



## Lightspeed G-Series Server Guide

Serial # \_\_\_\_\_



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Telestream  
848 Gold Flat Road  
Nevada City, CA 95959 USA

You can call Telestream via telephone at (530) 470-1300.

Part number: 306172

Date: March 2021

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# Safety Information

Observe all safety precautions listed within this document to avoid injury and prevent damage to this product or any product connected to it. To avoid any hazardous conditions, use this product only as specified.

## Topics

- [Safety Terms](#)
- [General Precautions to Avoid Injury](#)
- [General Precautions to Avoid Property Damage](#)
- [Avoiding Electrostatic Discharge](#)

## Safety Terms

Safety statements throughout this document are identified as follows:

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**WARNING:** *Warning statements indicate conditions that could result in injury or loss of life and describe how to avoid them.*

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**CAUTION:** Caution statements indicate conditions that could result in damage to this product or other property and describe how to avoid these problems.

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## General Precautions to Avoid Injury

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**WARNING:** *Do not operate in wet or damp environments or outside recommended operating conditions. This product is intended for indoor use.*

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**WARNING:** *Use only the power supply specified for this product with a properly grounded power outlet.*

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**WARNING:** *Do not operate this product in an explosive atmosphere.*

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**WARNING:** *Do not operate this product if it is damaged. Have a qualified service person inspect damaged equipment before use.*

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## General Precautions to Avoid Property Damage

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**CAUTION:** Excessive electrostatic discharge may damage some components. Take precautions against electrostatic discharge.

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**CAUTION:** Use care in handling. Delicate connectors can be easily damaged.

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**CAUTION:** Provide proper ventilation to prevent the product from overheating.

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## Avoiding Electrostatic Discharge

Electrostatic discharge (ESD) damage, which can occur whenever electronic components are improperly handled, results in complete or intermittent failures.

Telestream recommends using an ESD-preventive strap whenever you are handling Telestream equipment or one of its components.

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**CAUTION:** Whenever using an ESD-preventive wrist or ankle strap, ensure that it makes good skin contact. Connect the equipment end of the connection cord to an ESD connection socket if one is available or to bare metal on the rack.

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Periodically check the resistance value of the ESD strap. The measurement should be between 1 and 10 megohms.



# Technical Specifications

Lightspeed Servers are high speed, high-end Windows servers configured specially for media processing using Telestream Vantage® products. This chapter provides Telestream's Lightspeed G-Series Servers technical specifications.

## Topics

- [Lightspeed G-Series Server Hardware](#)
- [System Power](#)
- [Drives](#)
- [Front Control Panel](#)
- [Cooling System](#)
- [GPU](#)
- [Expansion Input Card Slots](#)
- [Front Panel](#)
- [Rear Panel](#)
- [Power Requirements](#)

## Lightspeed G-Series Server Hardware

These tables summarize the Lightspeed G5, G6, G8 and G10 Server hardware details, followed by more detailed descriptions of some components. All servers are built on the same physical platform

<b>Components</b>	<b>Description G5</b>	<b>Description G6</b>	<b>Description G8</b>	<b>Description G10</b>
RAM	64 GB	128 GB	192 GB	192 GB
CPU	Dual Multi-Core CPU, 2.0 GHz	Dual Multi-Core CPU, 2.6 GHz	Dual Multi-Core CPU, 2.9 GHz	Dual Multi-Core CPU, 3.0 GHz
GPU	1 NVIDIA GPU	2 NVIDIA GPUs	2 NVIDIA GPUs	2 NVIDIA GPUs
OS Drives	1 Windows OS 240 GB SSD SATA drive (top left-most slot)  1 optional second OS 240 GB SSD SATA drive (bottom left slot)	1 Windows OS 240 GB SSD SATA drive (top left-most slot)  1 optional second OS 240 GB SSD SATA drive (bottom left slot)	1 Windows OS 240 GB SSD SATA drive (top left-most slot)  1 optional second OS 240 GB SSD SATA drive (bottom left slot)	1 Windows OS 240 GB SSD SATA drive (top left-most slot)  1 optional second OS 240 GB SSD SATA drive (bottom left slot)
Storage Drives	2 RAID 0 SSD SATA drives, 1.92TB per drive  6 empty drive bays for additional optional SSD drives	2 RAID 0 SSD SATA drives, 1.92TB per drive  6 empty drive bays for additional optional SSD drives	2 RAID 0 SSD SATA drives, 1.92TB per drive  6 empty drive bays for additional optional SSD drives	2 RAID 0 SSD SATA drives, 1.92TB per drive  6 empty drive bays for additional optional SSD drives
Drive Controller	Supports a total of up to 8 SSD media drives (6 optional)	Supports a total of up to 8 SSD media drives (6 optional)	Supports a total of up to 8 SSD media drives (6 optional)	Supports a total of up to 8 SSD media drives (6 optional)
Available PCI Option Slot	1 half height PCI x8 slot  1 full height PCI x16 slot	1 half height PCI x8 slot	1 half height PCI x8 slot	1 half height PCI x8 slot

Components	Description G5	Description G6	Description G8	Description G10
USB 3.0	2 front, 2 back	2 front, 2 back	2 front, 2 back	2 front, 2 back
Ethernet	Four 10-GB Ethernet Controllers	Four 10-GB Ethernet Controllers	Four 10-GB Ethernet Controllers	Four 10-GB Ethernet Controllers
VGA Monitor	1 VGA monitor port	1 VGA monitor port	1 VGA monitor port	1 VGA monitor port
AC Inputs	2 redundant AC inputs: 100-240 Volts, 50-60 Hz. Rated Input Current: 9.5-4.5 Amps	2 redundant AC inputs: 100-240 Volts, 50-60 Hz. Rated Input Current: 9.5-4.5 Amps	2 redundant AC inputs: 100-240 Volts, 50-60 Hz. Rated Input Current: 9.5-4.5 Amps	2 redundant AC inputs: 100-240 Volts, 50-60 Hz. Rated Input Current: 9.5-4.5 Amps
Operating Environment	10 degrees C to 35 degrees C, 8-90 percent humidity (non-condensing)	10 degrees C to 35 degrees C, 8-90 percent humidity (non-condensing)	10 degrees C to 35 degrees C, 8-90 percent humidity (non-condensing)	10 degrees C to 35 degrees C, 8-90 percent humidity (non-condensing)

## System Power

The chassis features redundant hot-swappable dual digital power supplies that automatically sense the input voltage between 100v to 240v, and operate at that voltage. Power cords plug directly into the power supply units at the back of the chassis, and the Power On/Off (0/1) button on the front energizes the unit. A green light indicates that the power supply is operating. When a power supply fails or is disconnected, an amber light on the power supply illuminates and an alarm sounds.

## Drives

The chassis supports up to eight SSD SATA hot-swappable 2.5" media drives. The eight drive bays on the right (viewed from the front) support the media drives, two of which are included as standard. These eight storage drives can be configured for RAID 0, 1, 5 or 10 (RAID 0 set at the factory for the two standard drives). The top left bay is reserved for the Windows OS drive, and the bay below it accepts an optional OS drive.

Additional optional drives may be ordered from Telestream.

## Front Control Panel

The chassis front control panel provides system monitoring lights, USB ports, and control buttons which are described later (see [Front Panel](#)).

## Cooling System

The system cooling design features eight 4-cm counter-rotating fans located in the middle section of the chassis. Fan speed is controlled by the IPMI system management software to respond to fluctuations in system temperature.

Dual air shrouds direct air flow to the dual CPUs and components that require cooling. The power supply module also includes a cooling fan.

