

# **Intel® 82580EB/82580DB GbE LAN Controller Frequently Asked Questions (FAQs)**

---

LAN Access Division

December 2011

Revision 1.2

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER, AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

Except as permitted by such license, no part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without the express written consent of Intel Corporation.

BunnyPeople, Celeron, Celeron Inside, Centrino, Centrino logo, Chips, Core Inside, Dialogic, EtherExpress, ETOX, FlashFile, i386, i486, i960, iCOMP, InstantIP, Intel, Intel logo, Intel386, Intel486, Intel740, IntelDX2, IntelDX4, IntelSX2, Intel Core, Intel Inside, Intel Inside logo, Intel. Leap ahead., Intel. Leap ahead. logo, Intel NetBurst, Intel NetMerge, Intel NetStructure, Intel SingleDriver, Intel SpeedStep, Intel StrataFlash, Intel Viiv, Intel XScale, IPLink, Itanium, Itanium Inside, MCS, MMX, MMX logo, Optimizer logo, OverDrive, Paragon, PDCharm, Pentium, Pentium II Xeon, Pentium III Xeon, Performance at Your Command, Pentium Inside, skool, Sound Mark, The Computer Inside., The Journey Inside, VTune, Xeon, Xeon Inside and Xircom are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

\*Other names and brands may be claimed as the property of others.

Copyright © 2010, 2011; Intel Corporation. All Rights Reserved

## Revisions

---

Date	Revision	Notes
3/9/2010	1.0	First public release release.
3/5/2011	1.1	Updated.
12/16/2011	1.2	Moved to Developer.

NOTE: This page intentionally left blank.

# Frequently Asked Questions

---

This document contains a list of Frequently Asked Questions (FAQ) for the 82580EB/DB. Entries are not listed in any particular order or priority.

**1. Does the 82580EB/DB support EEPROMless designs?**

No. The 82580EB/DB requires an EEPROM for proper operation.

**2. What power supplies does the 82580EB/DB require?**

3.3V, 1.8V and 1.0V

**3. Which power rails are sourced from main power?**

All 82580EB/DB power should be derived from AUX power.

**4. Which ports are available on the dual port SKU?**

Ports 0 and 1 are available on the dual port SKU.

**5. Are the MAC Addresses still automatically calculated like on the 82576?**

No. Each MAC address must be programmed individually.

**6. Which Ethernet interfaces does the Intel device driver support for the 82580EB/DB?**

As of this release, the following Ethernet interfaces are supported:

- Windows\* NDIS - SerDes, Fiber and Copper. SGMII is not currently supported.
- Linux\* - SerDes, Fiber, Copper and SGMII are all supported.

**7. Does the 82580EB/DB support Pre-boot?**

Yes. It supports iSCSI\*, PXE\* and UEFI\*.

**8. Which Ethernet interfaces does the Pre-boot environment support?**

As of this release, the following Ethernet interfaces are supported:

- iSCSI - SerDes, Fiber and Copper are supported in Windows and Linux. SGMII is not currently supported.
- PXE - SerDes, Fiber, Copper and SGMII are all supported in Windows and Linux.
- UEFI - SerDes, Fiber, Copper and SGMII are all supported in Windows and Linux.

## 9. What Device ID's are supported by the 82580EB/DB?

The following device ID's are supported:

LOMs	
1509	EEPROMLess (device default)
1510	SerDes (KX / BX)
1511	SGMII
150E	Copper
150F	Fiber
NICs	
150E	Quad-Port CU NIC (Retail and OEM)
1516	Dual-Port CU NIC (Retail and OEM)

\* This ID is supported by the tools, but not by the driver.

## 10. Why do I see (4) devices, all with the same device ID?

Each port of the 82580EB/DB is considered a unique device, and has its own Device ID. An device with all 4 ports configured to the same interface type, will show 4 Device IDs - all with the same value.

## 11. What's the Device ID of the 82580EB/DB if each port is a different Ethernet type?

Device ID's are defined 'per port', not per silicon chip. This means there is no mixed-port type device ID. Just one device ID per port. Each port can be configured for one the 5 Ethernet interface types (Copper, Fiber, Kx, Bx or SGMII).

## 12. Are different device drivers needed for each Ethernet Interface type?

No. The 82580EB/DB device driver supports (or will support) each of the Ethernet Interface types.

## 13. Does the Intel device driver support the 1588 protocol standard?

Though the 82580EB/DB supports the 1588 protocol standard, the device driver does not. Each application is unique and requires customers to develop their own custom driver to support this feature.

## 14. Can I/O addressing be disabled in the 82580EB/DB?

Yes. The 82580EB/DB has a 'disable I/O mode' feature for disabling allocation of I/O port resources for use in systems and environments (such as Windows and UEFI). This is where the feature is either not desirable or not supported. Legacy environment components (such as DOS, PXE and iSCSI Boot, which previously required I/O port access) can now either use I/O mode if available or an alternate mechanism if I/O mode is disabled.

**15. Can I monitor the 82580EB/DB temperature through the TSENSP/Z pins?**

Yes and No. The TSENSP/Z pins can be used to measure temperature, but should only be used in the lab for measurement/characterization purposes. These pins should not be used in actual product systems to monitor and react to temperature changes. Refer to “Thermal Diode” section of the “Thermal Management” chapter of the Datasheet for details.

