![Avocent logo]

LongView® Wireless

Installer/User Guide

INSTRUCTIONS

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

DANGEROUS VOLTAGE

This symbol is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

PROTECTIVE GROUNDING TERMINAL

This symbol indicates a terminal which must be connected to earth ground prior to making any other connections to the equipment.

LongView® Wireless
Installer/User Guide

USA Notification

Warning: Changes or modifications to this device not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, 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 instruction manual, may cause harmful interference to radio communications. Operation of this equipment is a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

Canadian Notification

This digital apparatus does not exceed Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

Safety and EMC Approvals and Markings

UL, FCC, cUL

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Product Overview

Features and Benefits

The Avocent LongView® Wireless extender connects Keyboard, Video, Mouse (KVM) and audio peripherals wirelessly to your server, from up to 100 feet away. The LongView Wireless extender is a digital system that processes analog video, inbound and outbound, utilizing a unique, proprietary compression engine.

Its industry standard design makes the LongView Wireless extender compatible with virtually any PC, display technology and operating system. Installation is essentially Plug and Play requiring no new drivers or software.

Figure 1.1: LongView Wireless Extender Model

The LongView Wireless extender On-Screen Display (OSD)

The LongView Wireless extender OSD makes it simple to set up and adjust your video parameters. Accessed from the receiver side, the OSD makes tuning your video fast and convenient.
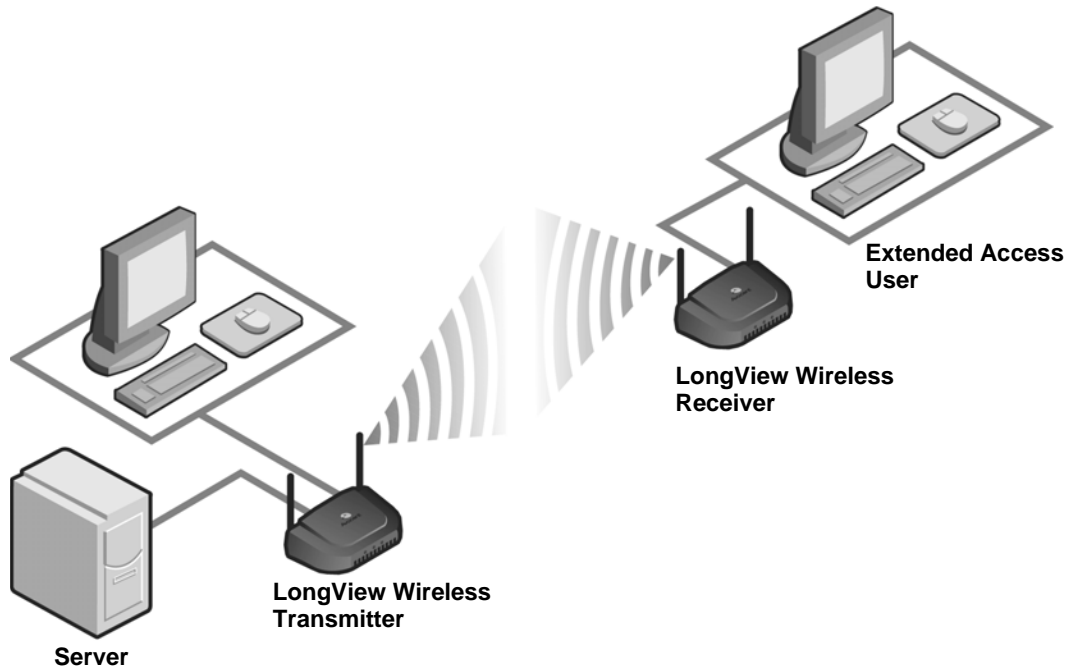
Figure 1.2: Example LongView Wireless Extender Configuration

Secure connectivity and 802.11a standards-based design

Advanced Encryption Standard (AES) provides secure connections through a proprietary design based on the 802.11a standard.

