

## A6106HL Blade PC Quick Start Guide

### A6106HL components

The table and picture below show each A6106HL Blade PC component.

| Number | Part                           | Function   |
|--------|--------------------------------|--|
| 1      | Front panel                    | Provides indicators and power-related buttons.   |
| 1A     | Power button and indicator     | <p><b>Button:</b><br/>Press to power on and power off blade. Press and hold for 3 seconds to force power off. Button is illuminated (solid) when power is on.</p> <p><b>Indicator:</b><br/>Power button flashes slowly when blade is in standby (Windows Sleep power state).</p> |
| 1B     | Reset button and HDD indicator | <p><b>Button:</b><br/>Press to reset blade power.</p> <p><b>Indicator:</b><br/>Button flashes to indicate hard drive activity.</p>   |
| 2      | Handle                         | Use to aid insertion and removal from chassis.   |
| 3      | I/O access slot                | Provides access to select motherboard I/O ports for configuration outside of the A-series chassis.   |
| 4      | Power connector                | Connects to A-series chassis AC power supply.  |
| 5      | Ethernet ports                 | Connect to Ethernet ports on the A-series chassis backplane. See <a href="#">Figure 5 below</a> for details about backpack connections.  |
| 6      | Storage drive carrier          | Holds up to two storage drives, connecting directly to SATA connectors inside the blade. <i>Does not support hot-swap operation.</i>   |
| 7      | Video configuration label      | Provides important blade configuration information, including video host card MAC address, serial number, and more.  |

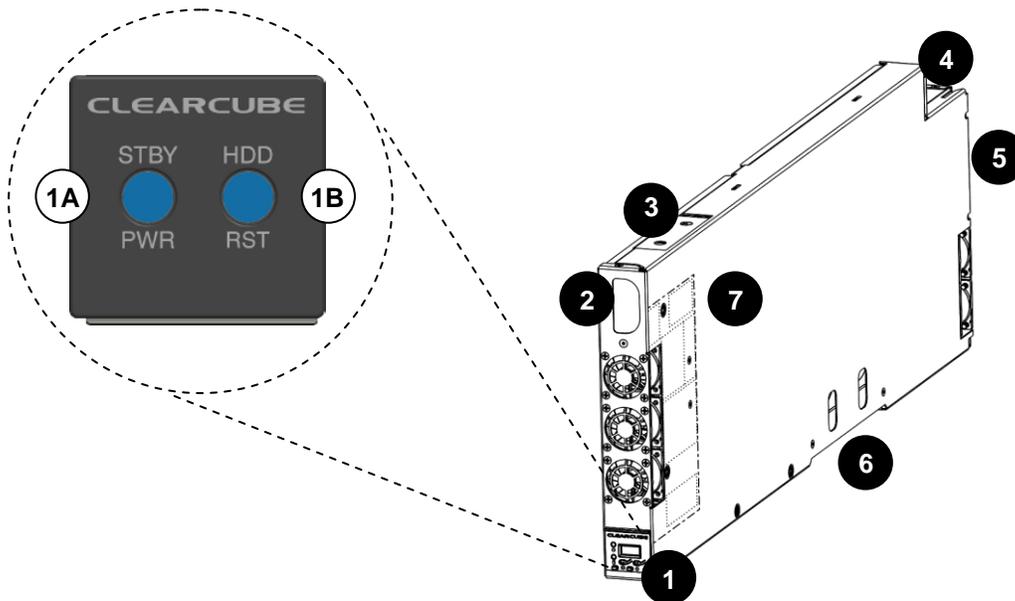


Figure 1. The A6106HL Blade PC components

## Introduction

### About this guide

This quick start guide shows the components and features of A6106HL 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.

### A6106HL overview

A6106HL blades are 6U high, single-slot blades that mount in an A3100 chassis. The A3100 chassis provides power, network interfaces, and USB ports for each blade.

