A6108 Blade PC Quick Start Guide

A6108 components

The table and picture below show each major A6108 Blade PC component.

Number	Part	Function
1	Power button and indicator	**Button:** Press to power on and power off blade. Press and hold for 3 seconds to force power off. **Indicator:** Button is illuminated (solid) when power is on. Button blinks slowly to indicate blade is in Sleep power state.
2	Reset button and HDD indicator	**Button:** Press to reset blade power. **Indicator:** Button flashes to indicate hard drive activity.
3	USB	Dual USB 2.0 port
4	Video Access and Pull Tab	Provides access to select video and pull tab for removal from chassis
5	Storage drive carrier	Holds up to two storage drives, connecting directly to SATA connectors inside the blade. **Note: For hot swap*

Figure 1. The A6108 Blade PC components

P/N G0200185 Rev A, 1.0.12.19.2016

ClearCube Technology, Inc. 3700 W Parmer Lane Austin, TX 78727 (512) 652-3500 www.clearcube.com

Introduction

About this guide

This quick start guide shows the components and features of A6108 Blade PCs; how to install and remove blades from an A-series chassis; how to view pre-OS video; how to implement Intel® AMT; and provides references to additional information about A-series blades, A-series chassis, and to information about using PCoIP® technology.

A6108 overview

A6108 blades are 6U high, single-slot blades that mount in an A3100 chassis. The A3100 chassis provides power, network interfaces, and a USB port for each blade.

The picture below shows zero clients connected to A6108-series blades in an A3100 chassis.

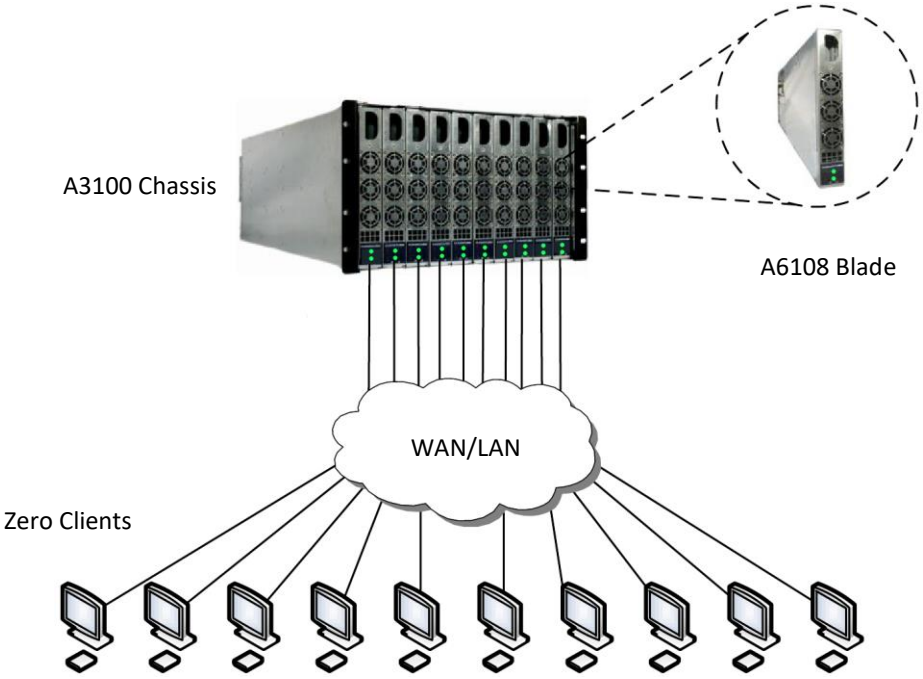


Figure 2. An example deployment of A6108-series blades and zero clients

ClearCube Technology, Inc. 1505 Volta Dr. Suite 100 Cedar Park , TX 78641 (512) 652-3500 www.clearcube.com

Power management

Power on and power off

The power button is located on the top portion of the front panel, shown as 1 in Figure 1 on page 1.

- **Power on:** After inserting a blade in a chassis or connecting power for configuration outside of a chassis, press the **power button** to power on the blade.