The LongView Wireless transmitter

The LongView Wireless transmitter connects directly to your server and serves as the radio interface device enabling the server to transmit audio and video data. It also acts as the receiver for keyboard and mouse signals from extended devices. The LongView Wireless transmitter contains five connectors for local video, keyboard and mouse peripherals, in addition to power and audio in from the server. It includes a 3.5 foot cable with video and PS/2 keyboard and mouse connectors. Power is supplied to the transmitter from a universal input 12V DC switching power supply (included).

The LongView Wireless receiver

The LongView Wireless receiver connects directly to your user interface devices (keyboard, video monitor and mouse) and serves as the radio interface device for these components. It receives audio and video data from the server and sends keyboard and mouse data from the user interface devices to the server. The LongView Wireless receiver has five connectors for video, keyboard, mouse and audio peripherals and power. Power is supplied to the transmitter from a universal input 12V DC switching power supply (included).

Compatibility with Peripherals

The LongView Wireless extender is compatible with the following peripherals:

- Keyboard - The LongView Wireless extender supports virtually any standard PS/2 keyboard.
- Mouse - The LongView Wireless extender supports 2-button and 2-button scroll PS/2 mice.
- Video - The LongView Wireless extender supports VGA, SVGA and XGA resolutions up to 60 Hz refresh rate. Both CRT and LCD monitors with standard 15-pin high density connectors are supported.
- Audio - Speakers and headphones with 3.5 mm audio plugs are supported on the receiver side of your LongView Wireless extender, provided the transmitter has been connected to the sound card of your PC with the provided audio cable.

Safety Precautions

To avoid potential video and/or keyboard problems when using Avocent products:

- If the building has 3-phase AC power, ensure that the server and monitor are on the same phase. For best results, they should be on the same circuit.

To avoid potentially fatal shock hazard and possible damage to equipment, please observe the following precautions:

- Do not use a 2-wire extension cord in any Avocent product configuration.
- Test AC outlets at the server and monitor for proper polarity and grounding.
- Use only with grounded outlets at both the transmitter and receiver. When using a backup Uninterruptible Power Supply (UPS), power the server and the LongView Wireless transmitter off the supply.

NOTE: The AC inlet is the main disconnect.

Installation

Getting Started

Before installing your LongView Wireless extender, refer to the list below to ensure that you have all items that shipped with the product.

Supplied with the LongView Wireless extender

• LongView Wireless transmitter
• LongView Wireless receiver
• Two local country power supplies
• Audio cable
• LongView Wireless Installer/User Guide
• LongView Wireless Quick Installation Guide

Before you Begin: A Note on Maximizing Your Wireless Range

The number, thickness and location of walls, ceilings and other objects that the LongView Wireless signals must pass through may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noises in your home or business.

To maximize your wireless range:

1. Keep the number of walls and ceilings between the transmitter and receiver to a minimum; each wall or ceiling can reduce your wireless product's range.

2. Position a direct line between your transmitter and receiver so that the signal will travel straight through a wall or ceiling. A wall that is 1.5 feet thick (.5 meters) at a 45°angle appears to be almost 3 feet (1 meter) thick; at a 2°angle, it looks over 42 feet (14 meters) thick!

3. Position your wireless devices and servers with wireless adaptors so that the signal passes through drywall or open doorways and not other materials. Building materials such as a solid metal door or aluminum studs can impede the wireless signal and may have a negative effect on the wireless range.

4. Keep your LongView Wireless transmitter and receiver away (at least 3 to 6 feet or 1 to 2 meters) from electrical devices or appliances that generate extreme RF noise.

Installing a LongView Wireless Extender

Follow the procedures *To install a LongView Wireless transmitter* and *To install a LongView Wireless receiver* to properly install your new KVM extension system.

> **WARNING: To reduce the risk of electric shock or damage to your equipment** -
> Disconnect the power from the device by unplugging the power supply from the electrical outlet.

To install a LongView Wireless transmitter:

1. Ensure that the video setting of your server is 1024 x 768, 800 x 600, or 640 x 480 at 60Hz refresh rate. Best performance will be achieved if the color resolution is set to 24 bit color or higher.

