

**NAME**

**age** - Attansic/Atheros L1 Gigabit Ethernet driver

**SYNOPSIS**

To compile this driver into the kernel, place the following lines in your kernel configuration file:

```
device miibus  
device age
```

Alternatively, to load the driver as a module at boot time, place the following line in loader.conf(5):

```
if_age_load="YES"
```

**DESCRIPTION**

The **age** device driver provides support for Attansic/Atheros L1 PCI Express Gigabit Ethernet controllers.

All LOMs supported by the **age** driver have TCP/UDP/IP checksum offload for both transmit and receive, TCP segmentation offload (TSO), hardware VLAN tag stripping/insertion features and an interrupt moderation mechanism as well as a 64-bit multicast hash filter.

The L1 also supports Jumbo Frames (up to 10240 bytes), which can be configured via the interface MTU setting. Selecting an MTU larger than 1500 bytes with the ifconfig(8) utility configures the adapter to receive and transmit Jumbo Frames.

The **age** driver supports the following media types:

**autoselect** Enable autoselection of the media type and options. The user can manually override the autoselected mode by adding media options to rc.conf(5).

**10baseT/UTP** Set 10Mbps operation.

**100baseTX** Set 100Mbps (Fast Ethernet) operation.

**1000baseTX** Set 1000baseTX operation over twisted pair.

The **age** driver supports the following media options:

**full-duplex** Force full duplex operation.

**half-duplex**

Force half duplex operation.

For more information on configuring this device, see `ifconfig(8)`.

**HARDWARE**

The **age** driver provides support for LOMs based on Attansic/Atheros L1 Gigabit Ethernet controller chips, including:

- ⊕ ASUS M2N8-VMX
- ⊕ ASUS M2V
- ⊕ ASUS M3A
- ⊕ ASUS P2-M2A590G
- ⊕ ASUS P5B-E
- ⊕ ASUS P5B-MX/WIFI-AP
- ⊕ ASUS P5B-VMSE
- ⊕ ASUS P5K
- ⊕ ASUS P5KC
- ⊕ ASUS P5KPL-C
- ⊕ ASUS P5KPL-VM
- ⊕ ASUS P5K-SE
- ⊕ ASUS P5K-V
- ⊕ ASUS P5L-MX
- ⊕ ASUS P5DL2-VM
- ⊕ ASUS P5L-VM 1394
- ⊕ ASUS G2S

**LOADER TUNABLES**

Tunables can be set at the `loader(8)` prompt before booting the kernel or stored in `loader.conf(5)`.

*hw.age.msi\_disable*

This tunable disables MSI support on the Ethernet hardware. The default value is 0.

*hw.age.msix\_disable*

This tunable disables MSI-X support on the Ethernet hardware. The default value is 0.

**SYSCTL VARIABLES**

The following variables are available as both `sysctl(8)` variables and `loader(8)` tunables:

*dev.age.%d.int\_mod*

Maximum amount of time to delay interrupt processing in units of 2us. The accepted range is 0 to 65000, the default is 50 (100us). Value 0 completely disables the interrupt moderation.

*dev.age.%d.process\_limit*

Maximum amount of Rx events to be processed in the event loop before rescheduling a taskqueue. The accepted range is 30 to 255, the default value is 128 events. The interface does not need to be brought down and up again before a change takes effect.

*dev.age.%d.stats*

Display lots of useful MAC counters maintained in the driver.

## SEE ALSO

altq(4), arp(4), miibus(4), netintro(4), ng\_ether(4), vlan(4), ifconfig(8)

## HISTORY

The **age** driver was written by Pyun YongHyeon <yongari@FreeBSD.org>. It first appeared in FreeBSD 7.1.