The picture below shows zero clients connected to A6106HL blades in an A3100 chassis.

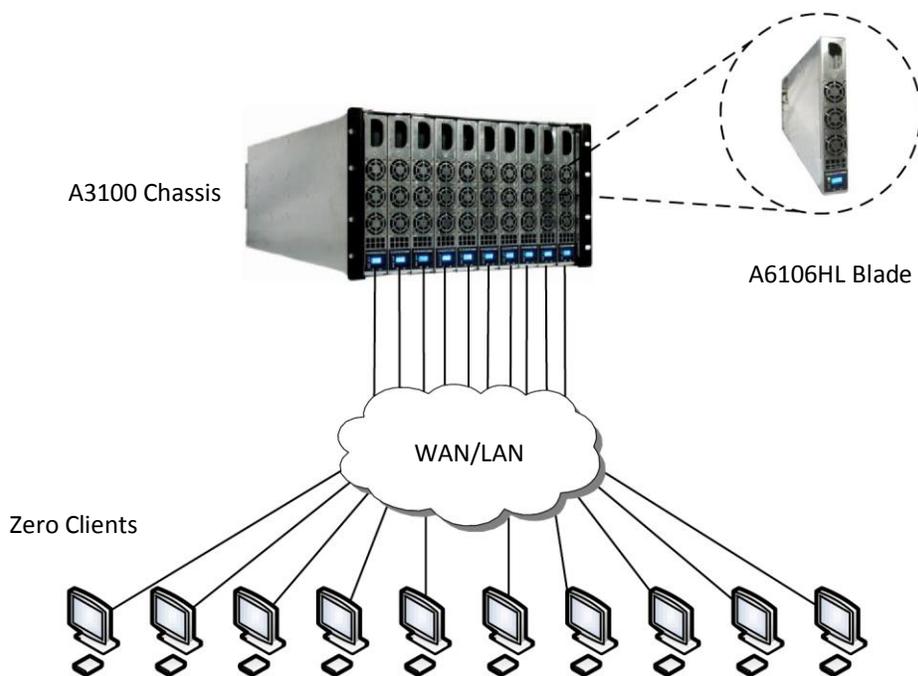


Figure 2. An example deployment of A6106HL blades and zero clients

## Power management

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### Power on and power off

The power button is located on the left portion of the front panel, shown as 1A 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 (1A) 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 (1A) turns off.

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### Reset power

The reset button is located on the right portion of the front panel, shown as 1B 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 (1A) turns off, and the blade powers on again.

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## Storage drives and carrier

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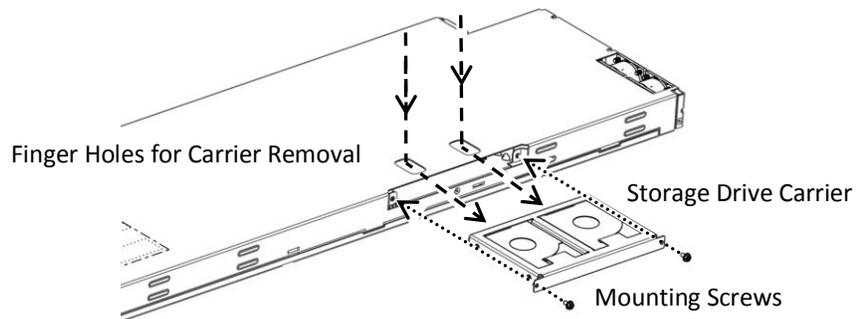
### About blade storage drives

A6106HL blades use a carrier to mount storage drives—such as hard disk drives (HDD), solid state drives (SSD), self-encrypting drives (SED), and hybrid drives (SSHD).

**NOTE:** A6016HL blades do not support hot-swap replacement of drives. When configuring an A6106HL blade outside of a chassis, be sure to power down the blade and remove the power cable before removing drives or servicing any components.

Storage drives do not require power cables or data cables when mounted in the storage drive carrier. 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.