## GPU

GPUs greatly accelerate video processing and H.264/H.265 media creation. Using a GPU in combination with Lightspeed's powerful multi-core CPU processors enables rapid transcoding and processing in Vantage.

## Expansion Input Card Slots

The system supports optional additional PCI cards.

The G5 accepts one full-height X16 PCI card, and one low profile X8 PCI card, installed by Telestream.

The G6, G8 and G10 accept one low profile X8 PCI card, installed by Telestream.

In order to ensure optimal product performance and warranty coverage, it is important that Telestream products be used in accordance with the following product policy. It is critical that our product policy be adhered to when using add-in cards:

- Add-in cards are to be installed by Telestream, or an authorized agent, at or before commissioning.
- Only Telestream-qualified add-in cards can be used. For the most up-to-date list refer to the Lightspeed G-Series Server product sheet on the [Telestream](#) web site. Using untested and unknown add-in cards voids the product warranty.

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**Note:** Except for externally removable power supplies and disk drives, the Lightspeed Server has no user-serviceable parts. To maintain your warranty, any repair or additional PCI card installation and any service inside the sealed top cover must be performed by Telestream or an authorized Telestream service technician.

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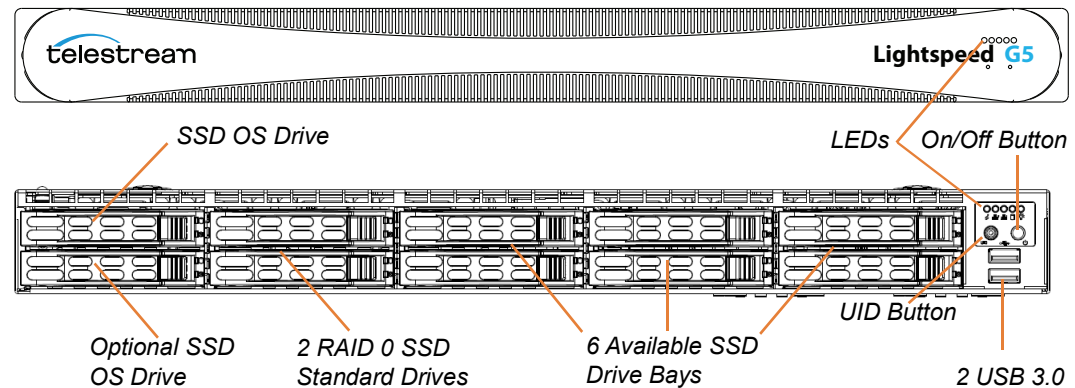


# Front Panel

Lightspeed G-Series Servers have a removable front bezel. By removing the bezel, you can access the system interface buttons and LEDs, drives, and two front USB ports.

## Front Panel Features

The removable front bezel provides visibility of the system monitoring LED indicators and allows pinhole access to the recessed unit identifier (UID) and power buttons.



### LEDs (left to right)

- System Overheat | FAN Fail | UID
- Network Activity (NIC1)
- Network Activity (NIC2)
- Hard Drive Activity
- Power

### UID Button (left)

The UID button alternately turns on and off the blue front and rear panel UID LEDs used to locate a particular unit among many units in a rack or server room.

### Power On/Off Button (right)

Press the Power On/Off button to perform a normal power up/power down cycle or a hardware reboot (hold the button down for 4 seconds). A reboot abnormally terminates connected clients and systems and should be done only in the event of an unrecoverable system error. Under normal conditions, you should properly close client programs and shut down the domain and OS before cycling power.

### USB Ports

Two USB 3.0 ports for general use are located below the LEDs and buttons.

## Drives

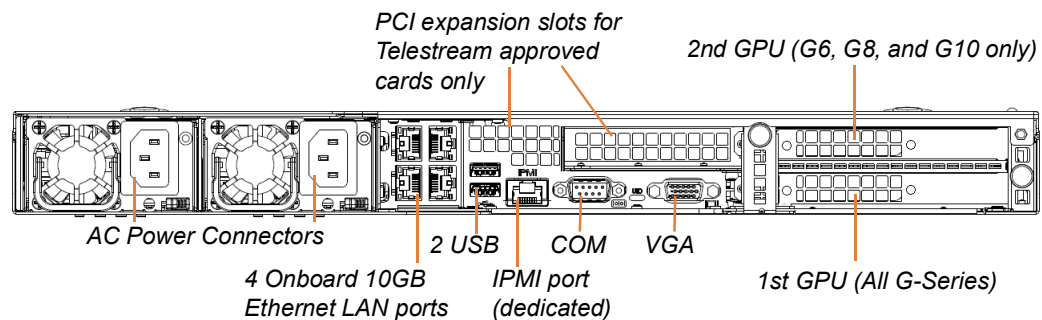
The top left-most drive bay houses the SSD Windows OS drive, and the drive beneath it is an available SSD OS drive bay. These drives have their own controller, separate from the storage drives.

To the right of the OS drive are eight SSD media storage drive slots containing the two standard media drives and up to six optional media drives. These drives have their own controller separate from the OS drive.

## Rear Panel

These are the Lightspeed G5, G6, G8 and G10 Server rear panel ports and connectors:

- *Two redundant AC power connectors*—connect to a 10-amp or greater AC source
- *Four 10GbT Ethernet LAN ports*—connect as required to Ethernet LAN
- *Two USB 3.0 ports*—connect as required to keyboard, mouse, or other serial device
- One IPMI Ethernet dedicated port that should not be used for any other purpose
- One VGA monitor port
- One MGMT comm port (not used)



Additional PCI cards can be optionally installed by Telestream in the PCI expansion slots.

## Power Requirements

The Lightspeed G-Series Server power supplies are rated at 100-240 VAC, 50-60 Hz, 9.5-4.5 amps. These are the detailed specifications:

**In Rush Current** (On Boot/Idle/Full Load) at 120V

Server Model	Boot	Idle	Full Load
G5	1.6 amps	1.1 amps	2.4 amps
G6	2.0 amps	1.8 amps	4.0 amps
G8	2.8 amps	1.2 amps	6.6 amps
G10	3.2 amps	1.2 amps	7.4 amps

**Watts** (On Boot/Idle/Full Load) at 120V

Server Model	Boot	Idle	Full Load
G5	192 watts	132 watts	288 watts
G6	240 watts	216 watts	480 watts
G8	314 watts	135 watts	745 watts
G10	368 watts	138 watts	851 watts

**BTU/hr** (On Boot/Idle/Full Load)

Server Model	Boot	Idle	Full Load
G5	655 BTUs	450 BTUs	983 BTUs
G6	819 BTUs	737 BTUs	1638 BTUs
G8	1071 BTUs	461 BTUs	2542 BTUs
G10	1256 BTUs	462 BTUs	2904 BTUs



# Server Installation and Maintenance

This chapter explains how to install Lightspeed G-Series Servers into an equipment rack and configure it for operation. Maintenance and support instructions are also provided.

## Topics

- [Installing the Server](#)
- [Making Connections](#)
- [Operating System](#)
- [Maintaining the Server](#)
- [Obtaining Support | Information | Assistance](#)
- [Return Material Authorization \(RMA\) Procedure](#)

## Installing the Server

The following topics cover physical server installation:

- [Unpacking the Server](#)
- [Rack Installation](#)

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**WARNING:** Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

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**CAUTION:** Except for replaceable power supplies and hard drives which may be accessed from the outside, the Lightspeed Server is a sealed device, with no user-serviceable parts or user-accessible expansion slots. You should never open the top cover or attempt to upgrade or alter the server. Doing so exposes you to electrical hazard, may damage the unit, and may invalidate your warranty. If you have hardware or software problems with your Lightspeed Server, follow the steps in [Obtaining Support | Information | Assistance](#) later in this guide.

