

# How to use Wake-on-Lan on AIR-020/AIR-030



EIoT AE Jackhsuan.Liao

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# Case information

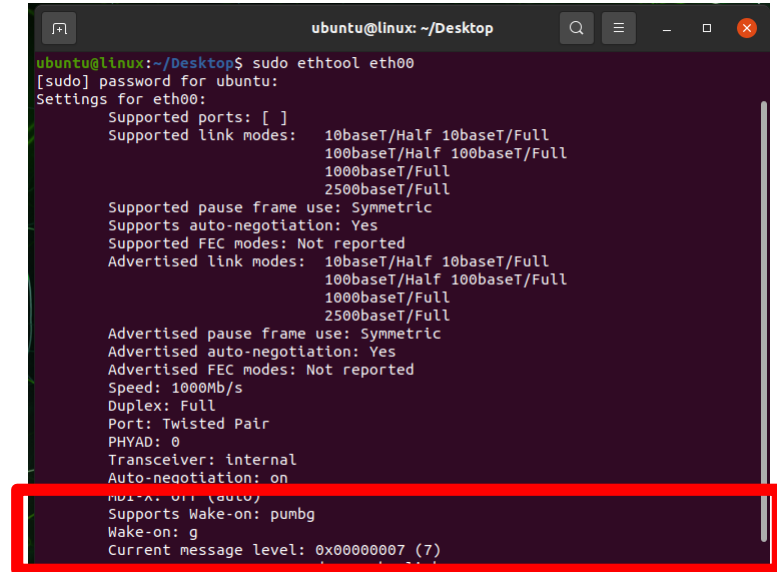
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|-----------------|---|--------------|--|
| Date            | 2023/ 06 / 20<br>(YY / MM / DD)   | Release Note | <input checked="" type="checkbox"/> Internal <input type="checkbox"/> External |
| Category        | <input checked="" type="checkbox"/> Technical Case Sharing<br><input type="checkbox"/> Successful Story Sharing | Related OS   | Jetson Linux   |
| Abstract        | How to use Wake-on-Lan on AIR-020/AIR-030   |              |  |
| Keyword         | <i>AIR-020,AIR-030, Wake-on-Lan, WoL</i>  |              |  |
| Related Product | AIR-020X, AIR-030   |              |  |

## Case Analyze

- Jetson only support Wake-on-Lan from suspend
- To be notice this document only verify on AIR-020X and AIR-030.

## Case Analyze

- First, Startup your device and use the following command to check the Lan port function.
  - For AIR-030, there is three Lan port (eth00/eth01/eth02)
  - \$ `sudo ethtool eth00`
- Lan port support pumbg



```
ubuntu@linux: ~/Desktop
ubuntu@linux:~/Desktop$ sudo ethtool eth00
[sudo] password for ubuntu:
Settings for eth00:
  Supported ports: [ ]
  Supported link modes:   10baseT/Half 10baseT/Full
                        100baseT/Half 100baseT/Full
                        1000baseT/Full
                        2500baseT/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
                        2500baseT/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: 0/1 (auto)
  Supports Wake-on: pumbg
  Wake-on: g
  Current message level: 0x00000007 (7)
```

# Case Analyze

- The ethtool can change the setting mode by -s parameter

```
ubuntu@linux: ~/Desktop
ubuntu@linux:~/Desktop$ ethtool -h
ethtool version 5.4
Usage:
  ethtool DEVNAME Display standard information about device
  ethtool -s|--change DEVNAME Change generic options
    [ speed %d ]
    [ duplex half|full ]
    [ port tp|aut|bnc|mii|fibre ]
    [ mdix auto|on|off ]
    [ autoneg on|off ]
    [ advertise %x ]
    [ speed %d ]
    [ xcvr internal|external ]
    wol p|u|n|b|a|g|s|f|d...
    [ sopass %x:%x:%x:%x:%x:%x ]
    [ magic %d | magic-type on|off |... ]
  ethtool -a|--show-pause DEVNAME Show pause options
  ethtool -A|--pause DEVNAME Set pause options
```

#wol pumbagsa...

# Set Wake-on-LAN options. Not all devices support this. The # argument to this option is a string of characters specifying # which options to enable.

- # p Wake on phy activity
- # u Wake on unicast messages
- # m Wake on multicast messages
- # b Wake on broadcast messages
- # a Wake on ARP
- # g Wake on MagicPacket(tm)
- # s Enable SecureOn(tm) password for MagicPacket(tm)
- # d Disable (wake on nothing). This option clears all previous # options.

# Case Analyze

- Enable the WoL function by -s.
  - \$ `sudo ethtool -s eth00 wol bgm`

```
ubuntu@linux: ~/Desktop
ubuntu@linux:~/Desktop$ sudo ethtool -s eth00 wol bgm
ubuntu@linux:~/Desktop$ sudo ethtool eth00
Settings for eth00:
    Supported ports: [ ]
    Supported link modes:   10baseT/Half 10baseT/Full
                           100baseT/Half 100baseT/Full
                           1000baseT/Full
                           2500baseT/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
                           2500baseT/Full

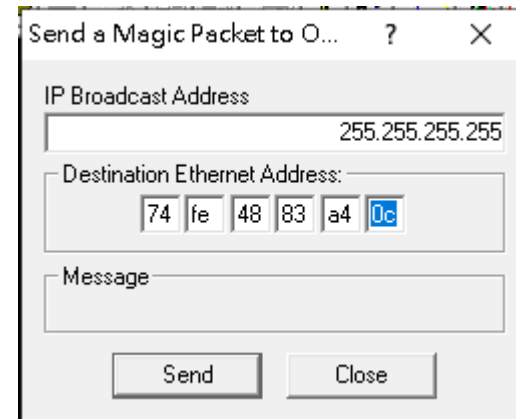
    Advertised pause frame use: Symmetric
    Advertised auto-negotiation: Yes
    Advertised FEC modes: Not reported
    Speed: 1000Mb/s
    Duplex: Full
    Port: Twisted Pair
    PHYAD: 0
    Transceiver: internal
    Auto-negotiation: on
    Wake-on: pumbg

    Supports Wake-on: pumbg
    Wake-on: mbg
```

## Case Analyze

- Get the mac address and put your device into suspend.
  - \$ `ifconfig`
  - \$ `sudo systemctl suspend`
- On your host PC, use the magic pack utility to wake up your device

```
ubuntu@linux: ~/Desktop
ubuntu@linux:~/Desktop$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
    inet 172.22.20.180  netmask 255.255.252.0  broadcast 172.22.23.255
    inet6 fe80::4a50:bd55:a7d7:25a2  prefixlen 64  scopeid 0x20<link>
    ether 74:fe:48:83:a4:0c  txqueuelen 1000  (Ethernet)
    RX packets 2732  bytes 340564 (340.5 KB)
    RX errors 0  dropped 179058  overruns 0  frame 0
    TX packets 749  bytes 133083 (133.0 KB)
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0
    device memory 0x20a8000000-20a80fffff
```



# Contact Window and File Link

- EIoT AE: Jackhsuan.liao Ext. 9319
- E-mail: [Jackhsuan.liao@advantech.com.tw](mailto:Jackhsuan.liao@advantech.com.tw)
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*Go Together,  
We Go Far and Grow Big*