*Figure 3. Removing and attaching the storage drive carrier*

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## Storage drives and carrier, Continued

### Drive order

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



*Figure 4. Drive order in the storage drive carrier*

## 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 USB ports for all blades in a chassis.

The table below shows how to install and remove an A6106HL blade from an A3100 chassis.

| Step | Action  |
|------|---|
| 1    | Open the chassis <b>front bezel</b> by pressing in on the <b>latch</b> on the upper-right side of the chassis.<br><br><b>NOTE:</b> 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 <b>bezel</b> toward you and lift up to remove it.  |
| 3    | Hold the blade so the <b>D-shaped handle</b> in the front of the blade is upright and is facing you. Align the <b>blade</b> with the <b>top and bottom guides</b> in the chassis and slowly insert the blade.<br><br><b>Result:</b> When fully seated, the blade is flush with the front edge of the bottom guide bracket.<br><br><b>NOTE:</b> There is slight resistance when blade connectors are inserted into backplane connectors. |
| 4    | Replace the <b>bezel</b> after inserting your blades.   |
| 5    | Optionally, press the <b>power button</b> on the front panel to power on the blade.   |
| 6    | To remove a blade, pull gently on the <b>D-shaped handle</b> until the blade slides out of the chassis.<br><br><b>NOTE:</b> Support both ends of the blade when you remove it completely from the chassis. Remember to replace the chassis front bezel.   |

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## 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 active port or ports, located on the rear of the chassis, for each blade in the chassis (active ports are indicated by illuminated LEDs).
- 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, which enables you to prohibit and restrict the use of USB-based mass storage devices (such as flash drives) on ClearCube blades.

## A3100 Chassis Ports and Protocol Support

### A3100 chassis Expansion Backplane

As noted above, the A3100 chassis provides power and network connections for A6106HL blades. The picture below shows the A3100 Expansion Backplane, located on the rear of the chassis, which provides network connections.

### Chassis 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 port.

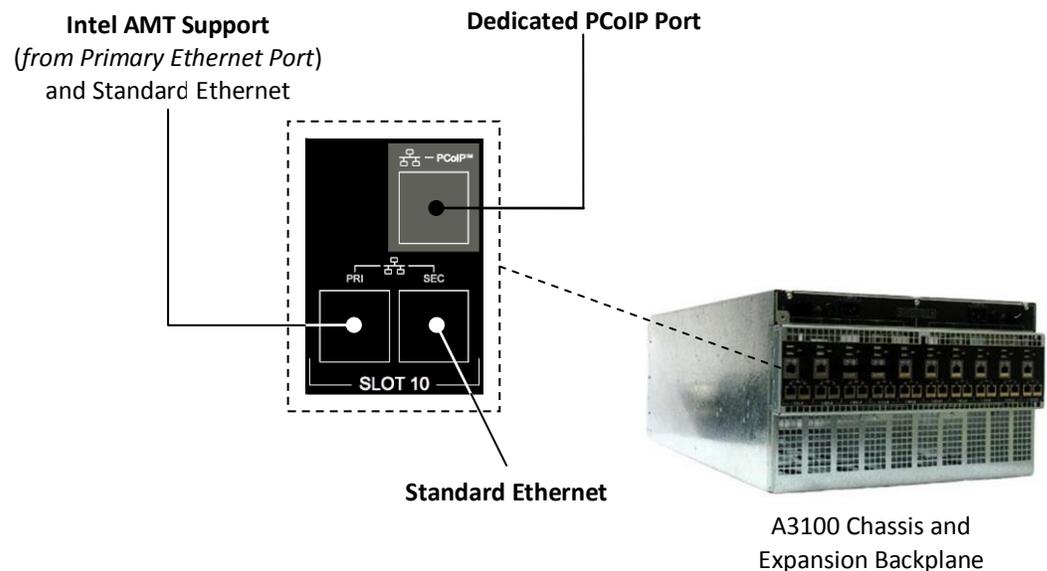


Figure 5. The A3100 chassis and Expansion Backplane

## BIOS and pre-OS video for configuration and imaging

### About pre-OS video

In the A-series architecture, host cards with PCoIP technology do not support local video at the blade, and USB is redirected to the zero client after the operating system starts.

