



Lightspeed 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: 187116

Date: March 2016

Installation and Operation

SuperMicro builds and supplies Lightspeed Servers to Telestream, and Telestream further configures the servers to include Vantage software and hardware options. This guide supplements the *SuperMicro GPU Super Server User's Guide* available at www.supermicro.com/support/resources/results.cfm. Before installing and operating your Lightspeed Server, read the SuperMicro guide installation information, and then read and follow the installation information in this guide.

Models

This guide covers the following servers, which include US, European, and UK models:

- **K20:** V-LS-K20-NA-SVR, V-LS-K20-EU-SVR, V-LS-K20-UK-SV
- **K80:** V-LS-K80-NA-SVR, V-LS-K80-EU-SVR, V-LS-K80-UK-SVR
- **K80SSD:** V-LS-K80SSD-NA-SVR, V-LS-K80SSD-UK-SVR and V-LS-K80SSD-EU-SVR

Topics

The topics this guide covers are listed in the order you should follow during installation.

- [Unpacking the Lightspeed Server](#)
- [Registering the Lightspeed Server](#)
- [Lightspeed Server Specifications](#)
- [Installing the Lightspeed Server](#)
- [Getting Started with Vantage](#)
- [Performance Tuning a Lightspeed Server](#)
- [Renaming a Lightspeed Server](#)
- [Adding a Lightspeed Server to a Vantage Array](#)
- [Backing up the Lightspeed Server](#)
- [Managing the Lightspeed Server](#)
- [Obtaining Support | Information | Assistance](#)
- [Return Material Authorization \(RMA\) Procedure](#)

Unpacking the Lightspeed Server

This supersedes the SuperMicro Server User's Guide, Chapter 2, topic 2-2.

Unpack the contents of the shipping container; identify each component and determine that it has arrived in satisfactory condition.

If there is any shipping damage to the box, note it on your shipping documents and contact the carrier immediately. If the server or box contents are damaged in any way, you should file a claim with the carrier and notify Telestream immediately.

Note: Save the shipping container and packaging materials and store them in a safe place. If you require service—or move your Lightspeed Server—the packaging materials should be used for safe shipment.

Shipping Container Contents

Each Lightspeed Server box contains the following:

- Lightspeed Server (customized SuperMicro GPU Super Server) with custom, removable front bezel
 - Lightspeed Server Guide (this document)
 - Two US power cords (US shipments) for auto-ranging power supply
- OR
- Two US and two UK or EU power cords (UK | International shipments)
 - Server rack rails (2).

Registering the Lightspeed Server

This topic describes how to register your Lightspeed Server with Telestream. Registering your server is the first thing to do after unpacking it—for a number of reasons:

Safety—so you'll be kept informed of product feature updates and improvements

Service—to receive the excellent Telestream warranty service and technical support

Security—in the event of loss, theft or catastrophic events, your registration may serve as proof of purchase for your insurance carrier.

Registration is quick, easy, and important—follow these steps.

1. Go to dynamic.telestream.net/register/register-lightspeed.asp to display the Lightspeed Server registration page.
2. Complete the Lightspeed registration form, including the serial number. The serial number is printed on the front cover of this server guide.
3. Click Submit to complete registration.

Lightspeed Server Specifications

This topic provides reference information you need to know before you install the Lightspeed Server and get it running on your network.

CAUTION: The Lightspeed Server is a sealed device, with no user-serviceable parts or user-accessible expansion slots. You should never open 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 the [Return Material Authorization \(RMA\) Procedure](#) later in this guide to obtain service.

Power Requirements

This supplements power requirements in the SuperMicro Server User's Guide, Appendix B.

This server is rated at up to 10 amps. Make certain that the power source circuit can supply 10 amps for any/all devices on the same circuit without overloading it.

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 it may not provide adequate electrical spike protection.

Operating System Specifications

This supersedes OS specifications in the SuperMicro Server User's Guide, Chapter 1.

The Lightspeed Server is pre-installed on an SSD drive with Windows Server 2008 R2 or 2012 R2 (Standard 64-bit for K80SSD). See Microsoft.com for specifications.

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 OS, 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 individual customer (see your system administrator).

Hardware Specifications

This supersedes hardware specifications in the SuperMicro Server User’s Guide, Chapter 1.