2. Power down the server that will be connected to your LongView Wireless extender.

3. Unplug the peripherals (keyboard, mouse, monitor and speakers with built-in amplifiers, if applicable) from your server.
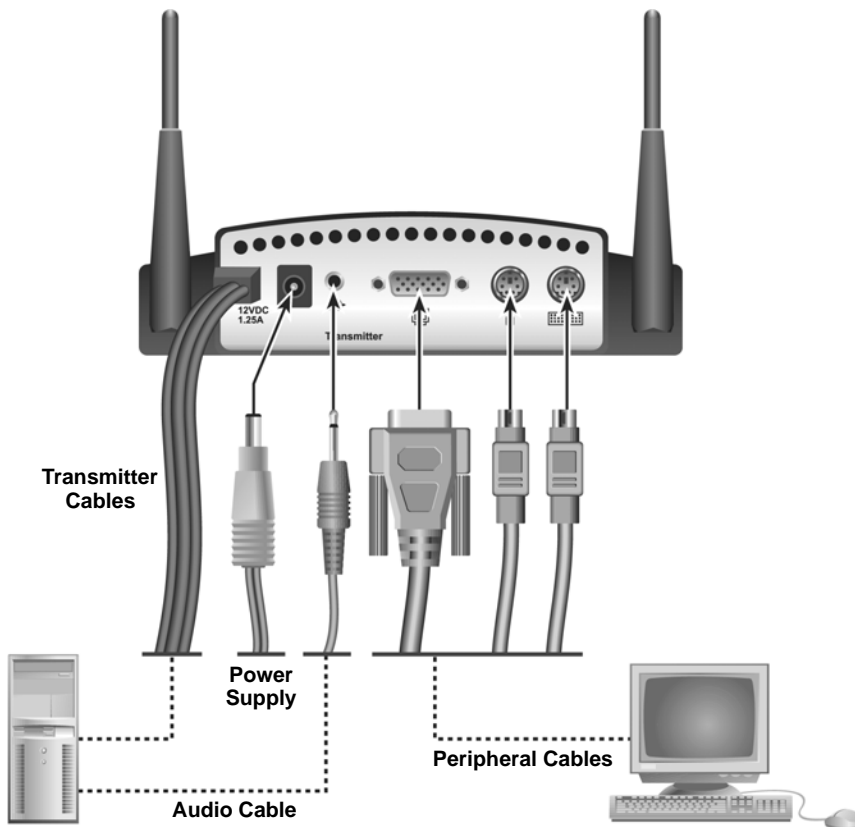
Figure 2.1: LongView Wireless Transmitter Installation Example

4. Prepare locations for your LongView Wireless extender equipment, server and peripherals. Place the transmitter near your server. Best performance is achieved when the antennas are clearly visible and free from obstructions.

5. Connect the LongView Wireless transmitter cables into the server's PS/2 keyboard (purple connector), monitor connections (blue connector) and PS/2 mouse (green connector).

6. Using the supplied audio cable, connect one end to the LongView Wireless transmitter's audio input connection (lime green connector) and the other end to the server's audio output connection (lime green connector).

7. Connect your LongView Wireless transmitter to an AC power source with one of the power supplies included with your LongView Wireless extender.

8. Ensure the transmitter is powered up with the *S2* LED illuminated.

NOTE: Use only an Avocent-supplied power supply.

9. Power up your server.

Connecting the LongView Wireless receiver

Virtually any industry-standard display device can be attached to the LongView Wireless receiver, as long as it has a 15-pin D shell connector for video input and can accept VGA (640 x 480), SVGA (800 x 600) and XGA (1024 x 768) resolution video.

To install a LongView Wireless receiver:

1. Select a location for your LongView Wireless receiver. Find a convenient position for locating the LongView Wireless receiver, such as a desktop that is near your extended display. Best performance is achieved when the antennas are clearly visible and free from obstructions.

2. Connect the extended display's video input into the LongView Wireless receiver's video input (blue connector). See Figure 2.2.

NOTE: The extended display must have a standard 15-pin D-shell RGB analog interface.

