a number of "Skymaster" "Realtek 8139D" 100Mbps LAN cards (to be used in a lab here). The boxes and the main chip are both clearly labelled as RTL8139D. However, the PCI ID is 1904:8139 (use "lspci -n") and this isn't recognised by the 8139too module in the kernel (2.6.15 etc.).

You might think that adding this PCI ID to drivers/net/8139too.c in the kernel source and re-compiling the module would fix this - it doesn't.

Turns out that this PCI ID isn't actually a RealTek 8139D at all, but a fake that has been labelled this. The fakes are mainly sold in Brazil and India, according to research I have done on the web.

They are supplied with a driver disk that makes the card work on Windows etc. but the driver so loaded will not work with real RTL8139D-based cards (nor is the card recognised, apparently, by WinXP, even though real RTL8139Ds are).

<http://geektalkin.blogspot.com/2006/04/intex-zebronic-fake-rtc8139drtl8139d.html>

2) Doing \$>lspci (which lists all PCI devices), I got this

**01:08.0 Ethernet controller: Hangzhou Silan Microelectronics Co., Ltd. Unknown device 2031 (rev 01)**

Shit! I was fooled into buying a fake of Realtek card. My LAN card came packed in a box with the name Zebronic technologies. On googling, I learnt that all Zebronic and Intex LAN cards are fakes using the cheap chinese products.

*These cards work on Windows XP (after installing some drivers. It is not plug and play.) but not on Linux!*