The Lightspeed Server is a SuperMicro SuperServer. In addition to the general hardware specifications (see SuperMicro Server User’s Guide), the Lightspeed Server has the following components:

Table 1. Lightspeed Server Supplemental Hardware Specifications

Components	Description
GPU	1 or more GPU cards
OS Drive	1 SSD drive for Windows operating system
Storage Drives	K20/K80 - 2 media drives striped RAID-0 for local storage K80SSD - 2 SSD media drives striped RAID-0 for local storage
PCI Slots	K20 - 2 slots for the GPUs, 1 full height and 1 half height K80/K80SSD - 1 slot for the GPU, 2 full height and 1 half height

Optional PCI Cards

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

- Add-in card(s) 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 Server product sheet](#). Using untested and unknown add-in cards will void the product warranty.

Following is a current list of approved Lightspeed Server add-in cards and their corresponding part numbers. These are listed on the Lightspeed Server product sheet and in the *Operating Specifications* on our [Lightspeed Support](#) web page:

Fibre Channel Cards

- ATTO Celerity FC-81EN Single-Channel 8Gb/s HBA (V-FIBRE-LS-SINGLE)
- ATTO Celerity FC-82EN Dual-Channel 8Gb/s HBA (V-FIBRE-LS-DUAL)
- QLogic QLE2560 Single-Channel 8Gb/s HBA (V-QLOGIC-FC-SINGLE)
- QLogic QLE2562 Dual-Channel 8Gb/s HBA
 K20: V-QLOGIC-FC-SINGLE
 K80/K80SSD: V-QLOGIC-FC-DUAL

Ethernet Network Interface Cards

- Intel PRO/1000 PT or MT Dual Port Server adapter*
- Intel PRO/1000 PT Quad Port Server adapter (V-ETH-LS-QUAD)
- ATTO FastFrame NS-11 Single-Channel SFP+ 10GbE (V-10GBESPF-LS-SGL)
- ATTO FastFrame NS-12 Dual-Channel SFP+ 10GbE (V-10GBESPF-LS-DUAL)
- MYRICOM 10G-PCIE-8B-S+E 10GbE (V-MYRICOM-10G-SGL)
- MYRICOM 10G-PCIE2-8B2 Dual Port 10GbE (V-MYRICOM-10G-Dual)

* Not resold by Telestream

Please contact Telestream or your authorized reseller (see [Obtaining Support | Information | Assistance](#)).

Note: The Lightspeed Server has no user-serviceable parts. Any repair or additional PCI card installation must be performed by Telestream or an authorized Telestream service technician.

Lightspeed Server Front and Rear Panels

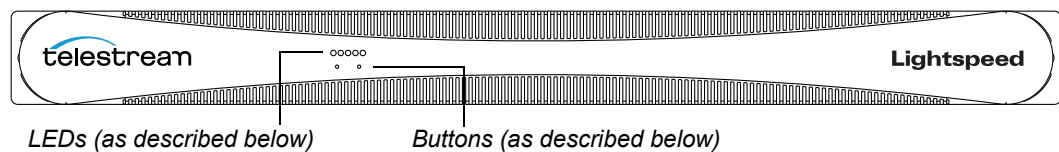
This supplements system interface topics in the SuperMicro Server User's Guide, Chapter 3.

The Lightspeed Server has a removable front bezel with system interface buttons and LEDs. The back plane has an optional Fibre-channel card.

Front Bezel LED Indicators and Buttons

The removable front bezel provides a system monitoring and control interface featuring LED indicators and recessed power and reset buttons.

Figure 1. Lightspeed Server Front Bezel



LEDs (from left to right)

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

Reset/UID Button

Systems built prior to August 2013 have a Reset button you can use to perform a hardware reboot. Systems built after that date have a UID button instead of a Reset button, and you must use the Power button to perform a system reboot. The UID button turns off the blue front or rear panel UID LED used to locate a particular unit among many units in a rack or server room (see [Managing the Lightspeed Server](#)).

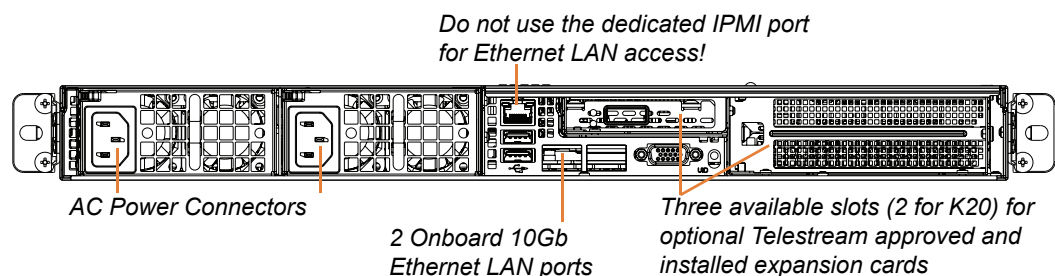
Power On/Off Button

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 disconnect client programs and shut down the domain and OS before cycling power.