  Result: The blade powers on and the power indicator (1) is illuminated.

- **Power off:** Press and hold the **power button** for about 3 seconds to power off a blade.

  Result: The blade powers off and the power indicator (1) turns off.

Reset power

The reset button is located on the bottom portion of the front panel, shown as 2 in Figure 1 on page 1.

When a blade is powered on, press the **reset button** to reset power.

Result: The blade powers down, the power indicator (1) turns off, and the blade powers on again.

Storage drives and carrier

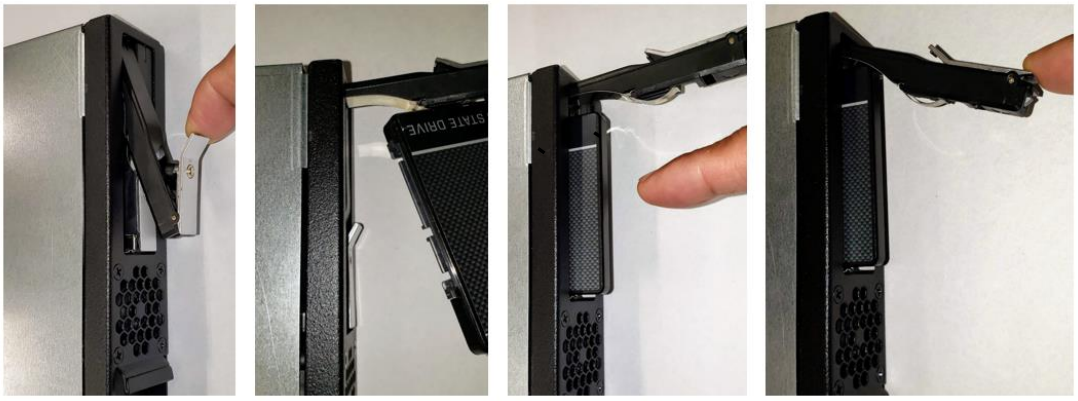
About blade storage drives

A6108 blades use carrier free hot swappable bays for drives—such as hard disk drives (HDD), solid state drives (SSD), self-encrypting drives (SED), and hybrid drives (SSHD).

NOTE:	A6018 blades does support hot-swap replacement of drives. When hot swapping hard drives, make certain that the OS drive is not removed..

Storage drives do not require power cables or data cables when inserting in bays. Power and data connectors are housed inside the blade—insert and fully seat the carrier and fasten with screws.

The picture below shows the storage drive carrier.



Continued on next page

ClearCube Technology, Inc. 1505 Volta Dr. Suite 100 Cedar Park , TX 78641 (512) 652-3500 www.clearcube.com

Storage drives and carrier, Continued

Drive order

The picture below shows how storage drives are ordered in the storage drive carrier.

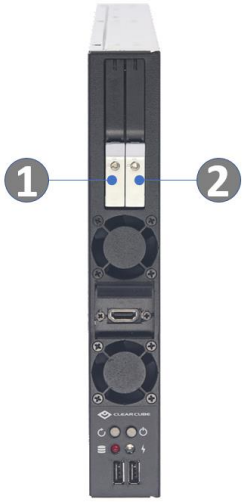


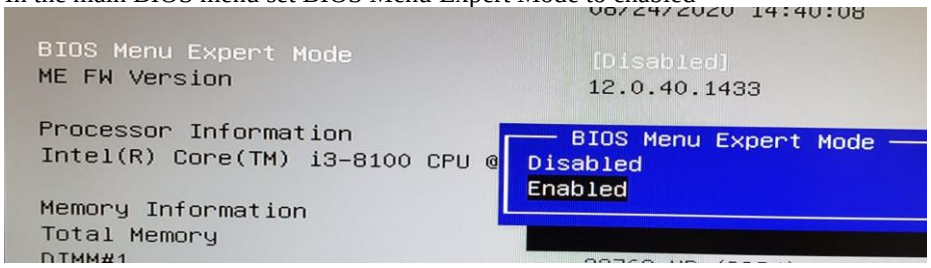
Figure 3. Drive order in the storage drive carrier