3. Connect the extended display's PS/2 keyboard and mouse (if applicable) into the LongView Wireless receiver's keyboard connection (purple connector) and mouse connection (green connector).

Figure 2.2: LongView Wireless Receiver Installation Example
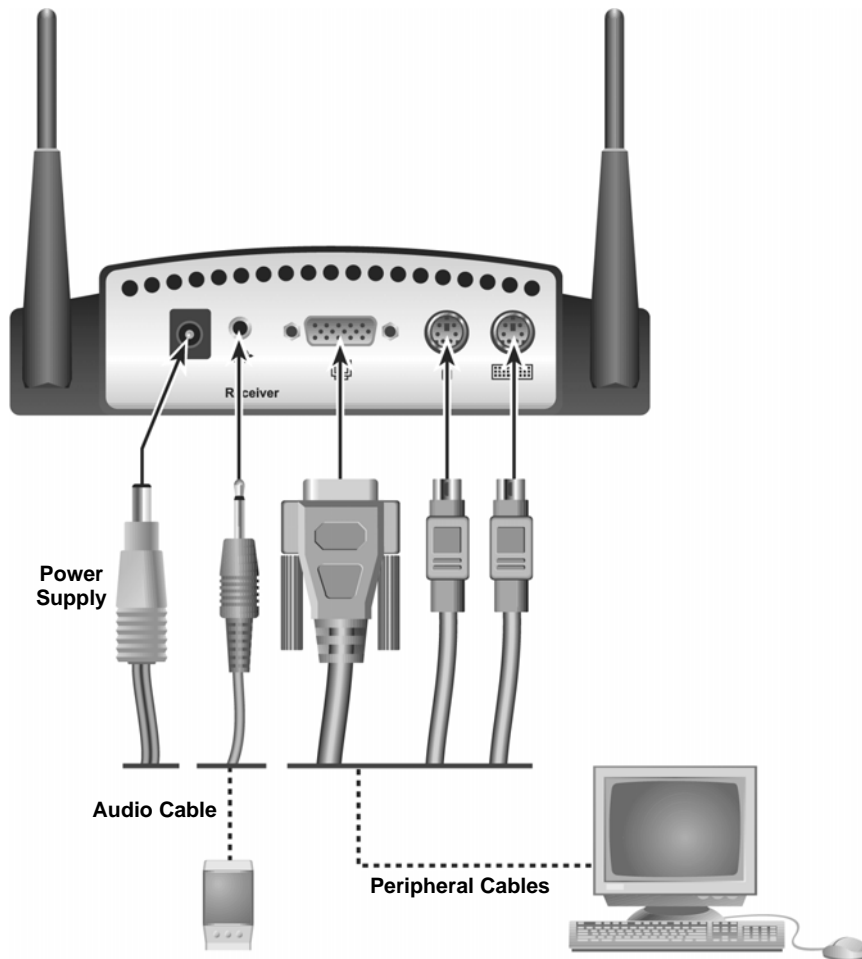
4. Connect your speakers into the LongView Wireless receiver's audio output connection (lime green connector).

5. Connect the LongView Wireless extender power supply into the LongView Wireless receiver and into the AC power source.

NOTE: Use only an Avocent-supplied power supply.

6. Connect your monitor's power supply to appropriate electrical outlets.

CHAPTER

3

Operations

Powering the LongView Wireless Extender

The LongView Wireless extender devices (transmitter and receiver) have been factory configured to operate as a companion pair. The initial radio link between the two devices is established by the receiver, although all other aspects of the link are controlled by the transmitter. Once the radio link is established, mouse, keyboard, video and audio data are free to flow between the two devices.

To power up the LongView Wireless extender:

1. Complete all of the installation steps. See Chapter 2.
2. Power up the LongView Wireless transmitter and wait for the middle LED labeled *S2* to illuminate.
3. Power up the monitor attached to the LongView Wireless receiver.
4. Power up the LongView Wireless receiver.
5. Power up your server.

