

Does my Shuttle product support Ivy Bridge processors?

Most Shuttle PC products with LGA1155 socket are prepared to support the 3rd generation Intel Core processors with 22nm technology, also called "Ivy Bridge", which Intel released in May 2012. However, some steps need to be done before the PC can boot with this kind of processors.

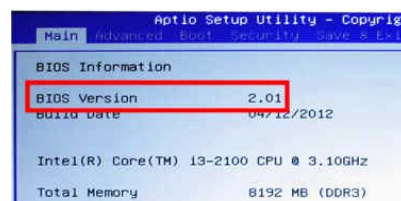
1. Check the below compatibility list, if your Shuttle XPC is prepared to support Ivy Bridge processors
2. Enter the BIOS setup program to check the current BIOS version.
3. If the BIOS need to be updated, then please download the latest BIOS and graphics driver from <http://global.shuttle.com/download/download>

The BIOS Update need to be done with a compatible 2nd Generation Intel Core Processor (32nm technology, LGA1155 socket, called "Sandy Bridge").

| Product Name | Type | Chipset | Prepared for Ivy Bridge? | BIOS version (at least) | Graphics driver |
|----------------------------|------------|---------|--------------------------|------------------------------|---------------------------------|
| XH61 | 3L Slim-PC | H61 | No | - | |
| SH61R4 | XPC / Cube | H61 | Yes | SH61R000.201 | Update required |
| SH67H3, SH67H7 (Version 1) | XPC / Cube | H67 | No | - | |
| SH67H3, SH67H7 (Version 2) | XPC / Cube | H67 | Yes | SH67H000.201 | Update required |
| SZ68R5 | XPC / Cube | Z68 | Yes | SH68R000.201 | Update required |
| SZ77R5 | XPC / Cube | Z77 | Yes | SZ77R000.108 | |

How to find out the current BIOS version?

Start the PC and press the [DEL] or [F2] key to enter the BIOS setup program. The BIOS version is shown in the second line on the main screen.



How to distinguish V1 from V2 version on the SH67H3 / SH67H7 series?

Please open the XPC chassis cover: unscrew 3 thumbscrews and slide the cover backwards and upwards. The version ID is located on the mainboard as shown in the photo:



How to update the BIOS version?

With DOS operating system (recommended)

1. Please go to the Shuttle download area and download the appropriate BIOS version. <http://global.shuttle.com/download/download>
2. Unpack the ZIP file into an empty folder.
3. Copy the subfolder "DOS" to a bootable USB stick with DOS operating system.
4. Boot from the USB stick and change to the subfolder "DOS".
5. Execute the FLASH.BAT file.
6. The update process starts automatically. Finally, the operating system will reboot automatically.
7. After reboot please enter the BIOS setup program by pressing the "del" or "F2" key and load "Default Settings" and save the changes.

With Windows operating system

1. Please go to the Shuttle download area and download the appropriate BIOS version. <http://global.shuttle.com/download/download>
2. Unpack the ZIP file into an empty folder on your hard disk.
3. Explore the folder accordingly to your Windows version (32 bit or 64 bit).
4. Please execute the EXE file with **full administrator rights**.
5. The update process starts automatically. Finally, the operating system will reboot automatically.
6. After reboot please enter the BIOS setup program by pressing the "del" or "F2" key and load "Default Settings" and save the changes.

How to make a bootable USB flash drive?

Warning: Please be sure that there are no other USB devices connected to your system during formatting like external hard disks, external optical devices or other USB flash drives. This ensures that you only format the selected USB flash drive.

The "BootFlashDos" tool is available at www.shuttle.eu/fileadmin/resources/support/faq/attachments/BootFlashDos.zip or www.gocoding.com.

1. For Windows XP: please run BootFlashDos.exe
For Windows Vista/7: please run BootFlashDos.exe by selecting it with the right mouse button and select "Run as administrator".



2. Select your USB flash drive. If necessary, click Refresh to update the device list.
3. Select Quick Format.
4. Press Start and confirm the following Warning popup.

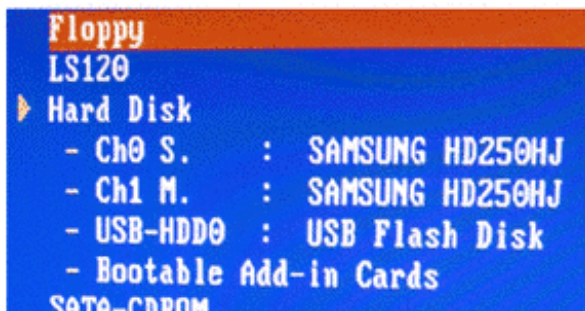
How to copy files to the created bootable USB flash drive?