Hot Swap

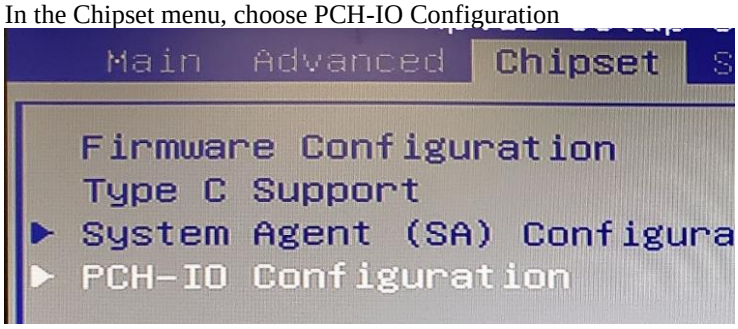
The A6108e supports hot swap for the drives when enabled in BIOS. To enable the function use the following steps.

1. While booting the system press the <Alt>-<F3> combination to enter BIOS expert mode.

2. In the main BIOS menu set BIOS Menu Expert Mode to enabled

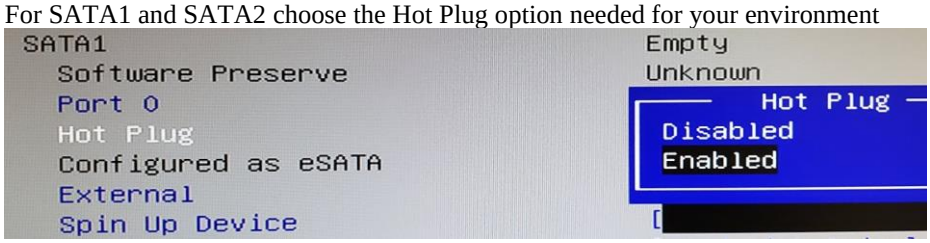


3. In the Chipset menu, choose PCH-IO Configuration



4. Select SATA and RST Configuration menu option

5. For SATA1 and SATA2 choose the Hot Plug option needed for your environment



6. Press F4 to Save and Reset the device.

ClearCube Technology, Inc. 1505 Volta Dr. Suite 100 Cedar Park , TX 78641 (512) 652-3500 www.clearcube.com

Installation in A3100 chassis

Inserting and removing

The A3100 chassis (shown in Figure 2, above) provides redundant power, network ports (Ethernet and dedicated PCoIP), and a USB port for all blades in a chassis.

The table below shows how to install and remove an A6108 blade from an A3100 chassis.

Step	Action
1	Open the chassis **front bezel** by pressing in on the **latch** on the upper-right side of the chassis. **NOTE:** When pressing the latch to open the front bezel, hold the bezel with one hand to ensure that the bezel does not fall.
2	From the top, pull the **bezel** toward you and lift up to remove it.
3	Hold the blade so the **D-shaped handle** in the front of the blade is upright and is facing you. Align the **blade** with the **top and bottom guides** in the chassis and slowly insert the blade. **Result:** When fully seated, the blade is flush with the front edge of the bottom guide bracket. **NOTE:** There is slight resistance when blade connectors are inserted into backplane connectors.
4	Replace the **bezel** after inserting your blades.
5	Optionally, press the **power button** on the front panel to power on the blade.
6	To remove a blade after powering down, pull gently on the **finger pull handle** until the blade slides out of the chassis. **NOTE:** Support both ends of the blade when you remove it completely from the chassis. Remember to replace the chassis front bezel.

Continued on next page

Installation in A3100 chassis, Continued

Additional steps

The list below shows some additional deployment and setup steps you can take.

- Insert **Ethernet cables** in the network ports located on the rear of the chassis.

NOTE:	All network ports on the rear of the A3100 chassis (shown in the figure below) are active, though not all indicator LEDs are illuminated.

- Install an operating system image appropriate for your environment.

NOTE:	Custom images for ClearCube blades have specific requirements. Be sure to see the technical bulletin specified below for more information.

