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ApplianceStor 61

Performance Storage Server MiniTower

User Manual

August 2020

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About This Manual

Convention

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

 **Warning:**	Provides Information to prevent injury in the process of completing a task.
 **Caution:**	Provides Information to prevent damage to the components in the process of completing a task.
 **Important:**	Provides Information required for completing a task.
 **Note:**	Provides Tips to aid in completing a task.

Safety Symbols

The following symbols are placed on some components of the system to alert the user to potential hazards:

WARNING:	**Electric Shock Hazard – To reduce risk of injury from electric shock hazards, do not open this component.**

WARNING:	**Contains no user or field serviceable parts – To reduce the risk of injury from electric shock hazards, do not open this component.**

WARNING:	**Hot Surface or Component - To reduce risk of injury from a hot component; allow the surface to cool before touching.**

WARNING:	**Insert Network Interface Only - Any receptacle (e.g. RJ45) marked with this symbol indicates a network interface connection. To reduce the risk of electric shock, fire or damage to equipment, do not plug telephone or telecommunications connectors into this receptacle.**

WARNING:	**This symbol, on power supplies or systems, indicates that the equipment is supplied by multiple sources of power. To reduce the risk of injury from electric shock, remove all power cordsto completely power**

	down the system.

WARNING:	**This symbol indicates that the component exceeds the recommended weight for one individual to handle safely. To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling**

Safety Precautions

 Technician Notes

- Only authorized technicians should attempt to repair this equipment.
- Before installing this system, carefully read all the manuals included with the system.
- All repair procedures allow only module replacement. Because of the complexity of the individual boards and sub-assembles, no one should attempt to make repairs at the component level or make modifications to any printed wiring board. Improper repairs can create a safety hazard.
- To reduce the risk of personal injury from electric shock and hazardous energy levels, do not exceed the level of repairs specified in these procedures.
- The system is designed to be electrically grounded. To ensure proper operation, plug the AC power cord into a properly grounded AC outlet only.

 Electrostatic Discharge Precautions

- Electrostatic discharge (ESD) can damage static sensitive devices or micro circuitry. Proper packaging and grounding techniques are required to prevent damage.
- Keep electrostatic-sensitive parts in their containers until they arrive at a static free work area.
- Use a wrist strap connected to the work surface as well as properly grounded tools and equipment

- Keep the area free of nonconductive materials such as ordinary plastic tools and foam packing.
- Avoid touching pins, leads, or circuitry.
- Always place drives with printed circuit board (PCB) assembly-side down.
- Grasp cards and boards by the edges. Hold drives by the frame. Avoid touching the solder joints or pins.

- If you need to lay the device down while it is out of the antistatic bag, lay it on the antistatic bag. Before picking it up again, touch the antistatic bag and the metal frame of the system unit at the same time.

Rack Warnings

If you plan to rack mount the AS 10MT, follow the rack manufacturer's safety instructions.

- Install the enclosure only in a rack that has been properly secured in an area with suitable environmental conditions.
- Have someone assist you during physical installation.
- To properly ventilate the system, you must provide at least 7.6 cm of clearance at the front and back of the system.
- To reduce the risk of personal injury or damage to equipment, always ensure that the rack is adequately stabilized prior to extending a component outside the rack. A rack may become unstable if more than one component is extended. Extend only one at a time.
- Do not stand or step on any components in the rack.
- If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.
- Do not overload the AC power supply branch circuit that provides power to the rack. Observe extension cable and power strip ratings. Ensure that the total ampere rating of all equipment plugged into the extension cable or power strip does not exceed 80 percent of the ampere ratings limit for the extension cable or power strip.

System Warnings

- Avoid dust, humidity, and extreme temperatures; place the system on a stable surface.
- To reduce the risk of personal injury from hot surfaces, allow the hot-plug disk modules and other system modules to cool before touching them.
- To reduce the risk of electric shock or damage to the equipment, do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Ensure the power cord is inserted into a grounded electrical outlet that is easily accessible at all times. Unplug the power cord from the power supply module to shut off power to the equipment
- Protect the storage system from power fluctuations and temporary power interruptions with a regulating uninterruptible power supply (UPS). This device protects the hardware from damage caused by power surges and voltage spikes and keeps the system operational during a power failure.
- The storage system must always be operated with all hot plug modules installed or slot covers in place to ensure proper cooling.
- Route power cords so that they will not be walked on or pinched by items placed upon or against them. Pay particular attention to the plug, electrical outlet, and the point where the cords exit from the product.

