



1.0.0		2023 12 28
2.0.0		2024 01 30

ethtool

Supported link modes	full	1	
Supported link modes	half full		2
Auto-negotiation	on		
Auto-negotiation	off		

on

```
[root@localhost ~]# ethtool enp4s0f0
Settings for enp4s0f0:
Supported ports: [ TP ]
Supported link modes: 10baseT/Full
                      100baseT/Full
                      1000baseT/Full

Supported pause frame use: Symmetric
Supports auto-negotiation: Yes
Supported FEC modes: Not reported
Advertised link modes: 10baseT/Full
                      100baseT/Full
                      1000baseT/Full

Advertised pause frame use: Symmetric
Advertised auto-negotiation: Yes
Advertised FEC modes: Not reported
Speed: 1000Mb/s
Duplex: Full
Port: Twisted Pair
PHYAD: 0
Transceiver: internal
Auto-negotiation: on
MDI-X: Unknown
Supports Wake-on: umbg
```

1

```
[root@localhost ~]# ethtool enp9s0f0
Settings for enp9s0f0:
Supported ports: [ TP ]
Supported link modes: 10baseT/Half 10baseT/Full
                      100baseT/Half 100baseT/Full
                      1000baseT/Full

Supported pause frame use: Symmetric
Supports auto-negotiation: Yes
Supported FEC modes: Not reported
Advertised link modes: 10baseT/Half 10baseT/Full
                      100baseT/Half 100baseT/Full
                      1000baseT/Full

Advertised pause frame use: Symmetric
Advertised auto-negotiation: Yes
Advertised FEC modes: Not reported
Speed: 1000Mb/s
Duplex: Full
Port: Twisted Pair
PHYAD: 1
Transceiver: internal
Auto-negotiation: on
MDI-X: on (auto)
Supports Wake-on: pumbg
Wake-on: g
Current message level: 0x00000007 (7)
                        drv probe link

Link detected: yes
```

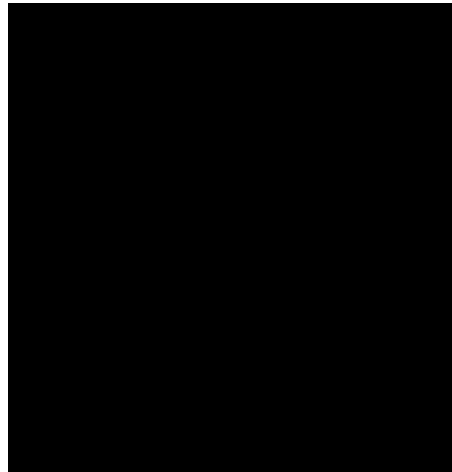
2

l350

link
ethtool

3

Advertised link modes
Speed link
Duplex: Full
Auto-negotiation off
link yes



3

1G autoneg off 10G autoneg off
10M 100M

ethtool -s ethx speed 10M/100 duplex full/half autoneg on/off

1

网迅	Auto	10M Full on	10M Full off	100M Full on	100M Full off
交换机	Auto	1000F	10F	10F	100F
1000F	1000F	10F	10H 备注2	100F	100H 备注2
1000F Half	1000F	10F	10H	100F	100H
1000F Full	1000F	10F	10H	100F	100H
10M	10M	10M	10M	10M	10M
100M	100M	100M	100M	100M	100M
10M/100M	10M/100M	10M/100M	10M/100M	10M/100M	10M/100M
NO Link	NO Link	NO Link	NO Link	NO Link	NO Link

```

1          autoneg on                               duplex full autoneg on
          autoneg link duplex full autoneg off duplex half autoneg on duplex half
autoneg off link
2          autoneg off                               autoneg duplex full autoneg off duplex
half autoneg on duplex half autoneg off link half
          link                                     pause

```

crc error

如图3所示，一台自协商设备和100BASE-T设备互连。

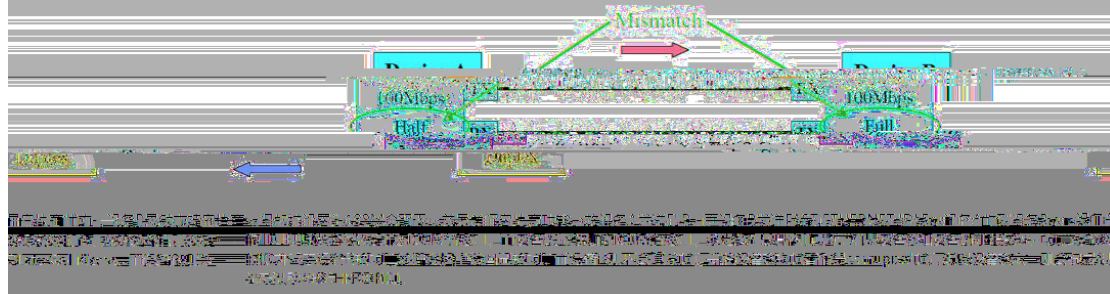
图3 一台自协商设备和100BASE-T设备互连示意图



，并开始发送FAST ETHERNET IDLE。这种情况有设备A向外发送FLP，而设备B发送FAST ETHERNET IDLE，设备A“平行检测”到对端的IDLE后，将本端置为100M半双工。一个危险情况，就是当B是100M全双工时，A协商的结果也是100M半双工。

如图4所示，自协商引起的双工不匹配。

图4 两自协商引起的双工不匹配示意图



<https://wenwen.sogou.com/z/q705547943.htm>

<https://support.huawei.com/enterprise/zh/knowledge/EKB1000068108>