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**Note:** Before proceeding, work with your network administrator to determine computer and network setting requirements.

---

## Unpacking the Server

The Lightspeed Server is packed for shipping in a heavy-duty, cardboard box with foam padding surrounding the device to protect it. During unpacking, inspect the container and the contents for damage. If there is any damage, report it immediately to the freight carrier and to Telestream Support (see [Obtaining Support | Information | Assistance](#) for contact information).

---

**CAUTION:** The server is heavy. Unpack the server on a strong, well-balanced table that supports the full weight of the server and shipping container without tipping.

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Inside the box are the server, optional components such as rack rails and documentation on paper and flash drive (a DVD is available by request).

## Rack Installation

The Lightspeed G-Series Servers are designed to fit into a standard 19-inch (483 mm) equipment rack with support front and rear, using supplied rack rails and rear support extensions.

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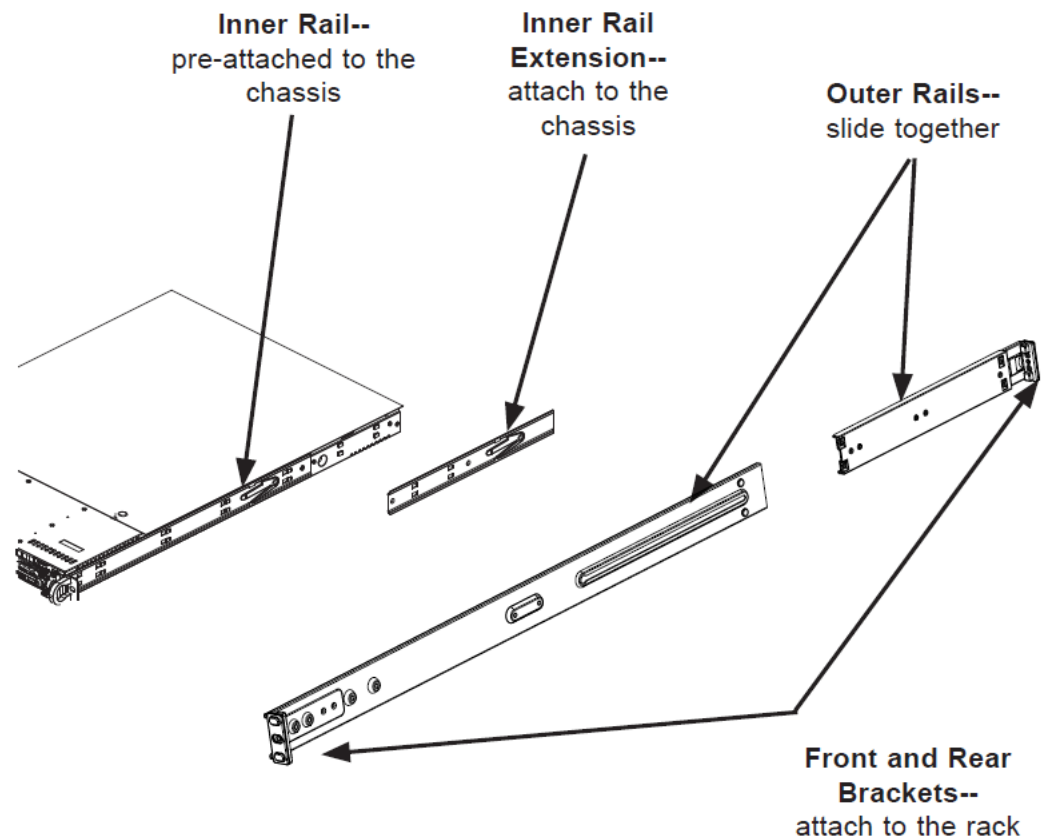
**WARNING:** *Stability hazard. The rack stabilizing mechanism must be in place, or the rack must be bolted to the floor before you slide the unit out for servicing. Failure to stabilize the rack can cause the rack to tip over.*

---

### Assembling the Rails

The inner rail extensions install on each side of the chassis as shown. Align the extension's holes with the hooks on the side rail and slide the extension forward to engage the hooks until the quick release bracket snaps into place. For added stability, you can secure the extension with a screw.

The outer rails assemble by sliding the front and rear sections together as shown.



## Installing Outer Rails into the Rack

Next, install the outer rails into the rack as shown in the next figure. Align the square pegs on the front of the rail with the square holes in the front of the rack (C).

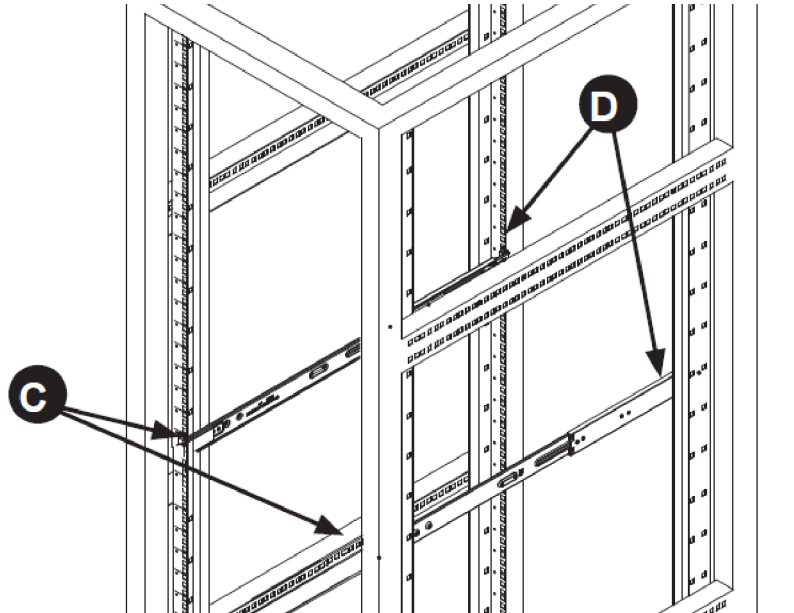
Push the rail into the rack until the quick release bracket snaps into place, securing the rail to the rack.

Extend the rear of the rail to align its square pegs with the square holes on the rear of the rack (D). Push the rail into the rack until the quick release bracket snaps into place, securing the rail to the rack.

---

**CAUTION:** To prevent the server chassis from being dropped and damaged, be sure the rails are solidly in position and ready to support the full weight of the chassis.

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## Installing the Server in the Rack

When selecting a position in a rack to place the server, be sure to allow a minimum of 30 inches (0.76 meters) of clearance at the back of the server for sufficient cooling airflow and servicing.

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**WARNING:** Do not pick up the server with the front handles. They are designed to pull the system from a rack only.