NOTE: Always power up the LongView Wireless transmitter and wait for the middle LED labeled *S2* to illuminate before powering up your server.

Informational Messages

When the LongView Wireless receiver is powered up, it will display a message on the server monitor to which it is attached:

Searching for CLT_000c4116bc7b

The *000c4116bc7b* is replaced by the MAC ID of the radio board in your transmitter device. This message indicates that your receiver device is actively searching for its companion transmitter. When it finds the companion transmitter, it will display a second message beneath the first.

Connecting to CLT_000c4116bc7b

The *000c4116bc7b* is replaced by the MAC ID of the radio board in your transmitter device. This message indicates that your receiver device is establishing the radio link with your transmitter device. When this link is established, both messages will be removed and the monitor will display video information from your server.

LEDs

Both the LongView Wireless transmitter and receiver contain three LEDs visible from the front of each device. These LEDs display the current state of each device. Table 3.1 outlines each condition.
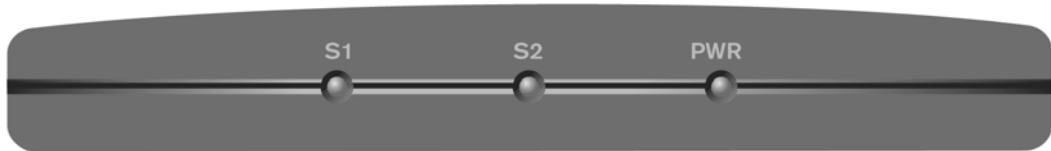

Figure 3.1: Transmitter LEDs

Table 3.1: LED Conditions

S1	S2	PWR	Condition
OFF	OFF	ON	No Activity, Power is On
OFF	OFF	OFF	No Activity, Power is Off
OFF	ON	ON	Establish Link
ON	ON	ON	Connected

Fine-tuning the image settings

Once the radio link has been established, the receiver will dynamically adjust the video parameters to optimize the video display. This adjustment will be performed each time the receiver is powered or if it detects a change in video resolution.

If additional fine-tuning of the video settings is desired, the OSD utilizes an Auto Setup feature to adjust the image settings. This feature is the same as the dynamic adjustment, but accessed by selecting the *Run* button from the OSD Main menu.

The OSD Advanced menu allows for the manual adjustment of individual image settings. These new settings may be temporarily or permanently saved. If settings are temporarily saved (by selecting the *Cancel* button) they will remain active until the LongView Wireless receiver power is recycled or if a change in video resolution is detected.

Fine-Tuning System Reception

Using the link station indictor on the OSD, adjust transmitter and/or reciever postions to obtain maximum signal strength. The more green bars, the better the signal strength and performance.

Main menu options

The LongView Wireless extender Main menu has two options - Auto Setup and Mode. When the *Auto Setup* button is selected, the video parameters of the source server are checked and then the receiver automatically optimizes the video quality portrayed on the receiver monitor. Selecting the *Mode* button allows additional control of display optimization. The two modes available are Computer or DVD. Selecting the *Change* button toggles between these two modes. If DVD or video is being displayed, the DVD mode should be selected.

Advanced menu options

The LongView Wireless extender OSD Advanced menu allows you to fine-tune the video settings that were established with the Auto Setup function. You may tune the horizontal and vertical position of the video monitor window, as well as adjust the brightness and contrast of the video image. You may also adjust the video clock phase in the LongView Wireless transmitter relative to the video clock at your source server to assure the cleanest, sharpest video image.

Image adjustment using the LongView Wireless extender OSD

When configuring the OSD, you may use the Auto Setup function to automatically optimize the video of your LongView Wireless extender or you may choose to optimize the video of your LongView Wireless extender manually. When optimizing video, best results can be obtained by displaying a fixed image on screen during the optimization process.

To optimize video automatically:

1. Activate the OSD Main menu on the receiver device by pressing and holding the left **Shift** key followed by the right **Shift** key and then releasing both. You may also activate the OSD via the mouse by right-clicking twice and left-clicking once in rapid succession.

2. Optimize the video setup of your LongView Wireless extender by selecting *Auto Setup - Run*. This will automatically optimize your video setup parameters.