To access A6106HL pre-OS video (such as BIOS setup utility screens), remove the blade from the chassis and use a zero client to view pre-OS video.

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](#)).

### Before you begin

These sections assume that you are configuring an A6106HL blade outside of a 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 zero client power supply
- a ClearCube zero client compatible with the blade’s video configuration (a dual zero client for a dual host card or a quad zero client for a quad host card). The blade’s video configuration is specified on a label on the side of the blade (shown as item 7 in [Figure 1](#) on [page 1](#)).
- two or four DVI monitors (depending on zero client) and power cables
- a USB keyboard and a mouse, and
- a switch connected to a DHCP network.

**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

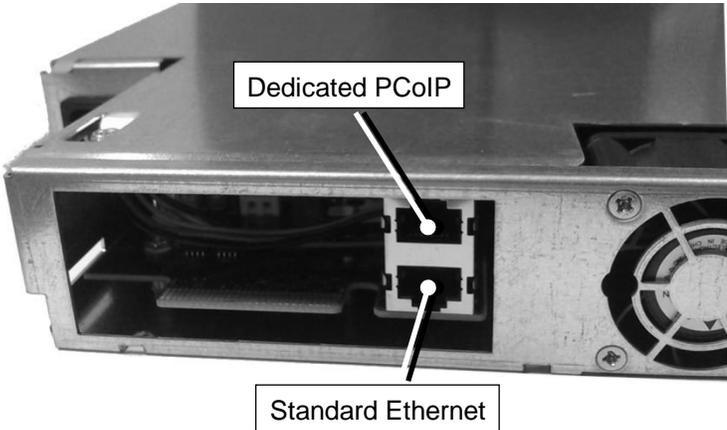
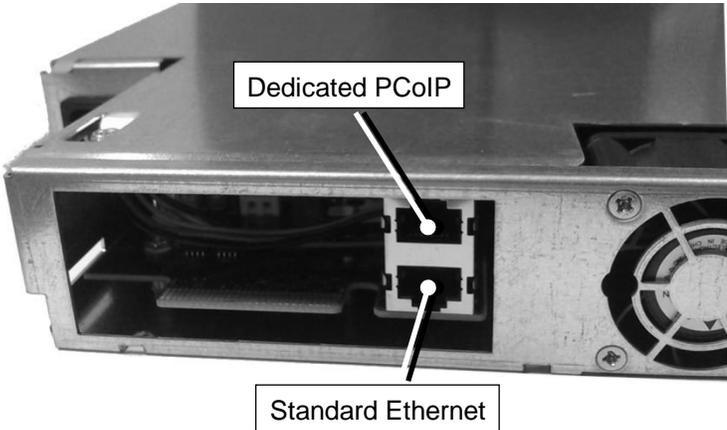
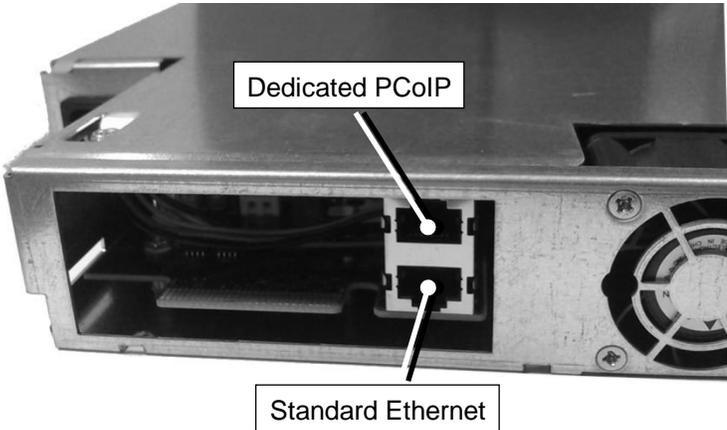
The table below shows how to connect devices to view pre-OS video.