- Set mass storage lockout on PCoIP host cards, which enables you to prohibit or restrict the use of USB-based mass storage devices (such as flash drives) on ClearCube blades.

A3100 Chassis Ports and Protocol Support

Expansion Backplane

As noted above, the A3100 chassis provides power, network, and USB connections for A6108 blades. The picture below shows the network connections on A3100 Chassis Expansion Backplane.

Network ports and protocol assignment

Network ports on the rear of the A3100 chassis support different features. The picture below shows the rear of the chassis and shows protocol support for each network port.

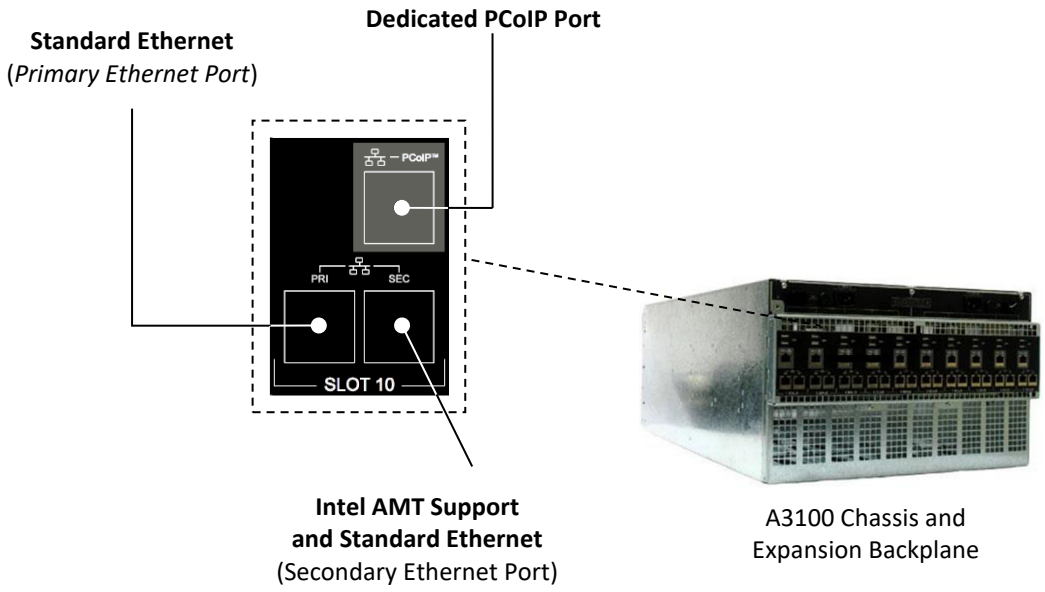


Figure 4. The A3100 chassis and Expansion Backplane

BIOS and pre-OS video for configuration and imaging

About pre-OS video

In the A6108 architecture, host cards with PCoIP technology support local video and USB access at the front of the blade.

To access A6108 pre-OS video (such as BIOS setup utility screens), the easiest method is to attach a monitor directly to the front of the blade and use the two USB ports for keyboard and mouse. If additional ports are needed, a USB hub is supported.

> **NOTE:** If you are updating the BIOS, be sure to see "Flashing the motherboard BIOS" below.

Alternatively, you can use Intel® Active Management Technology (Intel® AMT) to view BIOS screens after configuring Intel AMT on the blade (see "Using Intel® Active Management Technology (Intel® AMT)" below).

As a second alternative, you can access the BIOS via PCoIP provided a connection can be established before the boot sequence starts.

Before you begin

These sections assume that you are configuring an A6108 blade outside of a chassis. *From inside a chassis, make sure all network and power cables are attached to the chassis.*

Before you begin, be sure to have

- Ethernet cables
- a standard 120 V computer power cable (IEC 60320 C13 connector with NEMA 5-15 inlet)
- a DisplayPort® monitor, video cables, and power cables
- a USB keyboard and a mouse, and

> **NOTE:** These instructions assume devices are connected to an imaging network or other network with a DHCP server to provide IP addresses for the blade's PCoIP host card and for the zero client. MAC addresses are specified on labels on the side of the blade and on the zero client. To identify the host card to connect to from the zero client, you might need to consult DHCP tables. DHCP tables should show each device's MAC address and the corresponding IP address assigned to the host card and the client.

