Version 1.0
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Revision History

Ver.	Date	Description
1.0	Jan 5, 2017	First release

CONTENTS

Altos T110 F4 Installation Configuration Guide

INTRODUCTION

The driver required for installing the OS manually is included in Resource CD, this document provides you a OS installation guide on Altos T110 F4, including,

- Windows Server 2012 R2
- Red Hat Enterprise Linux 7.3

WINDOWS SERVER 2012 R2

Intel Onboard SATA RAID

Below information describes how to manually install Windows Server 2012 R2 on Altos T110 F4 with Intel Onboard SATA RAID.

BIOS Required

Altos T110 F4 BIOS 1.0b (or later) can support Windows Server 2012 R2.

Drivers Required

Device	Version	Driver Source
Intel Onboard SATA RAID	4.3.0.1198 (Package 4.3.0.1223)	Resource CD
Chipset	10.1.2.8 (Package 10.1.2)	Resource CD
Onboard VGA	N/A	OS Built-in
Onboard Gigabit Ethernet	20.5 (Package 20.5)	Resource CD
USB 3.0	N/A	OS Built-in

Software Required

Software	Version	Software Source
Intel Onboard SATA RAID Utility	4.3.0.1198 (Package 4.3.0.1223)	Resource CD

Configuring Intel Onboard SATA RAID

Please refer to Appendix A. for Intel Onboard SATA RAID configuration.

Installation Tips

NOTE. Please refer to Altos T110 F4 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

NOTE. Windows Server 2012 R2 cannot detect Intel Onboard SATA RAID. Please load the RAID driver during OS installation.

NOTE. You need an external USB floppy drive or USB Flash drive to load RAID driver during the OS installation.

NOTE. Please copy Intel Onboard SATA RAID driver from Resource CD to a floppy diskette or USB flash drive.

NOTE. For OS installation, a USB optical drive is required as well. Please prepare a USB Hub to have USB keyboard, USB mouse, USB floppy/flash drive and USB optical drive connected.

1. Please boot the system from the Windows Server 2012 R2 DVD. Follow the instructions to do the installation.
2. When "**Where do you want to install Windows**" message displayed, please Insert the USB flash which includes the Intel Onboard SATA RAID driver and click on "**Load Driver**".
3. Specify the Raid folder that includes the Intel Onboard SATA RAID driver and the system will show the available driver. Select "**Intel(R) C600+/C220+ Series Chipset SATA RAID Controller** as target driver.
4. After loading the RAID driver, you could click "Drive options" to partition the drive or click "Next" to use default disk partition setting directly.
5. Follow the normal procedure to finish the installation.

Chipset Driver Package Installation

1. Please insert the Resource CD into the optical drive
2. Select **Resource Kit**.
3. Select model and click on **Drivers**.
4. Find the Chipset Driver by expanding the directory in the following order, **Altos T110 F4 -> (On board) Chipset -> Intel Chipset INF files**.
5. Select **Windows Server 2012 R2** then click on **Browse**.
6. Double-click on **Setup.exe** and follow the instructions to complete the driver installation.
7. After the installation is completed, reboot the system.

Gigabit Ethernet Driver Installation

1. Please insert the Resource CD into the optical drive.
2. Select **Resource Kit**.
3. Select model and click on **Drivers**.

4. Find the Gigabit Ethernet Driver by expanding the directory in the following order, **Altos T110 F4 -> (On Board)LAN -> Intel PRO Network Connections Drivers**.
5. Select **Windows Server 2012 R2** then click on **Browse**.
6. Double-click on **Autorun.exe**.
7. Follow the instructions, accept the license agreement and use the default setting to complete the driver installation.
8. The driver and PROSet utility will be installed together automatically.

VGA Driver Installation

Windows Server 2012 R2 has the built-in driver for VGA. You don't need to install VGA driver manually.

USB 3.0 Driver Installation

Windows Server 2012 R2 has the built-in driver for USB 3.0. You don't need to install USB 3.0 driver manually.

RAID Utility Installation

1. Please insert the Resource CD into the optical drive.
1. Select **Resource Kit**.
2. Select model and click on **Utilities**.
3. Find the RSTe Utility by expanding the directory in the following order, **Altos T110 F4 -> (On board)RAID -> Intel RSTe AHCI SCU Software RAID driver for Windows**.
4. Select **Windows Server 2012 R2** then click on **Browse**.
5. Double-click on **setup.exe**.
6. After the installation is completed, reboot the system.

RED HAT ENTERPRISE LINUX 7.3

Intel Onboard SATA (No RAID)

BIOS Required

Altos T110 F4 BIOS 1.0b (or later) can support Red Hat Enterprise Linux 7.3.

Drivers Required

Device	Version	Driver Source
Onboard VGA	N/A	OS Built-in
Onboard Gigabit Ethernet	N/A	OS Built-in

Installation Tips

NOTE. Please refer to Altos T110 F4 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

1. Please boot the system from the Red Hat Enterprise Linux 7.3.
2. For legacy installation, at Welcome Menu, Please press **Enter**.
3. For EFI installation, when the following message shows on screen, press any key to enter the boot menu

   Press any key to enter the menu
4. Select **Basic Storage Devices** and press **Next**.
5. Follow the instruction to install.
6. Select **Software Development Workstation**.
7. Follow the normal procedure to finish the installation.

Gigabit Ethernet Driver Installation

Red Hat Enterprise Linux 7.3 has the built-in driver for onboard Gigabit Ethernet. You don’t need to install the onboard Gigabit Ethernet driver manually.

VGA Driver Installation

Red Hat Enterprise Linux 7.3 has the built-in driver for onboard VGA. You don’t need to install the VGA driver manually.

APPENDIX A: INTEL ONBOARD SATA RAID CONFIGURATION

Set Intel Onboard SATA RAID in EFI Mode

1. Please enter BIOS Setup during POST
2. Please select Boot Options.
3. You would see below information.

   Boot Mode [UEFI]

   NOTE. The default setting is DUAL.
4. To enable EFI mode, please keep Boot Mode as UEFI. To enable Legacy mode , please change Boot Mode as Legacy.
5. Please save the setting and exit from BIOS Setup.

Enabling Intel Onboard SATA RAID

1. Please enter BIOS Setup during POST
2. Please select Advanced.
3. Please select SATA Configuration.
4. You might see below information:

   SATA Mode [AHCI]
5. Please change the setting of SATA Mode from AHCI to RAID.

   SATA Mode [RAID].
6. Save the setting and exit from BIOS Setup.

Creating a RAID Volume

1. Please enter BIOS Setup during POST
2. Load default BIOS settings by press DELETE.
3. Please select Advanced.
4. Please select Intel RSTe SATA Controller.
5. Press **Create Raid Volume**.
6. Type in the name of RAID volume.
7. Select RAID level.
8. Select desired HDD to create the RAID.
9. If you using RAID0(Stripe) you can select Strip Size.
10. Select Capacity.

11. Select **Create Volume.**
12. Now the RAID volume is created, you can press **ESC** and select **Exit** to exit.

Initializing a RAID Volume

During Intel Onboard SATA RAID volume creation process, the Intel Onboard SATA RAID volume will be automatically initiated once the onboard SATA RSTe RAID volume has been created.