| Step | Action   |
|------|--|
| 1    | Remove the blade from the chassis as described in <a href="#">“Inserting and removing”</a> on <a href="#">page 4</a> . Place the blade on a stable surface, such as a bench or on the top of a desk.   |
| 2    | Connect a <b>USB keyboard</b> to a port on the top of the blade. (Ensure that you do not disconnect any Ethernet cables that might be visible from this opening.)<br><br><div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> <p><b>NOTE:</b> Connect a monitor to a zero client as described below. <i>Do not</i> connect a monitor to a DVI port or to a DisplayPort™ on the top of the blade.</p> </div> |

*Continued on next page*

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

### Connecting devices (continued)

| Step | Action  |      |        |   |   |   |   |   |   |
|------|---|------|--------|---|---|---|---|---|---|
| 3    | <p>Connect the blade and the zero client to your network.</p> <table border="1"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td> <p>Connect an Ethernet cable to the blade's <b>dedicated PCoIP port</b> (this is the <i>top-most</i> port when the blade is resting on a table as shown below). Connect the other end of the cable to a <b>switch</b> connected to your network.</p>  <p style="text-align: center;"><i>Figure 6. Ports on the rear of the blade</i></p> </td> </tr> <tr> <td>2</td> <td> <p>Connect the <b>zero client</b> to the same switch.</p> </td> </tr> <tr> <td>3</td> <td> <p>Optionally, if you are imaging the blade, connect an Ethernet cable to the <b>standard Ethernet port</b> on the rear of the blade (this is the <i>bottom-most</i> port when the blade is resting on a table as shown above), and connect the other end of the cable to the switch.</p> </td> </tr> </tbody> </table> | Step | Action | 1 | <p>Connect an Ethernet cable to the blade's <b>dedicated PCoIP port</b> (this is the <i>top-most</i> port when the blade is resting on a table as shown below). Connect the other end of the cable to a <b>switch</b> connected to your network.</p>  <p style="text-align: center;"><i>Figure 6. Ports on the rear of the blade</i></p> | 2 | <p>Connect the <b>zero client</b> to the same switch.</p> | 3 | <p>Optionally, if you are imaging the blade, connect an Ethernet cable to the <b>standard Ethernet port</b> on the rear of the blade (this is the <i>bottom-most</i> port when the blade is resting on a table as shown above), and connect the other end of the cable to the switch.</p> |
| Step | Action  |      |        |   |   |   |   |   |   |
| 1    | <p>Connect an Ethernet cable to the blade's <b>dedicated PCoIP port</b> (this is the <i>top-most</i> port when the blade is resting on a table as shown below). Connect the other end of the cable to a <b>switch</b> connected to your network.</p>  <p style="text-align: center;"><i>Figure 6. Ports on the rear of the blade</i></p>   |      |        |   |   |   |   |   |   |
| 2    | <p>Connect the <b>zero client</b> to the same switch.</p>   |      |        |   |   |   |   |   |   |
| 3    | <p>Optionally, if you are imaging the blade, connect an Ethernet cable to the <b>standard Ethernet port</b> on the rear of the blade (this is the <i>bottom-most</i> port when the blade is resting on a table as shown above), and connect the other end of the cable to the switch.</p>   |      |        |   |   |   |   |   |   |
| 4    | <p>Connect monitors to the <b>zero client</b> (two or four depending on the zero client). Connect a <b>mouse</b> to the zero client.</p>  |      |        |   |   |   |   |   |   |
| 5    | <p>Connect a power cable to the <b>power connector</b> at the rear of the blade and then plug the cable into a power outlet. Continue by connecting the zero client <b>power adapter</b> to the client and then plugging the cord into a power outlet.</p>  |      |        |   |   |   |   |   |   |