Connecting devices

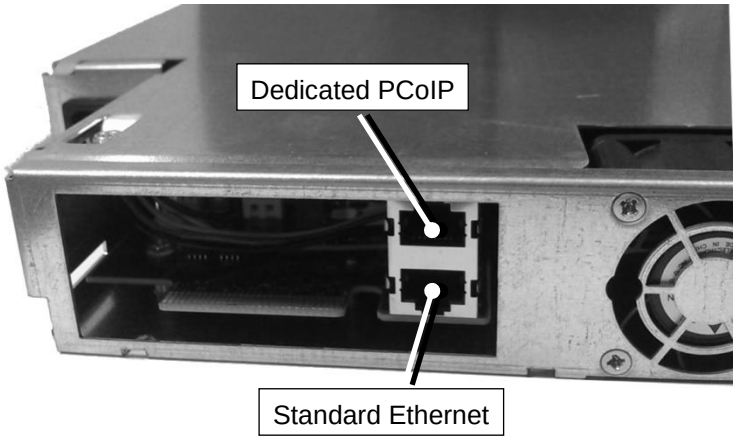
The table below shows how to connect devices to view pre-OS video.

Step	Action
1	Remove the blade from the chassis as described in "Inserting and removing" on page 6. Place the blade on a stable surface, such as a bench or on the top of a desk.
2	Connect a **USB keyboard and mouse** to USB ports on the front of the blade.

Continued on next page

BIOS and pre-OS video for configuration and imaging, Continued

Connecting devices (continued)

Step	Action
3	Connect a monitor to the video connector on the front of the blade.
4	Optionally, connect the blade a network or imaging network. If you are imaging from an imaging network, connect an Ethernet cable to the **standard Ethernet port** on the rear of the blade (this is the *bottom-most* port when the blade is resting on a table as shown below). Connect the other end of the cable to a switch connected to an imaging network.  ***Figure 5. Network ports on the rear of the blade***
5	Connect a power cable to the **power connector** at the rear of the blade and then plug the cable into a power outlet.

Next steps: power on devices and view pre-OS video.

Continued on next page

BIOS and pre-OS video for configuration and imaging, Continued

Power on and view video

This section assumes the blade is configured as described in the previous section. The table below shows how to create a PCoIP session to view pre-OS video.

Step	Action
1	Press the **power button** on the front of the blade to power it on.
2	The monitor will display the ClearCube boot logo – select the choice needed. <DEL> or <F2> -- to enter BIOS Setup <F7> -- to enter boot menu

Next steps: You can now deploy the A6108 blade. See the sections below for important details about A6108 configuration, operation, and maintenance.

Flashing the motherboard BIOS

The A6108 BIOS is available from the ClearCube Support site. The BIOS download includes detailed instructions about how to flash the motherboard BIOS. After flashing the BIOS, be sure to remove the AC power cable, clear the CMOS, reconnect AC power, and power on the blade. Return to the BIOS setup screen and press F3 to load default BIOS settings, and then press F4 to save and exit BIOS.

Continued on next page

ClearCube Technology, Inc. 1505 Volta Dr. Suite 100 Cedar Park , TX 78641 (512) 652-3500 www.clearcube.com

Using Intel® Active Management Technology (Intel® AMT)

About Intel AMT

Intel AMT enables administrators to manage supported blades remotely (including when blades are powered off) using an AMT management console.

A6108 blades support Release 12.0 and above.

Requirements

The table below details Intel AMT requirements.