1. Open your Windows Explorer and select your USB flash drive.
2. Copy AWDFLASH.EXE and the latest BIOS Version to your USB flash drive.

| | |
|-------------------------|--------|
| BOOTLOG.TXT | 0 KB |
| COMMAND.COM | 95 KB |
| IO.SYS | 218 KB |
| MSDOS.SYS | 2 KB |
| AWDFLASH.EXE | 58 KB |
| LATEST_BIOS_VERSION.BIN | 512 KB |

How to boot from USB flash drive?

1. Insert your USB flash drive to your USB Ports.
2. During boot process press ESC (or F11 or F7) to enter the boot menu.



3. Select USB-HDD or USB-ZIP (depending on the model of the USB flash drive, it may vary). On our newest XPC Barebones, you will find your USB flash drive, if detected correctly, listed right below your hard disks.
4. Press Return to boot from your USB flash drive.

2nd Generation Intel Core Processor Family

LGA1155 socket "32nm Sandy Bridge" processor overview (May 2012)

| Name | Model | Cores | HT | Clock | Turbo | Cache | TDP | Graphics | Graphics clock |
|---------|--------------|-------|-----|---------|---------|--------|-----|----------|----------------|
| Celeron | G440 | 1 | - | 1.6 GHz | - | 1 MB | 35W | HD | 650~1000 MHz |
| | G460 | 1 | Yes | 1.8 GHz | - | 1.5 MB | 35W | HD | 650~1000 MHz |
| | G530 | 2 | - | 2.4 GHz | - | 2 MB | 65W | HD | 850~1000 MHz |
| | G530T | 2 | - | 2.0 GHz | - | 2 MB | 35W | HD | 650~1100 MHz |
| | G540 | 2 | - | 2.5 GHz | - | 2 MB | 65W | HD | 850~1000 MHz |
| Pentium | G620T | 2 | - | 2.2 GHz | - | 3 MB | 35W | HD | 650~1100 MHz |
| | G620 | 2 | - | 2.6 GHz | - | 3 MB | 65W | HD | 850~1100 MHz |
| | G630 | 2 | - | 2.7 GHz | - | 3 MB | 65W | HD | 850~1100 MHz |
| | G630T | 2 | - | 2.3 GHz | - | 3 MB | 35W | HD | 650~1100 MHz |
| | G840 | 2 | - | 2.8 GHz | - | 3 MB | 65W | HD | 850~1100 MHz |
| | G850 | 2 | - | 2.9 GHz | - | 3 MB | 65W | HD | 850~1100 MHz |
| | G860 | 2 | - | 3.0 GHz | - | 3 MB | 65W | HD | 850~1100 MHz |
| Core i3 | 2100T | 2 | Yes | 2.5 GHz | - | 3 MB | 35W | HD 2000 | 650~1100 MHz |
| | 2100 | 2 | Yes | 3.1 GHz | - | 3 MB | 45W | HD 2000 | 850~1100 MHz |
| | 2105 | 2 | Yes | 3.1 GHz | - | 3 MB | 45W | HD 3000 | 850~1100 MHz |
| | 2120 | 2 | Yes | 3.3 GHz | - | 3 MB | 45W | HD 2000 | 850~1100 MHz |
| | 2120T | 2 | Yes | 2.6 GHz | - | 3 MB | 35W | HD 2000 | 650~1100 MHz |
| | 2125 | 2 | Yes | 3.3 GHz | - | 3 MB | 65W | HD 3000 | 850~1100 MHz |
| | 2130 | 2 | Yes | 3.4 GHz | - | 3 MB | 65W | HD 2000 | 850~1100 MHz |
| Core i5 | 2390T | 2 | Yes | 2.7 GHz | 3.5 GHz | 3 MB | 35W | HD 2000 | 650~1100 MHz |
| | 2300 | 4 | - | 2.8 GHz | 3.1 GHz | 6 MB | 95W | HD 2000 | 850~1100 MHz |
| | 2310 | 4 | - | 2.9 GHz | 3.2 GHz | 6 MB | 95W | HD 2000 | 850~1100 MHz |
| | 2320 | 4 | - | 3.0 GHz | 3.3 GHz | 6 MB | 95W | HD 2000 | 850~1100 MHz |
| | 2380P | 4 | - | 3.1 GHz | 3.4 GHz | 6 MB | 95W | - | - |
| | 2400S | 4 | - | 2.5 GHz | 3.3 GHz | 6 MB | 65W | HD 2000 | 850~1100 MHz |
| | 2405S | 4 | - | 2.5 GHz | 3.3 GHz | 6 MB | 65W | HD 3000 | 850~1100 MHz |
| | 2400 | 4 | - | 3.1 GHz | 3.4 GHz | 6 MB | 95W | HD 2000 | 850~1100 MHz |
| | 2450P | 4 | - | 3.2 GHz | 3.5 GHz | 6 MB | 95W | - | - |
| | 2500T | 4 | - | 2.3 GHz | 3.3 GHz | 6 MB | 45W | HD 2000 | 650~1250 MHz |
| | 2500S | 4 | - | 2.7 GHz | 3.7 GHz | 6 MB | 65W | HD 2000 | 850~1100 MHz |
| | 2500 | 4 | - | 3.3 GHz | 3.7 GHz | 6 MB | 95W | HD 2000 | 850~1100 MHz |
| | 2500K | 4 | - | 3.3 GHz | 3.7 GHz | 6 MB | 95W | HD 3000 | 850~1100 MHz |
| Core i7 | 2550K | 4 | - | 3.5 GHz | 3.8 GHz | 6 MB | 95W | - | - |
| | 2600S | 4 | Yes | 2.8 GHz | 3.8 GHz | 8 MB | 65W | HD 2000 | 850~1100 MHz |
| | 2600 | 4 | Yes | 3.4 GHz | 3.8 GHz | 8 MB | 95W | HD 2000 | 850~1350 MHz |
| | 2600K | 4 | Yes | 3.4 GHz | 3.8 GHz | 8 MB | 95W | HD 3000 | 850~1350 MHz |
| | 2700K | 4 | Yes | 3.5 GHz | 3.9 GHz | 8 MB | 95W | HD 3000 | 850~1350 MHz |