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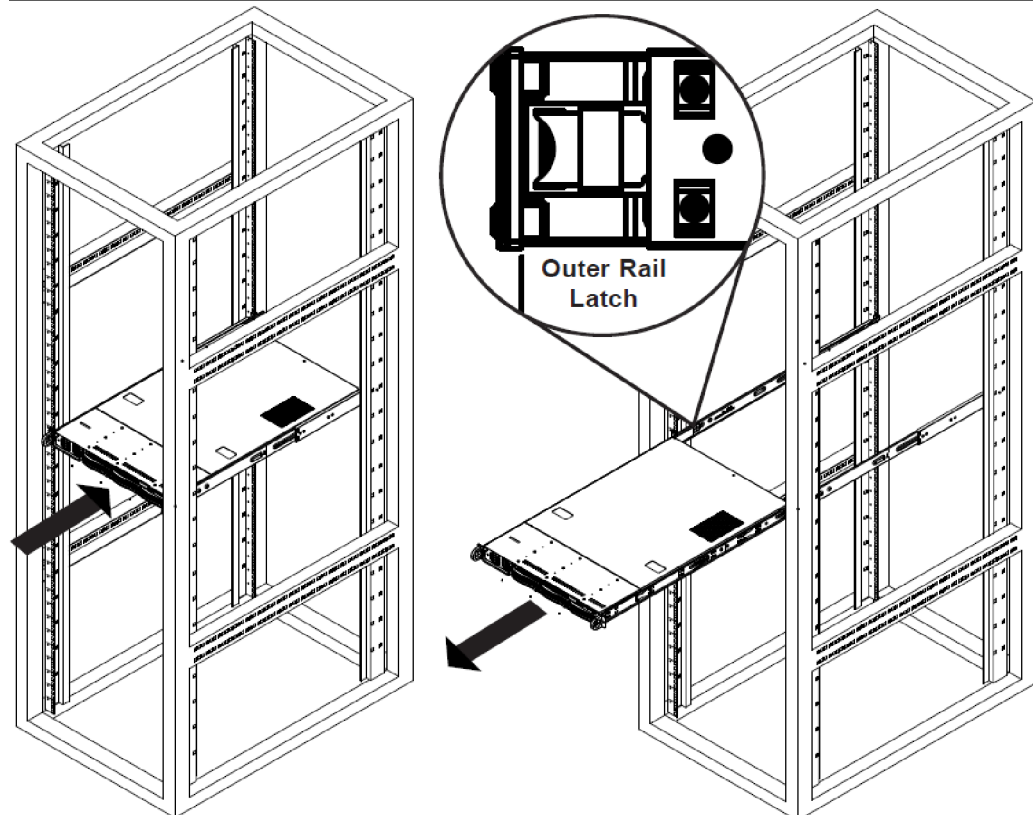
To install the server, follow this procedure:

1. Slide the inner rail extensions forward into the front of the outer rails.
2. Support the chassis and align the back of the chassis with the front of the rails.
3. Push the chassis backward, sliding it into the rack rails, until the chassis clicks into the locked position.

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**CAUTION:** To prevent the server from falling and becoming damaged, be sure it is securely in the rack before you remove support.

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**Note:** The figure shown is for illustrative purposes only. Always install servers at the bottom of the rack first.

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If you need to remove the server from the rack, press the outer rail latch shown in the figure to release the chassis.

Slide the chassis forward off the outer rails and out of the chassis.

## Making Connections

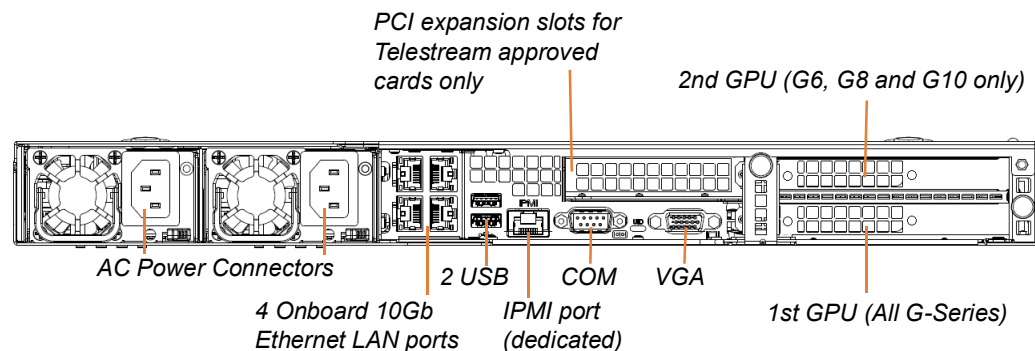
This topic describes the server's connectors and how to connect to them. Follow the order of connections given here:

- [Data and Signal Connections](#)
- [Power Connections](#)

### Data and Signal Connections

Make the following data and signal connections to the rear panel of the server:

- Make Ethernet LAN connections to provide network connectivity.
- Connect devices, such as a keyboard and a mouse, to the USB connectors (optional).
- Connect a dedicated IPMI LAN to the IPMI port (optional).
- Connect a monitor to the VGA connector (optional).



### Power Connections

After the server chassis has been installed and all other connections made, connect the two redundant AC power cords to the back of the chassis and to an AC power source. Be certain to observe the following AC power and connection requirements and all applicable electrical codes.

Observe the following precautions when connecting power and operating the server.

---

**WARNING:** This unit has two power supply connections. Both connections must be removed to completely de-energize the unit.

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**WARNING:** Hazardous voltage or energy is present on the backplane when the system is operating. To prevent possible injury or death, use caution when servicing.

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**WARNING:** Ensure a proper earth ground connection to the ground conductor in the AC power plug. Failure to do so could present a severe electric shock hazard that could result in injury or death.

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**CAUTION:** Telestream recommends connecting computer equipment to AC power through an uninterruptible power supply (UPS) with surge protection. Fluctuations in commercial supply voltage can damage unprotected electronic equipment. A high quality surge suppressor may be substituted if a UPS is not available, but a surge suppressor may not provide adequate electrical spike protection.

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**WARNING:** When installing the product, use the provided or designated connection power cables. Using any other cables could cause a malfunction or a fire.

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**WARNING:** The fans might still be turning when you remove the replaceable power supply from the chassis. Keep fingers, screwdrivers, and other objects away from the openings in the replaceable power supply's housing.

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**WARNING:** Power supplies and other components can get very hot. Use caution when touching possibly hot components during operation and directly after unplugging.

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Take the following precautions to ensure a safe power connection:

- Make certain that the power source circuit can supply voltage within the specified range without becoming overloaded.
- Counted together, the server and other devices connected to the same power source must not exceed the total capacity of the power source circuit.

---

**WARNING:** This product relies on the protective circuit breakers in your building's electrical system for short-circuit (over-current) protection. The circuit breaker protecting the Lightspeed Server must not be rated greater than 250 Volts, 20 Amps.

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When power is connected, press the Power On/Off (0/1) button on the front of the chassis to turn the server on. To turn power off, press the Power On/Off button again.

## Operating System

Windows Server 2016 (Standard 64-bit) is pre-installed on the Lightspeed Server on a solid state drive (SSD) drive. Windows Server 2012 R2 and 2019 are also available.

See [microsoft.com](https://microsoft.com) for operating system (OS) specifications. The following topics explain OS activation, updating, and login:

- [Microsoft Activation Key](#)
- [Microsoft Updates](#)
- [Windows User ID and Password](#)

## Microsoft Activation Key

A sticker on the top surface of the Lightspeed Server lists license numbers. The number listed as the Physical Key is the OEM license number for the Microsoft Windows operating system. If you remove and reinstall the operating system, you will need to use this key to activate Windows again. The number typically contains five groups of five digits, as in this example: YFG8H-TDD97-6BR4G-F88PF-XXXXX. Enter the Physical Key shown on your sticker when activating Windows.

## Microsoft Updates

The Lightspeed Server ships with the Windows operating system set to check for updates, but it does not automatically download or install them. Downloading and installation of critical operating system updates is the responsibility of each customer (see your system administrator).

## Windows User ID and Password

After the Lightspeed Server boots up, you can log into it using this Windows user account.