BIOS settings	Blades that are managed remotely using Intel AMT must have settings enabled in the Intel AMT BIOS extension (see the sections below for information).
Management Console	Administrators must manage AMT devices using an AMT management console, which can be browser based or be installed on a system. Installation requirements vary depending on the AMT management console you choose. There are many management consoles available, such as the Intel browser-based utility, VNC® Viewer Plus, and Spiceworks®. Be sure to choose a console that supports your management objectives.
Network	The A3100 chassis supports Intel AMT through the *primary* Ethernet port only. See Figure 4 and Figure 5 above for more information.

Supported features

A6108 blades support all Intel AMT features except for KVM over IP.

Default login credentials

The list below shows default Intel AMT credentials:

- Default Intel AMT password is **`admin`**.

NOTE: Change this password immediately after first login.

- Default Intel AMT user is **`admin`**.

Accessing Intel ME BIOS extension

Intel AMT settings are located in the Intel Management Engine BIOS extension. Intel AMT is enabled by default in A-series blades.

NOTE: Though AMT is enabled, you must activate network access to enable management console connections (see "Activate Network Access" below).

To access the BIOS extension:

Step	Action
1	Remove the blade from the chassis and configure as shown in "BIOS and pre-OS video for configuration and imaging" above.
2	Power on the blade.

Continued on next page

Using Intel® Active Management Technology (Intel® AMT),
Continued

Accessing Intel ME BIOS extension (continued)

Step	Action
3	Press **CTRL+P** during startup (this is the same time you would press, for example, DEL to display the BIOS setup utility).
4	Use the keyboard to select **MEBx Login** and press **ENTER**. If this is your first time logging in, use the credentials listed in "Default login credentials" above (otherwise, enter your AMT password). Make any changes appropriate for your environment. If your management console requires a user name to perform Intel AMT commands, use the user name listed above.

Next steps: Activate network access as shown below to enable management console connections.

Activate Network Access

This assumes that devices in your environment use dynamic IP addresses. If devices in your environment use static IP addresses, specify an address in the Network Setup menu in the Intel(R) AMT Configuration menu noted below.

The steps below enable an AMT management console to connect to a blade. Perform these steps on each blade you will manage from an AMT management console.

Step	Action
1	Log in to the AMT BIOS extension as shown in the section above.
2	Select **Intel(R) Standard Manageability Configuration** and press **ENTER**.
3	Select **Activate Network Access** and press **ENTER**. **Result:** A message is displayed. Press **Y** on your keyboard.
4	Press **ESC** to return to the main menu.
5	Select **MEBx Exit** and press **ENTER**. Continue by pressing **Y** on your keyboard. **Result:** The blade boots to the operating system.
6	Power off the blade and return it to an A3100 chassis.

You can now use an AMT management console to perform AMT operations on the blade during any power state.

To access the Intel® Active Management Technology Web interface from a supported browser, enter the IP address of the blade's primary network interface and port 16992 in the following format (including the final forward slash): **http://*nnn.nnn.nnn.nnn*:16992/**, where *nnn.nnn.nnn.nnn* is the device's IP address. If you have not changed the default user, use the name shown in "Default login credentials" above.

For more information

See *Intel® Active Management Technology (Intel® AMT) Start Here Guide*, available at www.intel.com. To find the document, search for the title shown above.

Related information and Support

Related information

The table below shows documents about A6108 configuration, operation, and maintenance topics.

For information about …	See …
Creating custom operating system images	*Tech Bulletin TB00265, Operating System Image Requirements*
Blade and chassis setup, operation, upgrades, and maintenance	*A-Series Blade and Chassis User's Guide*
PCoIP device configuration and administration	*PCoIP System User's Guide*

All documentation is located at http://www.clearcube.com/support/.

Contacting Support

Web	www.clearcube.com/support/
Email	support@clearcube.com
Toll-free	(866) 652-3400
Direct	(512) 652-3400

WEEE Disposal Guidelines
In the European Union, this electronic product falls under the European Directive (2002/96/EC) WEEE. When it reaches the end of its useful life or is no longer wanted, it should not be discarded with conventional waste, but disposed of at an approved designated recycling and/or treatment facility. Laws are different in each country, so please check with your local authorities for proper disposal instructions. For assistance, contact ClearCube at recycle@clearcube.com.