Please refer to the support list for detailed processor support information at global.shuttle.com.

K = unlocked, S = Performance optimized lifestyle, T = Power optimized lifestyle, HT = Hyper Threading (SMT).

Intel HD graphics HD 3000/2000 supports 12/6 Execution Units (Shader-Quads) and DirectX 10.1.

HDMI 1.4a is only supported with 2nd Intel® Generation Core(TM) i3/i5/i7 Processors. Pentium and Celeron Processors support HDMI 1.3.

Certain processor models do not include the integrated graphics, e.g. Intel Core i5-2380P, Core i5-2450P and Core i5-2550K.

Please refer to the support list for detailed processor support information at global.shuttle.com.

3rd Generation Intel Core Processor Family

LGA1155 socket "22nm Ivy Bridge" processor overview (May 2012)

| Name | Model | Cores | HT | Clock | Turbo | Cache | TDP | Graphics | GPU-Turbo |
|---------|-------|-------|-----|---------|---------|-------|------|----------|-----------|
| Core i5 | 3450S | 4 | - | 2.8 GHz | 3.5 GHz | 6 MB | 65 W | HD 2500 | 1100 MHz |
| | 3450 | 4 | - | 3.2 GHz | 3.5 GHz | 6 MB | 77 W | HD 2500 | 1100 MHz |
| | 3470S | 4 | - | 2.9 GHz | 3.6 GHz | 6 MB | 65 W | HD 2500 | 1100 MHz |
| | 3470 | 4 | - | 3.2 GHz | 3.6 GHz | 6 MB | 77 W | HD 2500 | 1100 MHz |
| | 3550S | 4 | - | 3.0 GHz | 3.7 GHz | 6 MB | 65 W | HD 2500 | 1150 MHz |
| | 3550 | 4 | - | 3.3 GHz | 3.7 GHz | 6 MB | 77 W | HD 2500 | 1150 MHz |
| | 3570T | 4 | - | 2.3 GHz | 3.3 GHz | 6 MB | 45 W | HD 2500 | 1150 MHz |
| | 3570 | 4 | - | 3.4 GHz | 3.8 GHz | 6 MB | 77 W | HD 2500 | 1150 MHz |
| | 3570K | 4 | - | 3.4 GHz | 3.8 GHz | 6 MB | 77 W | HD 4000 | 1150 MHz |
| Core i7 | 3770T | 4 | Yes | 2.5 GHz | 3.7 GHz | 8 MB | 45 W | HD 4000 | 1150 MHz |
| | 3770S | 4 | Yes | 3.1 GHz | 3.9 GHz | 8 MB | 65 W | HD 4000 | 1150 MHz |
| | 3770 | 4 | Yes | 3.4 GHz | 3.9 GHz | 8 MB | 77 W | HD 4000 | 1150 MHz |
| | 3770K | 4 | Yes | 3.5 GHz | 3.9 GHz | 8 MB | 77 W | HD 4000 | 1150 MHz |

K = unlocked, S = Performance optimized lifestyle, T = Power optimized lifestyle, HT = Hyper Threading (SMT).

Intel HD graphics HD 4000/2500 features 16/6 Execution Units (Shader-Quads) and supports DirectX 11/OpenGL 3.1.

All listed processors support the following memory standards: DDR3-1066, DDR3-1333, DDR3-1600.

Ivy Bridge processors are supported since BIOS version SZ77R000.108.

Please refer to the support list for detailed processor support information at global.shuttle.com.