Rear Panel Ports and Connectors

In addition to the ports and connectors specified in the SuperMicro Server User's Guide, Chapter 1, the Lightspeed Server optionally can be configured with up to two Telestream approved and installed I/O expansion cards. See [Optional PCI Cards](#), page 10.

Figure 2. Lightspeed Server Rear Panel



Installing the Lightspeed Server

For all reference information relating to Lightspeed Server installation, refer to Chapter 1, Introduction, in the SuperMicro Server User's Guide (www.supermicro.com/support/resources/results.cfm). For installation steps, refer to Chapter 2, Server Installation.

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

Windows User ID and Password

You can log into the Lightspeed Server with the following Windows user account.

Table 2. Lightspeed Server Windows User Account

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

Getting Started with Vantage

To get started with Vantage, you should review the following topics in the Vantage Domain Management Guide, and take action as appropriate.

- If you aren't familiar with Vantage, read the Domain Management Overview chapter.
- Review the Network Requirements topic and configure your server accordingly.
- Create a Vantage Windows user account for the Vantage services to log in with, and utilize its credentials. This user account should have read/write permissions as necessary for Vantage to have access to all input (monitor/watch) and output locations and devices (see Before you Install > Windows Authentication Guidelines).
- Set the computer time (see Before you Install > Time Synchronization Guidelines).
- Obtain and install the Vantage license (see Before you Install > Installing and Upgrading Vantage > Enabling a Vantage License).
- To integrate your Lightspeed Server with an existing Vantage domain, read Installing and Upgrading Vantage > Adding a Server to a Vantage Domain and Adding a Lightspeed Server to an Existing Vantage Domain, and proceed as appropriate. You may also want to consult with Telestream Support for any specific instructions related to upgrading from your current Vantage version to the latest version.
- If you are not familiar with Vantage, read the first three chapters in the Vantage User's Guide to familiarize yourself with the client applications and how to create workflows and process media in Vantage.

Now, you are ready to start creating workflows and processing media.

Performance Tuning a Lightspeed Server

The following adjustments can improve performance on your Lightspeed server. (For details, consult with 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. Disable Network throttling (see <http://support.microsoft.com/kb/948066>):
 - Locate the *NetworkThrottlingIndex* registry value under this registry subkey:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Multimedia\SystemProfile\
 - Set the value to: *FFFFFFFF*
3. Return to Performance Options (step 1), Data Execution Prevention tab:
 - Select *Turn on (select) Data Execution Prevention (DEP) for essential Windows programs and services only*.
4. Disable User Account Control (UAC) as follows:
 - In Start > Control Panel > User Accounts > Change User Account Control Settings, select *Never Notify*.
5. 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).
6. 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
7. Disable all unnecessary Windows services in the Start > Control Panel > Administrative Tools > Services (consult your System Administrator).
8. Turn OFF all firewalls (including third party firewalls) and packet filtering, which may cause unpredictable performance:
 - Set Start > Control Panel > Windows Firewall > *Turn off Windows Firewall*.

9. 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
10. Disable any screen savers in Start > Control Panel > Display > Screen Savers.
11. 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*.

Renaming a Lightspeed Server

Each Vantage domain uses the name assigned to the Windows server that hosts the Vantage domain database as its domain name. When you first receive your Lightspeed Server, it has Vantage pre-installed with a Vantage domain database on the server. The domain database uses the machine's name.

If you want to rename your Lightspeed Server and keep the pre-installed Vantage database, you'll complete the following tasks to ensure that your database is updated with the new machine name (detailed steps following):

- Remove all Vantage services from the Vantage domain.
- Rename the Windows server that hosts the Vantage domain database.
- Restart the renamed server and add all Vantage services to the renamed domain.

Note: To complete this procedure, your Windows user must have permission to rename the computer, or you must get assistance from your Windows domain administrator. Be sure to schedule the rename during a maintenance window, as renaming the Vantage domain interrupts all Vantage services in the domain and all Windows services on the server are renamed.



Use the following steps to rename a Vantage server and domain.

1. Start the Vantage Management Console, select the domain to manage, and log on as described in Starting the Vantage Management Console in the Vantage Domain Management Guide.
2. Select Services in the component panel.
3. Take note of Storage, Variables, and/or Qualification Rules settings for each service that you have configured.

Write down any Storage, Variable, and/or Qualification Rule settings that you want to reconfigure after the Vantage domain is renamed.