3. Select *Finish* at the bottom of the Main OSD menu to save the mode and current dynamic Auto Setup settings.
    - or -
    If you wish to exit without permanently saving changes, select the *Cancel* button. The OSD parameters will remain in effect until the device is powered down or a change in resolution is detected (if dynamic Auto Setup is on).

To optimize video manually:

If your monitor image requires further adjustment after running the Auto Setup, you may use the Advanced Setup options from the LongView Wireless extender OSD menu.

1. Activate the OSD Main menu on the receiver device by pressing and holding the left **Shift** key followed by the right **Shift** key and then releasing both. You may also activate the OSD via the mouse by right-clicking twice and left-clicking once in rapid succession.

2. Select the *Advanced* tab from the OSD Main menu.

3.   On the OSD Advanced menu, use the fine-tuning options to make further adjustments to your video image, as needed. Press the **Left** or **Right** arrow keys to make adjustments for:

- • Horizontal Position
- • Vertical Positions
- • Brightness
- • Contrast
- • Clock Phase

4.   If you wish to permanently save the video adjustments, the dynamic Auto Setup feature must be turned off. To do this, select the *Set Auto ON/OFF* button. This button will turn on/off the dynamic Auto Setup feature.

5.   To keep video parameters, select the *Set Auto OFF* button.

6.   To keep dynamic auto setup, select the *Auto ON* button.

7.   Select *Finish* at the bottom of the Main OSD Menu to save the changes.
- or -
If you wish to exit without permanently saving changes, select the *Cancel* button. The OSD parameters will remain in effect until the device is powered down or a change in resolution is detected (if dynamic Auto Setup is on).

APPENDICES

Appendix A: Technical Specifications

Table A.1: LongView Wireless Extender Product Specifications

Physical Attributes	
Height	1.75" (4.45 cm)
Width	6.25" (15.88 cm)
Depth	5.25" (13.34 cm)
Antenna extension	4.75" (12.07 cm) above lower surface of housing
Weight	1.0 lb (0.45 kg)
Ambient Atmospheric Condition Ratings	
Operating Temperature	32°F - 104°F (0°C - 40°C)
Storage Temperature	-4°F - 120°F (-20°C - 50°C)
Power Supply	
DC-input	12 VDC @ 1 Amp
Transformer AC-input	100 - 240 VAC
AC Frequency	50 - 60 Hz
Multimedia	
Video Link Resolution	640 x 480, 800 x 600, 1024 x 768
Video Link Compatibility	VGA, SVGA, XGA
Video Interface	VGA compatible with analog RGB (15-Pin D-shell), non-interlaced 60 Hz refresh rate
Audio Support	Analog audio
Supported Hardware	
Server	Most standard servers with the exception of those manufactured by Apple
Peripherals	PS/2 keyboard, PS/2 mouse, speakers

Table A.1: LongView Wireless Extender Product Specifications (Continued)

Radio	
Radio Protocol	IEEE 802.11a
Radio Frequency	5150-5250; 5250-5350; 5725-5825 MHz
Radio Modulation	Orthogonal Frequency Division Multiplexing (OFDM)
Nominal Output Power	17 dBm
Range	XGA video resolution to 100 feet
Security	AES encryption with 802.1x authentication
Regulatory Compliance	
Standards	FCC Class A, UL, cUL

Appendix B: Technical Support

Our Technical Support staff is ready to assist you with any installation or operating issues you encounter with your Avocent product. If an issue should develop, follow the steps below for the fastest possible service.

To resolve an issue:

1. Check the pertinent section of the manual to see if the issue can be resolved by following the procedures outlined.
2. Check our web site at www.avocent.com/support to search the knowledge base or use the on-line service request.
3. Call the Avocent Technical Support location nearest you.