Regulatory and Integration Information

Regulatory Compliance Identification Numbers

For the purpose of regulatory compliance certifications and identification, this system is assigned a serial number. This system serial number can be found on the product label, along with the required approval markings and information. When requesting certification information for this product, always refer to this serial number. This serial number should not be confused with the marketing name or model number.

Product Regulatory Compliance

Product Safety Compliance

This power supply complies with the following safety requirements:

IEC 60950-1	Safety of Information Technology Equipment
EN 60950-1	Safety of Information Technology Equipment Including Electrical Business Equipment, European Committee for Electro-technical Standardization (CENELEC)
UL 60950-1	Safety of Information Technology Equipment

Worldwide Safety approvals can be supplied upon request. Please contact your sales representative for approvals.

Product EMC Compliance

This product is assembled from components that have been tested and verified to comply with the following electromagnetic compatibility (EMC) regulations.

FCC Notice

Part 15 of the Federal Communications Commission (FCC) Rules and Regulations has established Radio Frequency (RF) emission limits to provide an interference-free radio frequency spectrum. Many electronic devices, including computers, generate RF energy incidental to their intended function and are, therefore, covered by these rules. These rules place computers and related peripheral devices into two classes, A and B, depending upon their intended installation. Class A devices are those that may reasonably be expected to be installed in a business or commercial environment. Class B devices are those that may reasonably be expected to be installed in a residential environment (for example, personal computers). The FCC requires devices in both classes to bear a label indicating the interference potential of the device, as well as additional operating instructions for the user.

The rating label on the device shows which class (A or B) the equipment falls into. Class A devices do not have an FCC logo or FCC ID on the label. Class B devices have an FCC logo or FCC ID on the label. Once the class of the device is determined, refer to the following corresponding statement.

This equipment is assembled with components that have been tested and found to comply with the limit pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at personal expense.

Declaration of Conformity for Products Marked with the FCC Logo—United States Only

This device is assembled from components that complies with Part 15 of the FCC Rules Operation and is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, please contact your sales representative.

To identify this product, refer to the Part, Series, or Model number found on the product

European Union Notice

CE Warning

The motherboard complies with directive 2014/53/EU issued by the Commission of the European Community.

It complies with EU radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Operations in the 5.15-5.35GHz band are restricted to indoor usage only.

Table 1: Radio Transmission Power per receiver type

Function	Frequency	Maximum Output Power (EIRP)
Wifi	2400-2483.5 MHz	18.5 + / -1.5 dbm
	5150-5250 MHz	21.5 + / -1.5 dbm
	5250-5350 MHz	18.5 + / -1.5 dbm (no TPC)
		21.5 + / -1.5 dbm (TPC)
	5470-5725 MHz	25.5 + / -1.5 dbm (no TPC)
		28.5 + / -1.5 dbm (TPC)
Bluetooth	2400-2483.5 MHz	8.5 + / -1.5 dbm

Power Cords

The power cord set included in the system meets the requirements for use in the country where the system was purchased. If this system is to be used in another country, contact your sales representative to purchase a power cord that is approved for use in that country.

The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the cross-sectional area of the wires must be a minimum of 1.00mm² or 18AWG, and the length of the cords must be between 1.8m (6 feet) and 3.6m (12 feet). If you have questions about the type of power cord to use, contact your sales representative.

The following statement applies only to rack-installed products that are GS-Marked:

This equipment is not intended for use at workplaces with visual display units, in accordance with §2 of the German ordinance for workplaces with visual display units."

Chapter 1

Introduction

Audience Assumptions

This manual assumes that you are a service technician or network administrator familiar with computer hardware, data storage and network administration terminology and tasks.

About This Guide

This user guide provides step by step instructions on how to install, use and maintain the ApplianceStor 10MT Storage Server. This manual is generally organized as follows:

General introduction to the AS 61SSD and its components. What you need to do before you start.

Detailed description of each hardware module and instructions for installation and removal.

Initializing your system, setting up your system on a network, configuring your storage, and connecting hosts.

Ongoing usage and maintenance information provided in a reference format and organized by major system component.

Product introduction

Powerful

Small but powerful the AS61MT is packaged in a very small enclosure but it does not sacrifice performance. It easily support up to 32 megapixel cameras. It delivers a big punch as a powerful server and storage system, built around high performance latest generation Intel® quad core / eight threads processor and very fast DDR4-2666 memory.