Note: When you remove Vantage services from the domain, the Storage, Variable, and Qualification rule configuration for each service is lost. The rest of the Vantage domain configuration is retained. If you are changing the machine name during initial server installation, no custom rules have been configured, so this does not apply.

4. Click a service in the Services details panel, then press Ctrl-A to select all services.

5. Click the Remove Service button  in the toolbar.
6. Click Start > Administrative Tools > Server Manager.
7. Click Server Manager in the left pane.
8. Click Change System Properties in the right pane.
9. Select the Computer Name tab and click Change.
10. Enter the new computer name in the Computer Name text field and click OK. This new computer name becomes your new Vantage domain name.
11. If prompted to do so, enter a Windows user name and password for an account that has permission to rename this computer in the Windows domain.
12. Restart the server.
13. Start the Vantage Management Console, select the new domain to manage, and log on.
14. Select Services in the Component panel.
15. Click the Add Service button  in the toolbar.
16. When the Select Service dialog appears, click Machine to sort the services by machine name.
17. To add Vantage services for a specific machine, select the services you want and click OK.
18. If any Storage, Variables, and/or Qualification Rules settings were configured for services, add them now.
19. Send the new Vantage domain name to all Vantage users and administrators so they can reconnect to the Vantage domain.

Adding a Lightspeed Server to a Vantage Array

Your Lightspeed Server is factory-configured in a standalone, All-In-One Vantage domain. This configuration includes its own database. You can add your Lightspeed Server to a Vantage Array (a multi-server Vantage domain that may include a mix of Lightspeed Servers and other Windows Servers).

Note: The Lightspeed Server is itself a Windows Server, so adding it to an Array is no different than adding any other Windows Server running Vantage.

1. Verify that the Lightspeed Server is running, all Vantage Services are running on the server, and no jobs are being processed in the local, factory-installed All-In-One domain.
2. Verify that you have configured the other (non-Lightspeed) Vantage domain server with Array, and it is active. Refer to the Vantage Domain Management Guide > Installing a Vantage Distributed Domain, for more details.
3. Verify that the Lightspeed Server is on the same network as the Vantage Array domain, with sufficient network permissions and access. Refer to the Vantage Domain Management Guide > Network Requirements, to configure your network.
4. Start the Vantage Management Console, and select the new Array domain.
5. Add the services on the Lightspeed Server to the new Array domain, just like any Vantage Services running on any Windows Server.

In an Array environment, Vantage automatically detects that the services running on a Lightspeed Server are enabled for Lightspeed, and it will route jobs that require Lightspeed to those services automatically. For example, jobs which use Lightspeed-enabled video processing in Transcode/Transcode Pro, are automatically routed to a Lightspeed Server. As such, you can safely mix Lightspeed Servers and other Windows servers in an Array, and Vantage will ensure that jobs are routed to Vantage services on the appropriate servers automatically.

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 backups 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:

- Norton Ghost
- Clonezilla

Consult with 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

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

You can download IPMIView from the OEM, Supermicro, at this location:
<ftp://ftp.supermicro.com/utility/IPMIView/>.

You'll find the manual at this location:
<ftp://ftp.supermicro.com/utility/IPMIView/IPMIView20.pdf>.

Among the tasks you can perform using IPMIView are these (see the manual 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 IPMIView User's Guide.

Rebuilding a RAID Drive

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](#)
- The IAStorUI documentation is [IAStorHelp](#)

Obtaining Support | Information | Assistance

This supplements the SuperMicro Server User's Guide, Chapter 1, topic 1-5. You should not contact SuperMicro for support or assistance.

Table 3. Telestream Contact Information

Resource	Contact Information
Vantage Support	Website: www.telestream.net/telestream-support/vantage/support.htm Support Email: support@telestream.net Terms and times of support services vary, per the terms of your current service contract with Telestream.
Vantage Information, Assistance, FAQs, Forums, & Upgrades	Website: www.telestream.net/telestream-support/vantage/support.htm Support Email: support@telestream.net
Telestream	Website: www.telestream.net Sales and Marketing Email: info@telestream.net 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: www.telestream.net See the Telestream website for your regional authorized Telestream reseller.
Telestream Technical Writers	Email: techwriter@telestream.net 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

This supplements RMA procedures in the SuperMicro Server User's Guide. Do not return this server to SuperMicro or contact SuperMicro for return material authorization.

CAUTION: The Lightspeed Server is a sealed device, with no serviceable parts and no internal peripheral bays. You should never open or attempt to upgrade or alter it. Doing so exposes you to electrical hazard, may damage the unit, and may invalidate your warranty.

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

Please contact Telestream at:

- Email: 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.