**16. What are the BH SMBus Slave addresses?**

For the dev\_starter EEPROM images that support SMBus manageability, SMBus addresses are defined as:

```
SMBus 0 Slave Address 0x92
SMBus 1 Slave Address 0x94
SMBus 2 Slave Address 0x96
SMBus 3 Slave Address 0x98
```

**17. How long can the Ethernet MDI trace lengths be?**

In general, 82580EB/DB Ethernet trace lengths can be up to 8 inches. This will be dependent upon the actual design and layout. Refer to the “Intel Long MDI Traces Design and Layout Guide” for details. An NDA agreement is required to access this document (Doc ID #435031).

**18. Why do I see valid MAC addresses in the dev\_starter EEPROM images?**

Default MAC addresses do exist in the 82580EB/DB dev\_starter images, so that users have working MAC addresses for design testing and validation. These MAC addresses should be overwritten with real MAC address values for production units. The addresses are:

Location	EEPROM Value	MAC Address
0x00 -> 0x02	A000 00C9 0000	00A0C9000000
0x80 -> 0x82	A000 00C9 0100	00A0C9000001
0xC0 -> 0xC2	A000 00C9 0200	00A0C9000002
0x100 -> 0x102	A000 00C9 0300	00A0C9000003

**19. How do I interpret the chip markings on my 82580?**

See “Marking Diagram” in the Specification Update.

**20. Does the 82580EB/DB have any ESD suppression on the MDI lines?**

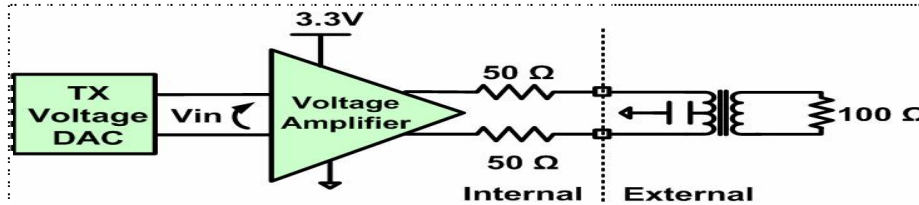
Yes, ESD suppression is built-in.

**21. I don’t see the ‘MDI flip chip’ option that was available on the 82576. Does it exist on the 82580EB/DB?**

No. The 82580EB/DB does not support the MDI flip chip feature. Meaning, port 0 can not be swapped with port 3, and port 1 can not be swapped with port 2.

**22. The 82580EB/DB Reference Schematic doesn't show a 1.8V on the system side magnetic center tap? Is this still required?**

No. The 1.8V bias is not required for the 82580EB/DB. The 82580EB/DB's output buffers are internally biased with a voltage mode driver.



**23. How do I get the latest drivers for the 82580EB/DB?**

Windows\* and Linux\* drivers can be found at:

<http://www.intel.com/support/network/sb/CS-006120.htm>

Linux drivers can also be downloaded from Sourceforge at:

<http://sourceforge.net/projects/e1000/files/>

**24. What do I do with unused pins?**

Unused pins can be left unconnected, except for the manageability pins of the SMBus and NC-SI Bus. These pins must be pulled-up. Reference the 82580EB/DB Design Checklist for details.

**25. Can other devices be connected to the 82580EB/DB SMBus?**

For best performance, each 82580EB/DB should have its own dedicated SMBus link to the SMBus master device.

**26. Can the quad port dev\_starter EEPROM images be used on a dual port device or dual port configured quad port device?**

Yes. Quad port images work with dual port devices as long as the configuration of ports 0 and 1 on the dual port device match ports 0 and 1 on the quad port image. See below:

Quad image	Port #	Dual port device
Copper	0	Copper
Copper	1	Copper
Copper	2	n/a
Copper	3	n/a
<b>OR</b>		
SerDesBX	0	SerDesBX
SerDesBX	1	SerDesBX
SGMII	2	n/a
SGMII	3	n/a



**27. Can the latest EEPROM images be used on A0 silicon?**

No. A0 and A1 EEPROM images are **not** interchangeable with A0 and A1 Silicon. A0 silicon requires A0 images and A1 silicon requires A1 images.

A0 images are no longer available.

A1 images can be found in CDI/IDL at:

[Intel® 82580 Gigabit Ethernet Controller – EEPROM Images – Rev. 3.29](#)

An NDA is required to access this information.

**28. Does the 82580EB/DB support MAC to MAC Communication?**

No. Each MAC on the 82580EB/DB is independent of the other MACs. There is no MAC to MAC communication path.

**29. Is there an [Ethernet] line-side loopback option?**

No. Loopback options are only available from the host side. Refer to “Loopback Support” in the Datasheet.

**30. Does the Ethernet interface dynamically switch between medias?**

No. Once a port is configured for a specific media interface type, that configuration remains in place until it is re-configured for another interface type via SW. The configuration is static. Refer to “Switching between Medias” in the Datasheet.

**31. The 82580EB/DB Reference Schematic shows a Ferrite Bead and Resistor filter on the 1.0v, 1.8v and 3.3v power supplies. What is the purpose of the parallel resistor?**

The resistor reduces peaking that can occur if there were just a ferrite bead. Without the resistor there is a resonance between the capacitors and the ferrite bead that could add to the noise instead of removing it. By adding the resistor, there is an element that takes energy from any resonance and provides **damping** (or low Q) to prevent unwanted LC resonance in the power supply. Although the resistor is small, it does not eliminate the impact of the ferrite bead. In addition, very high frequency noise is reduced by the 82580 package as it is not the key target of the filter

\* \* \*

NOTE: This page intentionally left blank.