The AS61MT offers high performance and bandwidth connectivity to meet the most demanding megapixel camera applications. The base model provides unmatched LAN connectivity with dual LAN ports. The AS61MT Video Surveillance Appliance delivers un-matched performance and LAN connectivity for its product category to meet of the most demanding megapixel cameras deployments.

Simple

The ApplianceStor 61Mini Tower integrates VMS (Video Management Software), server and storage into a very small but powerful appliance that is simple to use and provides a complete video surveillance storage server solution. Its small size is ideal for under counter and counter top installations. AS61MT come standard prebuilt, configured, the OS installed and tested. Most popular VMS's can also be preinstalled on request. Guaranteed performance with all major VMS solutions are prequalified on the AS61MT. The AS61MT ships with standard High Definition graphics for video viewing and monitoring capabilities as well as administration and configuration capabilities. Its standard high resolution and definition video graphics include HDMI ports, DisplayPort, and a Mini Display port. This eliminates the need, complexity and cost for a separate of video viewing and monitoring server. The AS61MT is small and powerful complete VMS storage server solution which is easy to install and maintain.

Right Size

Using small and compact chassis design the AS61MT is perfect for smaller Megapixel deployments, it is offered from 256 GB to 1 TB non RAID SSD versions. Its small but powerful size is ideal for under counter and counter top installations. The AS61MT matches the perfect storage capacity with exceptional performance and size to ensure optimal and dependable video storage. The AS61MT IP servers with its very small size enable quick deployment of entry level VMS software packages.

Optimized

The AS61MT is optimized for the Video Surveillance applications and market place. It provides the performance and capacity for the most demanding megapixel installations.

Easy

AS61MT provides effortless installation, management and administration. All administration functions assume technicians with basic to no storage knowledge. Once racked, setup time should be 15 minutes or less.

Open

The AS61MT is a designed and optimized to integrate Video Management Software. We prequalified all major OS and VMS providers. We continually add more to ensure the widest possible certification coverage.

Performance

Latest generation Intel® CPU. Faster performance improvement with significantly increased video processing performance provide a huge increase in video surveillance performance over previous generation processors

System Specification

Core Technology	
CPU Type	**Intel Quad Core / 8 Threads**
Memory size	**up to 32 GB**
Memory type	**DDR4 2666 DIMM**
Video Storage Performance	**Up to 36Mbs/5MBs**
Expansion	
Expansion Slot	1, used for installed Graphics card
Slot Type	1 x PCI-E x16 (Gen3 x16 Link)
Storage	
SSD Drive support	**256GB, 512GB, 1TB**
Removable Storage	**1 x Optical DVD-RW**
Networking	
Data	**2 x GbE**
Video	
Motherboard Graphic	**Intel® UHD Graphics 630**
Graphics Card	**2x HDMI, 1x mDP, 1x DVI-D via HDMI adapter, 1x VGA via HDMI adapter**
On Board I/O	**4 x USB 3.2 Gen2 Type-A Ports (10 Gb/s, Supports ESD Protection)**
	2 x USB 2.0 ports (Front, Supports ESD Protection)

	1 x USB 3.2 ports Type C (Rear, Supports ESD Protection)
	1 x HDMI + 1x Mini Display ports
	1 x PS/2 keyboard/mouse port
	2 x RJ45 port
Compliance	
Safety	UL/IEC 106950 (power supply)
EMI	FCC, CE (Motherboard, Power Supply)
Physical Characteristics	
Dimensions (in./mm)	8.7"x 5.1"x 13.5" / 220mm x 129mm x 340mm
Weight	33lbs./6.5Kg
Power	Single
Voltage	110/220V AC
Watts	250W
Operating Environment	
Operation temperature	10℃ ~ 35℃
Non operation temperature	-40℃ ~ 70℃
Humidity:	20% ~ 90% (Non condensing)

* Maximum camera supported is calculated using 1MP HD cameras using H.264 at 15fps,

Chapter 2

Hardware Details

Front Panel

Rear Panel

Internal

Front Panel LEDs

Front panel

The server displays a simple yet stylish front panel with easily accessible features. The power and reset buttons, LED indicators, optical drive, and two USB ports are located on the front panel.

The combo power, power indicator and reset button, LED indicators, DVD-ROM drive, audio (microphone and earphone) and USB ports are located on the front panel.