Lightspeed Server Windows User Account

<b>User</b>	Administrator
<b>Password</b>	telestream!1

## Maintaining the Server

This section describes common server maintenance tasks that you may need to perform from time to time:

- [Performance Tuning the Lightspeed Server](#)
- [Backing up the Lightspeed Server](#)
- [Managing the Lightspeed Server](#)
- [Updating the BIOS or IPMI for Lightspeed G-Series Servers](#)
- [Installing New or Replacement Hard Drives](#)
- [Rebuilding the Lightspeed RAID](#)
- [Replacing Power Supplies](#)

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**CAUTION:** The Lightspeed Server chassis is a sealed device with no user-serviceable parts inside. You should never open or alter the chassis. Doing so exposes you to electrical hazard, may damage the unit, and may invalidate your warranty. Replace only those parts that may be safely removed and reinserted from the outside, such as slide-in power supplies and hard drives.

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## Performance Tuning the Lightspeed Server

The following settings are made at the factory to ensure best performance of your Lightspeed Server. The settings are supplied here in the event they have been changed and you need to restore them to factory original settings. (For details, consult your System Administrator or a Telestream Field Sales Engineer).

1. In Performance Options, set Windows Performance options:
  - Navigate to Start > Control Panel > System > Advanced system settings > Settings > Advanced.
  - Select Background services for Vantage transcoding nodes and SQL nodes.
  - Select Programs for editorial systems and Vantage client applications that are not running other Vantage services.
2. In Performance Options, Data Execution Prevention tab:
  - Select Turn on (select) Data Execution Prevention (DEP) for essential Windows programs and services only.
3. Set User Account Control (UAC) (in Start > Control Panel > User Accounts > Change User Account Control Settings) as low as safely possible, considering your exposure to Internet viruses and malware.
4. Set Power Options to High Performance with Sleep disabled:
  - Navigate to Start > Control Panel > Power Options.
  - Select the High Performance plan.
  - Set Sleep mode to Never (never sleep).
  - Select Change advanced power settings, and set all critical functions so that they are always ON (this usually means setting them to Never turn OFF).
5. Disable (turn OFF) any real-time software applications and processes, such as the following, that could adversely affect disk I/O performance or use excessive CPU:
  - Real-time virus scanning of media files as they are being captured
  - Automatic software updates that can preempt real-time services
  - Real-time file indexing
6. Disable all unnecessary Windows services in the Start > Control Panel > Administrative Tools > Services (consult your System Administrator).
7. Turn OFF all firewalls (including third party firewalls) and packet filtering:
  - Set Start > Control Panel > Windows Firewall > Turn off Windows Firewall.If you use firewalls, open them for applications installed on the Lightspeed Server.
8. You may increase network throughput by increasing buffer size within your network adapter. Set your Network Adapter's transmit and receive buffers to 1024:
  - Start > Control Panel > Network and Sharing > Change Adapter Settings > Local Area Connection > Properties
9. Disable any screen savers in Start > Control Panel > Display > Screen Savers.
10. Disable disk indexing in Start > Computer. Right-click each disk and uncheck Allow files on this drive to have contents indexed in addition to file properties.

## Backing up the Lightspeed Server

In order to protect your Lightspeed Server from data loss, Telestream highly recommends that you create an image of the Operating System drive (C:\) drive immediately upon taking delivery of your server and that you perform periodic back-ups of all critical data on the server.

Several disk image software solutions are available for creating a restoration image that you can use to restore the Lightspeed Server's operating system drive (C:\) to its original state. Using software solutions such as these, along with regular backups, you can restore your server back to its original shipping state with all of your critical data:

- Acronis
- Clonezilla

Consult your IT/Systems administrator for details on creating restoration images and performing a periodic backup of your Lightspeed's critical data.

## Managing the Lightspeed Server

IPMI View management software provides remote network management of your Lightspeed Servers using IPMI messages over Ethernet LAN or a dedicated IPMI LAN. If your Lightspeed Ethernet connectors are used to connect to storage, you can use the IPMI LAN connector to create an IPMI network among your Lightspeed servers.

You can download IPMI View from this location:

<https://www.supermicro.com/en/solutions/management-software/ipmi-utilities>

You'll find the IPMI View User's Guide at this location:

<https://www.supermicro.com/support/manuals/?mlg=0>

Among the tasks you can perform using IPMI View are these (see the IPMI View User's Guide for details):

- Discover Lightspeed Servers on the IPMI network (requires dedicated IPMI LAN)
- View system event logs
- Check current sensors and monitor history of fans, voltages, temperature, and power supplies
- View firmware revision levels
- Perform various kinds of shutdowns and resets
- Blink the UID LED to locate a particular unit in the rack or server room
- Set fan speed
- Manage LAN configuration, SNMP configuration, and RS232 modem
- Manage users, passwords, and privileges
- Set up paging of users in the event of malfunctions
- Establish Text Console Redirection or KVM Console Video Redirection for remote system control via text display or full graphic display
- Access virtual media
- Set up server management groups
- Update firmware.

For detailed instructions about using any of these system management features, consult the *IPMI View User's Guide*.



## Updating the BIOS or IPMI for Lightspeed G-Series Servers

This section provides instructions to download and install upgrades for the BIOS or IPMI of the G5 or G6 to BIOS v3.2a or v3.2 and IPMI v3.86.

### Pre-installation Requirements

Before upgrading the BIOS or IPMI of the G5 or G6 to BIOS v3.2a or v3.2 and IPMI v3.86, you must update the chipset and VGA drivers in order to avoid a black screen upon system boot.

**CAUTION:** Incorrectly installing or installing the incorrect version of the BIOS or IPMI can corrupt the server and require that you return it to Telestream for repair at your expense.

### Updating the Chipset and VGA Drivers

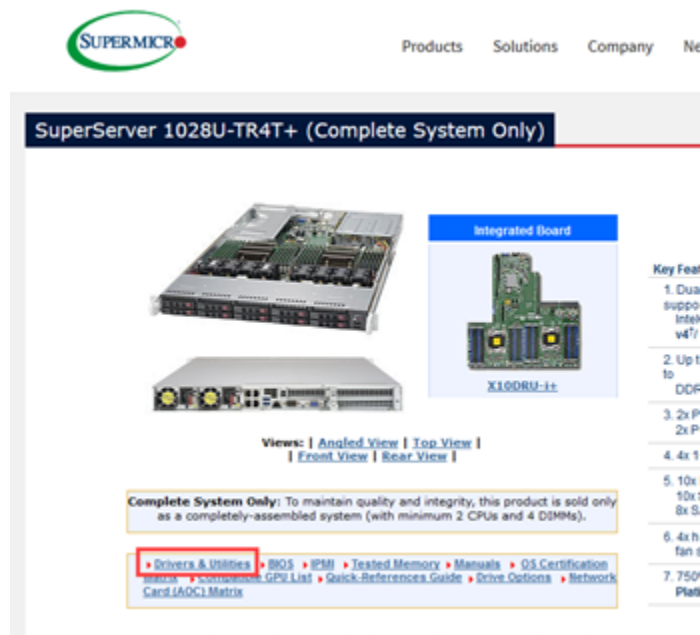
You can download the Chipset and VGA drivers from Supermicro's website at the following link for the corresponding server:

G5 and G6: [https://www.supermicro.com/en/products/system/1U/1028/SYS-1028U-TR4T\\_.cfm](https://www.supermicro.com/en/products/system/1U/1028/SYS-1028U-TR4T_.cfm)

