

Advanced/MN Memory Map, I/O Map, IRQs, DMA

PLEASE NOTE: This motherboard product is no longer being manufactured by Intel. THESE DOCUMENTS ARE PROVIDED FOR HISTORICAL REFERENCE PURPOSES ONLY AND ARE SUBJECT TO THE TERMS SET FORTH IN THE "LEGAL INFORMATION" LINK ON THE INTEL WEBSITE. For information on currently available Intel products, please see <http://www.intel.com> and/or <http://developer.intel.com>.

MEMORY MAP

Address Range (Decimal)	Address Range (hex)	Size	Description
1024K-131072K	100000-8000000	127M	Extended Memory
960K-1023K	F0000-FFFFF	64K	AMI System BIOS
952K-959K	EE000-EFFFF	8K	FLASH Boot Block (Available as UMB)
948K-951K	ED000-EDFFF	4K	ESCD (Plug and 'Play configuration area)
944-947K	EC000-ECFFF	4K	OEM LOGO (available as UMB)
896K-943K	E0000-EBFFF	48K	BIOS RESERVED (Currently available as UMB)
800-895K	C8000-DFFFF	96K	Available HI DOS memory (open to ISA and PCI bus)
640K-799K	A0000-C7FFF	160	On-board video memory and BIOS
639K	9FC00-9FFFF	1K	Extended BIOS Data (moveable by QEMM, 386MAX)
512K-638K	80000-9FBFF	127K	Extended conventional
0K-511K	00000-7FFFF	512K	Conventional

The ESCD area from ED000-EDFFF is not available for use as an Upper Memory Block (UMB) by memory managers. The area from E0000-EBFFF is currently not used by the BIOS and is available for use as UMB by memory managers. Parts of this area may be used by future versions of the BIOS to add increased functionality. The user may need to force inclusion of the OEM logo and FLASH Boot Block areas in order for them to be used by a memory manager.

I/O MAP

Address (hex)	Size	Description
0000 - 000F	16 bytes	PIIX - DMA 1
0020 - 0021	2 bytes	PIIX - Interrupt Controller 1
002E - 002F	2 bytes	87306 Base Configuration
0040 - 0043	4 bytes	PIIX - Timer 1
0048 - 004B	4 bytes	PIIX - Timer 2
0060	1 byte	Keyboard Controller Data Byte
0061	1 byte	PIIX - NMI, speaker control
0064	1 byte	Kbd Controller, CMD/STAT Byte
0070, bit 7	1 bit	PIIX - Enable NMI
0070, bits 6:0	7 bits	PIIX - Real Time Clock,
0071	1 byte	PIIX - Real Time Clock, Data
0078	1 byte	Reserved - Brd. Config.
0079	1 byte	Reserved - Brd. Config.
0080 - 008F	16 bytes	PIIX - DMA Page Register
00A0 - 00A1	2 bytes	PIIX - Interrupt Controller 2
00C0 - 00DE	31 bytes	PIIX - DMA 2
00F0	1 byte	Reset Numeric Error
0170 - 0177	8 bytes	Secondary IDE Channel

Address (hex)	Size	Description
01F0 - 01F7	8 bytes	Primary IDE Channel
0278 - 027B	4 bytes	Parallel Port 2
02F8 - 02FF	8 bytes	On-Board Serial Port 2
0376	1 byte	Sec IDE Chan Cmd Port
0377	1 byte	Sec IDE Chan Stat Port
0378 - 037F	8 bytes	Parallel Port 1
03BC - 03BF	4 bytes	Parallel Port x
03E8 - 03EF	8 bytes	Serial Port 3
03F0 - 03F5	6 bytes	Floppy Channel 1
03F6	1 bytes	Pri IDE Chan Cmnd Port
03F7 (Write)	1 byte	Floppy Chan 1 Cmd
03F7, bit 7	1 bit	Floppy Disk Chg Chan 1
03F7, bits 6:0	7 bits	Pri IDE Chan Status Port
03F8 - 03FF	8 bytes	On-Board Serial Port 1
LPT + 400h	8 bytes	ECP port, LPT + 400h
0CF8-0CFB*	4 bytes	PCI Config Address Reg
0CFC-0CFF*	4 bytes	PCI Config Data Reg
FF00-FF07	8 bytes	IDE Bus Master Reg.