Figure 1: Front Panel

1. **2x USB connections**
2. **Audio connections with microphone and earphone**
3. **DVD drive**
4. **DVD eject button**
5. **SSD status and activity LED**

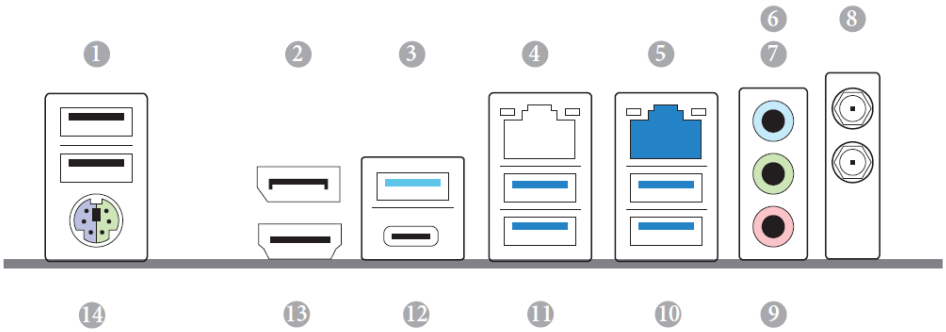
6. **Combination power switch and power indicator**

Rear panel

The rear panel includes a slot for the motherboard rear I/O ports, expansion slots, a chassis lock and intrusion switch, a vent for the system fan, and power supply module.

Figure 2: Rear Panel

1. **AC power connector**
2. **Power supply voltage selector**
3. **Video Graphics Card**



No.	Description	No.	Description
1	USB 2.0 Ports (USB12)	8	Antenna Ports
2	DisplayPort 1.4	9	Microphone (Pink)***
3	USB 3.2 Gen1 Type-A Port (USB3_TA_1)	10	USB 3.2 Gen2 Type-A Ports (USB31_34)
4	LAN RJ-45 Port (Intel® I219V)*	11	USB 3.2 Gen2 Type-A Ports (USB31_12)
5	2.5G LAN RJ-45 Port (Dragon RTL8125BG)**	12	USB 3.2 Gen1 Type-C Port (USB3_TC_1)
6	Line In (Light Blue)***	13	HDMI Port
7	Front Speaker (Lime)***	14	PS/2 Mouse/Keyboard Port

Figure 3: Rear Panel I/O

Port	2-Channel	4-Channel	6-Channel	8-Channel
Blue	Line-In	Line-In	Line-In	Side Speaker Out
Green	Line-Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Mic In	Mic In
Black	–	–	Center/Subwoofer	Center/Subwoofer
Orange	–	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out

Figure 4: Audio Connections

Internal

The server includes the basic components as shown.

Figure 5: Internal View

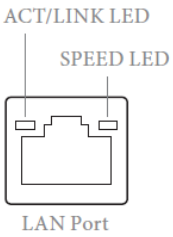
1. **Optical drive (DVD)**
2. **SSD module (Hidden under DVD)**
3. **Expansion Slot PCIe 3.0**
4. **250W Single Power supply unit:**

Turn off the system power and detach the power supply before removing or replacing any system component.

WARNING HAZARDOUS MOVING PARTS KEEP FINGERS AND OTHER BODY PARTS AWAY

Front panel LEDs

LAN LEDs



Activity / Link LED		Speed LED	
Status	**Description**	**Status**	**Description**
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Orange	100Mbps connection
On	Link	Green	1Gbps connection

Figure 6: LAN LEDs

Chapter 2

Before Deployment

Configuration Plan

Thoroughly research and establish an installation and configuration plan for your specific network environment. You should also plan how you want to configure your storage.

Gather information

The system has the ability to be set with one or multiple IP addresses. The simple online configuration procedures will allow you to set-up your system on your network using these IP addresses. Be sure to ask your network administrator to provide you with sufficient IP addresses for your planned configuration. Your administrator should provide the following information so that you can properly configure your system on your network:

IP Address(s)

Gateway address

Net mask address

DNS server information.

Packing Checklist

Make sure you have all the components that shipped with your system. If any item is damaged or missing, please contact your sales representative for a replacement. The AS 61SSD is shipped with the following:

Check your system package for the following items:

Model Name AS 61SSD

Chassis: AS61 Mini tower chassis

Component AS61 Mini tower

1 x 250W Power Supply

Accessories:

1 x AS 61SSD Series User's Guide

1 x RASILIENT SYSTEMS Quick Start Guide

1 x AC Power Cable