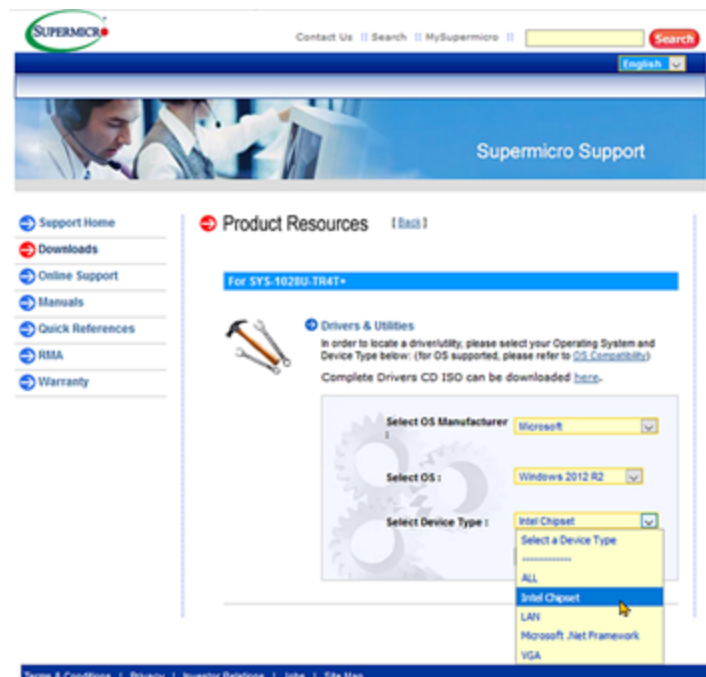
The downloading and updating procedures for each server are similar. The example figures shown are for the SuperServer 1028U-TR4T+.

#### Downloading the Chipset

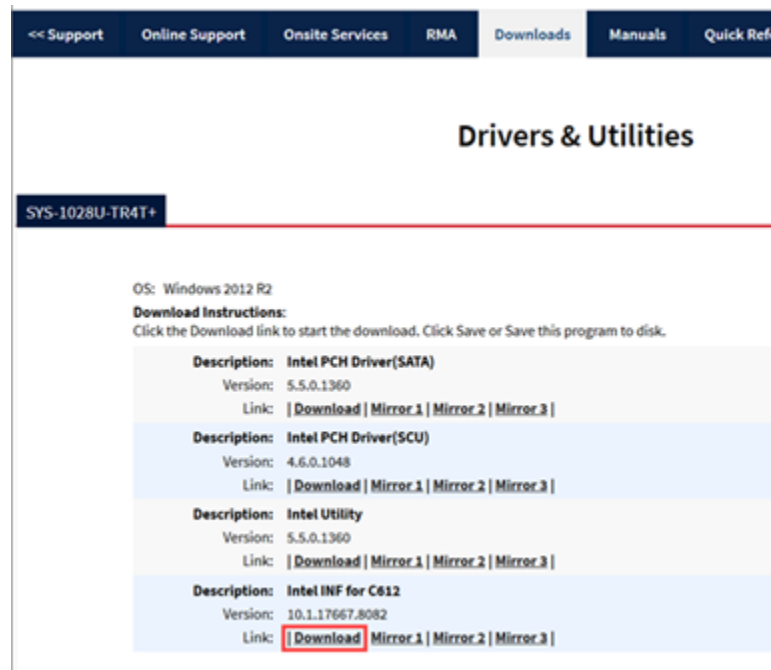
1. On the appropriate server's Specification page, click Drivers & Utilities.



2. Under Product Resources on the Supermicro Support page, select the OS manufacturer, the OS, and the Device Type Chipset. Click **Submit**.

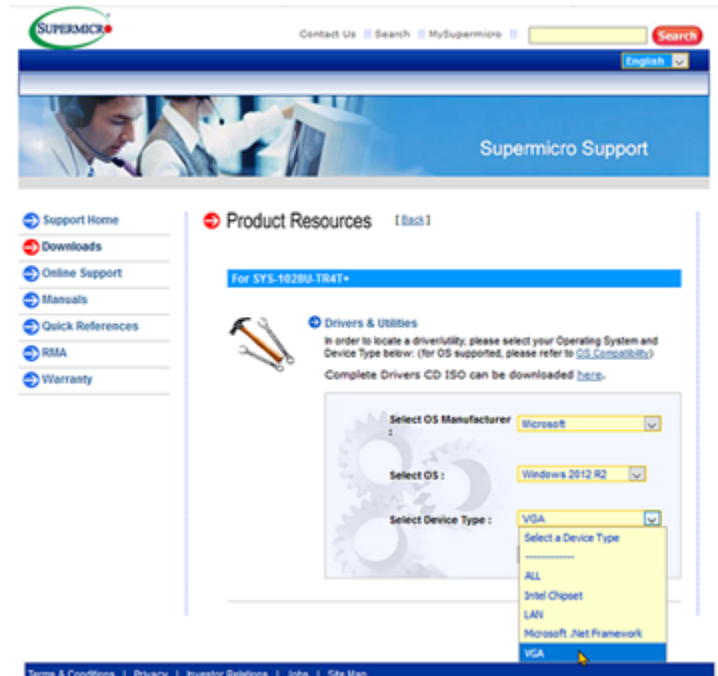


3. Follow the link's Download Instructions to download the appropriate file.

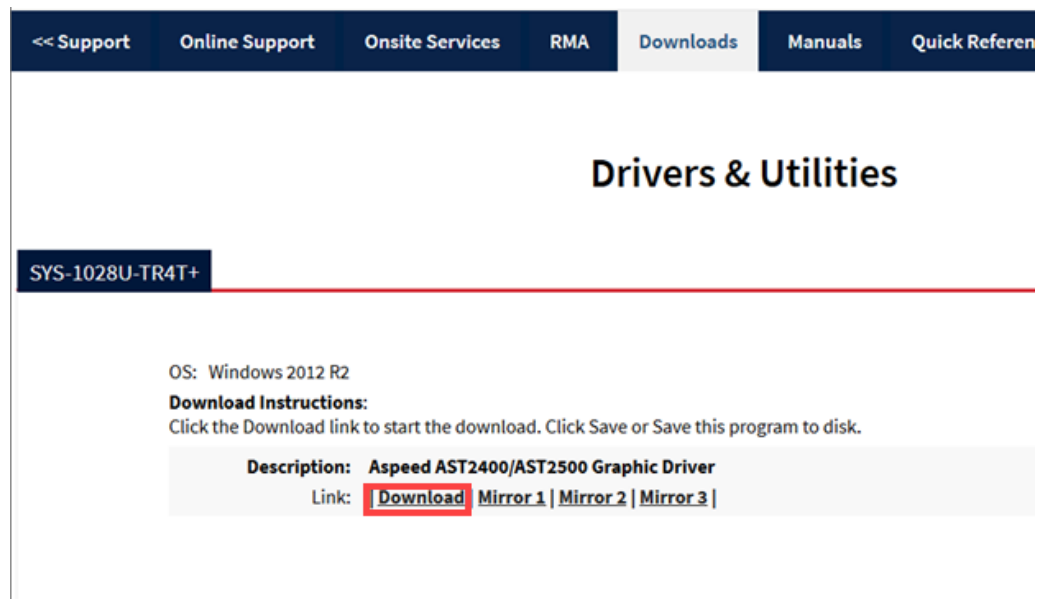


## Downloading the VGA Driver

1. Under Product Resources on the Supermicro Support page, select the OS manufacturer, the OS, and the Device Type VGA. Click **Submit**.