Table D-1. Advanced/MN I/O Address Map

* Only accessible by DWORD accesses.

I/O Port 78 is reserved for BIOS use. Port 79 is a read only port, the bit definitions are shown below.

Bit #	Description	Bit = 1	Bit = 0
0	Internal CPU Clock Freq. (Switch 6)	3/2x	2x
1	Soft Off capable power supply	No	Yes
2	On-bd Audio present	Yes	No
3	External CPU clock (Switch 7)		
4	External CPU clock (Switch 8)		
5	Setup Disable (Switch 5)	Enable access	Disable access
6	Clear CMOS (Switch 4)	Keep values	Clear values
7	Password Clear (Switch 3)	Keep password	Clear password

PCI CONFIGURATION SPACE MAP

The 82430FX chipset uses Configuration Mechanism 1 to access PCI configuration space. The PCI Configuration Address register is a 32-bit register located at CF8h, the PCI Configuration Data register is a 32-bit register located at CFCh. These registers are only accessible by full DWORD accesses. The table below lists the PCI bus and device numbers used by the baseboard.

Bus Number (hex)	Dev Number (hex)	Func. Number (hex)	Description
00	00	00	Intel 82437FX (TSC)
00	07	00	Intel 82371FB (PIIX) PCI/ISA bridge
00	07	01	Intel 82371FB (PIIX) IDE Bus Master
00	08	00	S3 Trio32/64 graphics controller
00	11	00	PCI Expansion Slot (Full length PCI slot in Intel system)
00	13	00	PCI Expansion Slot (1/2 length PCI slot in Intel system)

Table E-1. Advanced/MN PCI Config. Space Map

INTERRUPTS & DMA CHANNELS

IRQ	System Resource
NMI	I/O Channel Check
0	Reserved, Interval Timer
1	Reserved, Keyboard buffer full
2	Reserved, Cascade interrupt from slave PIC
3	Serial Port 2
4	Serial Port 1
5	On-bd Audio (default)
6	Floppy
7	Parallel Port 1
8	Real Time Clock
9	User available
10	User available
11	User available
12	On-board Mouse Port (Avail if no PS/2 mouse)
13	Reserved, Math coprocessor
14	Primary on-bd IDE (Avail if IDE disabled)
15	Secondary on-bd IDE (Avail if IDE disabled)

Table F-1. Advanced/MN Interrupts

DMA	Data Width	System Resource
0	8- or 16-bits	On-bd Audio (default)
1	8- or 16-bits	On-bd Audio (default)
2	8- or 16-bits	Floppy
3	8- or 16-bits	Parallel Port (for ECP/EPP Config.)
4		Reserved - Cascade channel
5	16-bits	Open
6	16-bits	Open
7	16-bits	Open

Table F-2. Advanced/MN DMA Map

Intel Corporation disclaims all warranties and liabilities for the use of this document and the information contained herein, and assumes no responsibility for any errors which may appear in this document. Intel makes no commitment to update the information contained herein, and may make changes at any time without notice. There are no express or implied licenses granted hereunder to any intellectual property rights of Intel Corporation or others to design or fabricate Intel integrated circuits or integrated circuits based on the information in this document. Contact your local sales office to obtain the latest specifications before placing your order.

Information in this document is provided in connection with Intel products. Intel assumes no liability whatsoever, including infringement of any patent or copyright, for sale and use of Intel products except as provided in Intel's Terms and Conditions of Sale for such products. Intel retains the right to make changes to these specifications at any time, without notice. Microcomputer Products may have minor variations to this specification known as errata.

*Other product and corporate names may be trademarks or registered trademarks of other companies, and are used only for explanation and to the owners' benefit, without intent to infringe.