**Next steps:** power on devices, create a PCoIP session, and view pre-OS video.

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

### Create session and view video

The table below shows how to create a PCoIP session to view pre-OS video.

| Step | Action   |
|------|--|
| 1    | Press the <b>power button</b> on the front of the blade to power it on, and then press the <b>power button</b> on the front of the zero client to power it on.   |
| 2    | From a monitor connected to the zero client, click the <b>Connect</b> button.<br><br><b>Result:</b> After several moments the zero client identifies host cards to which it can connect. The zero client on-screen display (OSD) lists one or more host card IP addresses and their corresponding MAC addresses.<br><br><b>NOTE:</b> The video host card MAC address is specified on a label on the side of the blade. |
| 3    | Select the blade's <b>host card</b> from the list and click <b>OK</b> .<br><br><b>Result:</b> The zero client and blade establish a PCoIP session displaying the blade's desktop.  |
| 4    | Reset blade <b>power</b> from the operating system Start menu or by pressing the <b>reset button</b> on the front of the blade. Watch monitors for pre-OS video (for example, a message to press the <b>F2</b> key for configuration screens) and press the appropriate key.   |
| 5    | After performing configuration steps, power off both devices. Remove the blade and zero client power cables from the power outlets and then remove the cables from each device.  |
| 6    | Remove all peripherals from both devices.  |
| 7    | Replace the blade in the chassis as described previously.  |

**Next steps:** You can now deploy the A6106HL blade. See the documentation shown below for important details about A6106HL configuration, operation, and maintenance.

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# 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.

A6106HL blades support Release 9.0 and above.

## Requirements

The table below details Intel AMT requirements.

|                           |   |
|---------------------------|---|
| <b>BIOS settings</b>      | Blades that are managed remotely using Intel AMT must have settings enabled in the Intel AMT BIOS extension (see the sections below for information).   |
| <b>Management Console</b> | 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.<br><br>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. |
| <b>Network</b>            | The A3100 chassis supports Intel AMT through the <i>primary</i> Ethernet port only. See <a href="#">Figure 5 above</a> for more information.  |

## Supported features

A6106HL 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 “ <a href="#">BIOS and pre-OS video for configuration and imaging</a> ” above. |
| 2    | Power on the blade.  |

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

Continued

### Accessing Intel ME BIOS extension (continued)

| Step | Action   |
|------|--|
| 3    | Press <b>CTRL+P</b> during startup (this is the same time you would press, for example, F2 to display the BIOS setup utility).   |
| 4    | Use the keyboard to select <b>MEBx Login</b> and press <b>ENTER</b> . If this is your first time logging in, use the credentials listed in “ <a href="#">Default login credentials</a> ” 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 <b>Intel(R) AMT Configuration</b> and press <b>ENTER</b> .   |
| 3    | Select <b>Activate Network Access</b> and press <b>ENTER</b> .<br><b>Result:</b> A message is displayed. Enter <b>Y</b> and then press <b>ENTER</b> . |
| 4    | Press <b>ESC</b> to return to the main menu.  |
| 5    | Select <b>MEBx Exit</b> and press <b>ENTER</b> .<br><b>Result:</b> 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 specify port 16992 (for example: <http://192.168.1.2:16992>). 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](http://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 A6106HL configuration, operation, and maintenance topics.

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

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

### Contacting Support

|                  |  |
|------------------|--|
| <b>Web</b>       | <a href="http://www.clearcube.com/support/">www.clearcube.com/support/</a> |
| <b>Email</b>     | <a href="mailto:support@clearcube.com">support@clearcube.com</a>           |
| <b>Toll-free</b> | (866) 652-3400   |
| <b>Direct</b>    | (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](mailto:recycle@clearcube.com).



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