2. Follow the link's Download Instructions to download the appropriate file.



## Driver Installation

### Installing the Chipset Driver

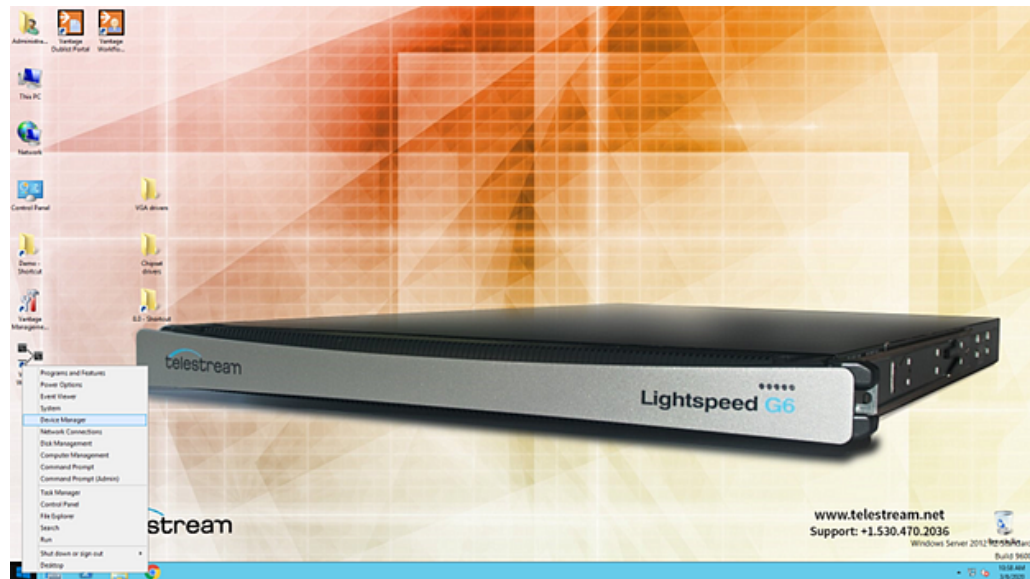
To install the chipset driver:

1. Browse to the folder location into which the driver was downloaded.
2. Extract the downloaded file and double-click the executable installation/setup file.
3. Follow the steps of the file's installer to complete the driver's installation.

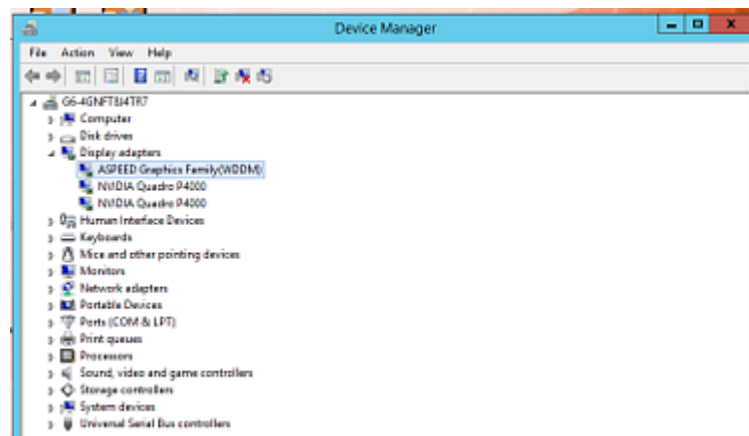
### Installing the VGA Driver

To install the VGA driver:

1. Right-click the Windows Start icon in the taskbar and select **Device Manager**.

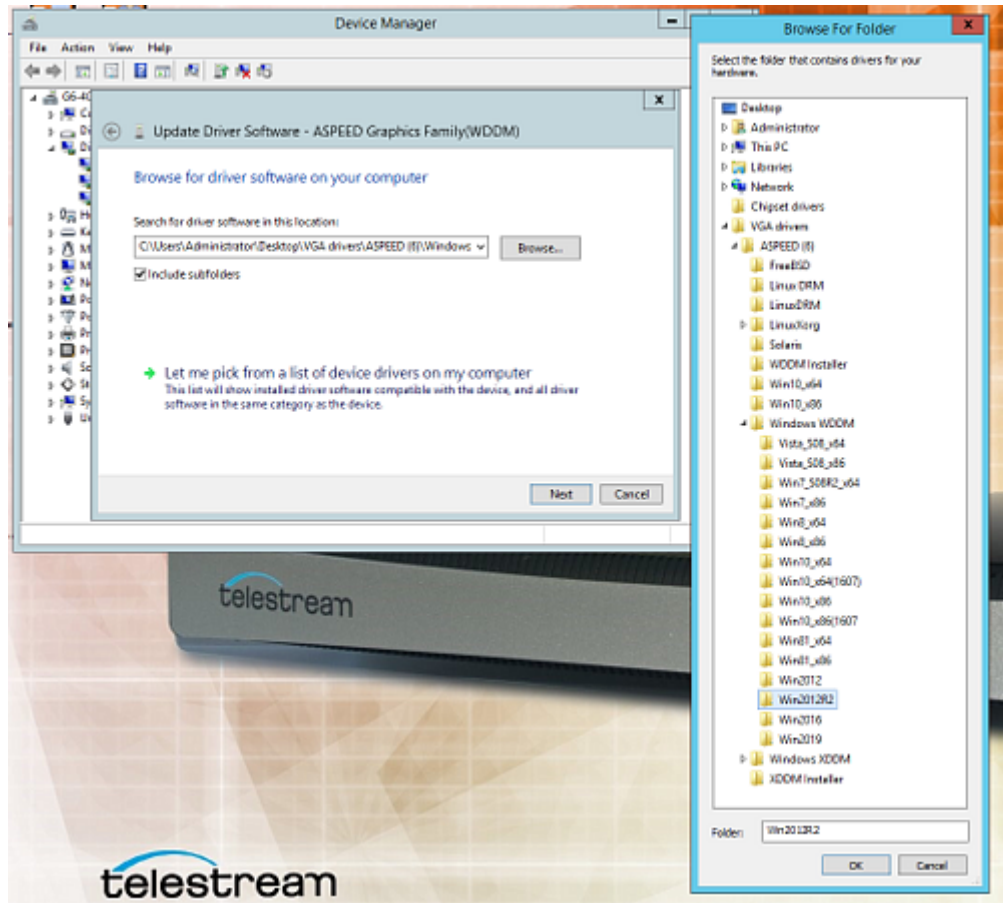


2. Expand display adapters.
3. Right-click ASPEED Graphics Family and select update driver.



4. Choose Browse My Computer to navigate the folder into which you downloaded the VGA driver and unzip or extract the file.
5. Navigate to the Windows WDDM folder:

Example path C:/PathToMyFiles/ASPEED/Windows WDDM/



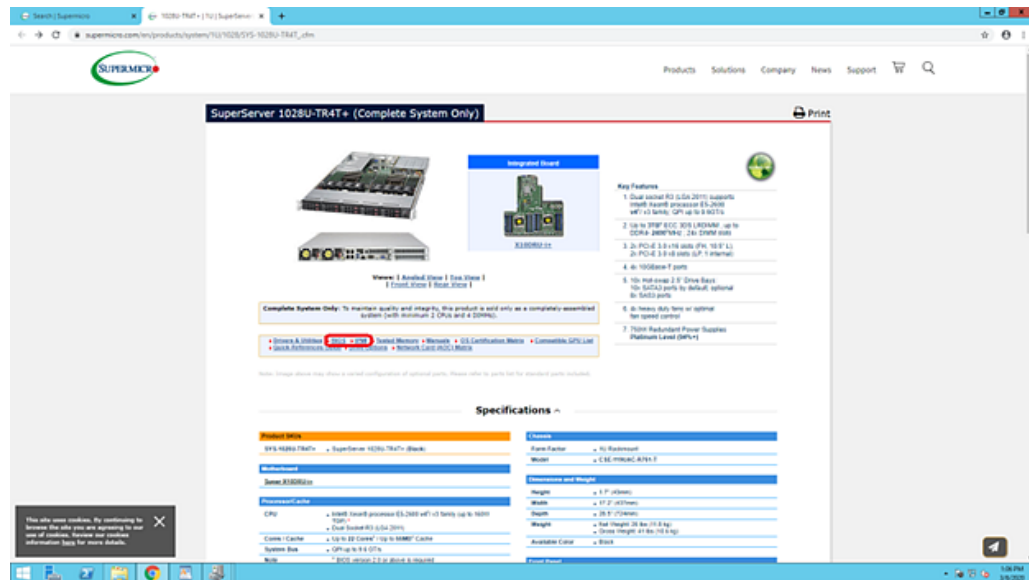
6. Choose the correct folder for the OS version installed.
7. Click **Next** to update the driver.

## Installing the BIOS and IPMI

Click the following links to download the BIOS and IPMI files.

G5 and G6: [https://www.supermicro.com/en/products/system/1U/1028/SYS-1028U-TR4T\\_.cfm](https://www.supermicro.com/en/products/system/1U/1028/SYS-1028U-TR4T_.cfm)

## 1. Click **BIOS & IPMI** to download the current versions.



To complete the installation, follow Supermicro's documentation included with the downloads of the BIOS and IPMI files.

**CAUTION:** Incorrectly installing or installing the incorrect version of the BIOS or IPMI can corrupt the server and require that you return it to the manufacturer for repair at your expense.

## Installing New or Replacement Hard Drives

Follow these steps to replace a failing hard drive or install a new one. Drives may be removed or replaced with power on. See the [Drives](#) topic in the [Technical Specifications](#) chapter for new or replacement drive specifications.

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**WARNING:** Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

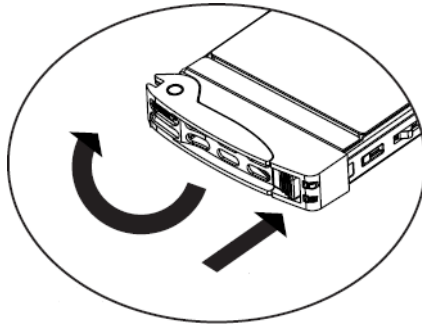
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**WARNING:** This unit has two power supply connections. Both connections must be removed to completely de-energize the unit.

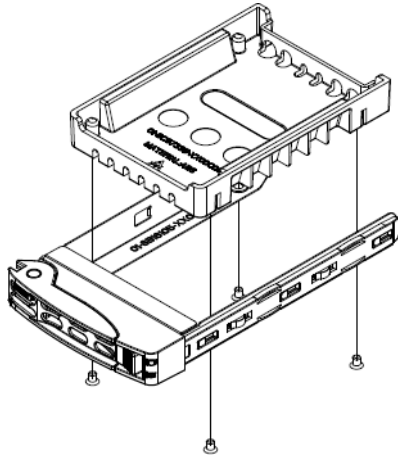
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1. Remove the front bezel from the chassis.
2. Press the release button on the right front of the drive carrier.
3. Use the drive carrier handle to pull the carrier out of the chassis.



4. Remove the drive or dummy drive from the carrier by removing the four M3 screws from the underside of the carrier. Retain the screws.
5. Insert the new drive into the carrier with the PCB side down and the connector facing the back of the carrier.

6. Secure the drive to the carrier with the four M3 screws retained from removal. Gently tighten but do not over tighten the screws, which could cause damage.



7. Slide the drive carrier into its bay with the drive facing up until the drive seats firmly in the rear connector.
8. Push the carrier handle closed flat against the front of the carrier to secure the carrier and drive in place.
9. Replace the front bezel on the chassis, and go to the next topic to rebuild the RAID.

## Rebuilding the Lightspeed RAID

If you receive a RAID error message from a Lightspeed server instructing you to rebuild a RAID drive, a tool and instructions for rebuilding the RAID are included in the software provided with the server. The path to the RAID UI and the docs is `C:\Program Files (x86)\Intel\Intel(R) Rapid Storage Technology enterprise`.

- The UI software is *IAStorUI.exe*.
- The IAStorUI documentation is *IAStorHelp.exe*.

## Replacing Power Supplies

The Lightspeed Server includes two redundant, hot-pluggable power supply modules. They automatically sense the input voltage between 100V to 240V, and operate at that voltage. Power cords plug directly into the power supply units at the back of the chassis. A green light indicates that the power supply is operating. When a power supply fails or loses power, an amber light on the power supply illuminates and an alarm sounds.

If either of the power supply modules fail, the other module will support the full load and will allow the system to continue operation without interruption. The PWR Fail LED will illuminate and remain on until the failed unit has been replaced. Replace with the same model. Replacement units can be ordered from Telestream. See [Obtaining Support | Information | Assistance](#) later in this chapter.



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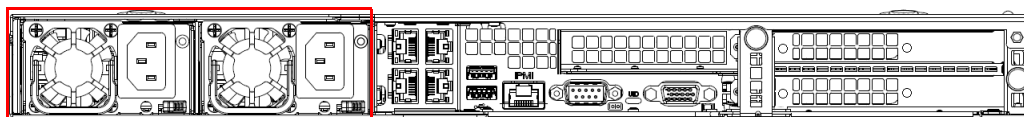
**WARNING:** Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

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**WARNING:** This unit has two power supply connections. Both connections must be removed to completely de-energize the unit.

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## Replacing the Power Supply

1. Unplug the AC power cord from the failed power supply module.
2. Push in the locking tab at the back of the module to release it.
3. Pull the unit straight out of the chassis.

---

**CAUTION:** the power supply may be very hot when first unplugged and could cause burns. Handle carefully by the edges and do not touch hot components.

---

4. Insert the new unit into the chassis, pushing it in until it clicks firmly in place.
5. Reconnect the power cord.

## Obtaining Support | Information | Assistance

If you need assistance or customer support for your Lightspeed Server, please refer to the contact information below.

### Telestream Contact Information

Resource	Contact Information
Vantage Support	Website: <a href="http://www.telestream.net/telestream-support/vantage/support.htm">www.telestream.net/telestream-support/vantage/support.htm</a> Support Email: <a href="mailto:support@telestream.net">support@telestream.net</a> Terms and times of support services vary, per the terms of your current service contract with Telestream.
Vantage Information, Assistance, FAQs, Forums, & Upgrades	Website: <a href="http://www.telestream.net/telestream-support/vantage/support.htm">www.telestream.net/telestream-support/vantage/support.htm</a> Support Email: <a href="mailto:support@telestream.net">support@telestream.net</a>
Telestream	Website: <a href="http://www.telestream.net">www.telestream.net</a> Sales and Marketing Email: <a href="mailto:info@telestream.net">info@telestream.net</a> Telestream 848 Gold Flat Road Nevada City, CA USA 95959
Vantage Reseller Support	If you purchased your Lightspeed Server from a reseller, please contact your reseller for support.
International Reseller Support	Website: <a href="http://www.telestream.net">www.telestream.net</a> See the Telestream website for your regional authorized Telestream reseller.
Telestream Technical Writers	Email: <a href="mailto:techwriter@telestream.net">techwriter@telestream.net</a> If you have comments or suggestions about improving this document, or other Telestream documents—or if you've discovered an error or omission, please email us.

## Return Material Authorization (RMA) Procedure

If your Lightspeed Server needs service of any kind, regardless of whether you purchased it from Telestream or an authorized reseller, contact Telestream directly for return material authorization:

- *Email:* [support@telestream.net](mailto:support@telestream.net)
- *In the US, telephone:* 1-877-257-6245
- *From international locations, telephone:* 1-530-470-2036.

Provide your organization name and contact information, the serial number of the inoperative unit, and request a Return Material Authorization.

Before returning your Lightspeed Server, Telestream recommends that you back up the entire contents of all server drives. See [Backing up the Lightspeed Server](#) for details.