Appendix C: Troubleshooting

Table C.1: Troubleshooting

No power status light on transmitter or receiver
Verify that the green LED on the separate Avocent-supplied power supply is illuminated, indicating that the power supply is plugged in correctly.
Ensure that the power cable from the Avocent-supplied power supply is securely plugged into the LongView Wireless transmitter or LongView Wireless receiver.
No video on monitor attached to transmitter
Verify that the monitor has power.
Ensure that the video cable from the monitor is securely plugged in to the correct connector on the LongView Wireless transmitter.
Verify that the server is powered.
As a last check, plug the video cable from the monitor directly into the server to verify that the monitor is working and that the server is generating active video. If this is functioning, check that the display settings for your server are set no higher than a resolution of 1024 x 768 at 60 Hz refresh rate. If the monitor does not function correctly, replace it.
No mouse and/or keyboard operation from peripherals attached to transmitter
Verify that the mouse and keyboard are connected to the correct PS/2 ports on the server. Match the connector color codes (green is mouse and purple is keyboard).
If the LongView Wireless transmitter was powered up after the server, turn off the server and transmitter. Power up the LongView Wireless transmitter, wait for the middle LED to illuminate, then power up the server.
Retest the mouse and keyboard by connecting them directly to the server and rebooting the server. If one does not function correctly, replace the non-functioning peripheral.
No video on monitor attached to receiver
Verify that the monitor attached to the LongView Wireless receiver has power.
Ensure that the video cable from the monitor is securely plugged in to the correct connector on the LongView Wireless receiver.
Ensure that the video cable from the LongView Wireless transmitter is securely plugged in to the correct connector on the server.
Verify that the server is powered.
Cycle power to the LongView Wireless receiver. An informational message should appear on the monitor for a brief moment. If the message does not appear, check the monitor by plugging the video cable from the monitor directly into the server to verify that the monitor is working and that the server is generating active video. If this is functioning, check that the display settings for your server are set no higher than a resolution of 1024 x 768 at 60Hz refresh rate. If the monitor does not function correctly, replace it.

Table C.1: Troubleshooting (Continued)

No video on monitor attached to receiver (continued)

Verify that all three LEDs on both the LongView Wireless transmitter and the LongView Wireless receiver are illuminated a short period of time after power up (30 seconds or less). If all three LEDs are not illuminated, move the LongView Wireless receiver closer to the LongView Wireless transmitter until all LEDs are illuminated.

As a last check, plug the video cable from the monitor directly into the server to verify that the monitor is working and that the server is generating active video. If this is functioning, check that the display settings for your server are set no higher than a resolution of 1024 x 768 at 60Hz refresh rate. If the monitor does not function correctly, replace it.

No mouse and/or keyboard operation from peripherals attached to receiver

Ensure that the mouse and keyboard operation cables are connected to the correct PS/2 ports on the LongView Wireless receiver. Match the connector color codes (green is mouse and purple is keyboard).

Ensure that the mouse and keyboard cables from the LongView Wireless transmitter are connected to the correct PS/2 ports on the server. Match the connector color codes (green is mouse and purple is keyboard).

Verify that all three LEDs on both the LongView Wireless transmitter and the LongView Wireless receiver are illuminated a short period of time after power up (30 seconds or less). If all three LEDs are not illuminated, move the LongView Wireless receiver closer to the LongView Wireless transmitter until all LEDs are illuminated.

Retest the mouse and keyboard by connecting them directly to the server and rebooting it. If one does not function correctly, replace the non-functioning peripheral.

No audio from speakers attached to receiver

Ensure that the audio cable is securely plugged into the line in port of the LongView Wireless transmitter.

Ensure that the audio cable is securely plugged into the line out port of the server (color-coded green).

Ensure that the speaker cable is securely plugged into the line out port of the LongView Wireless receiver.

Verify that all three LEDs on both the LongView Wireless transmitter and the LongView Wireless receiver are illuminated a short period of time after the power up (30 seconds or less). If all three LEDs are not illuminated, move the LongView Wireless receiver closer to the LongView Wireless transmitter until all LEDs are illuminated.

Retest the speakers by connecting them directly to the server. If they do not function correctly, replace them.

Poor video quality on monitor attached to receiver

Run Auto Setup from the OSD. Remember to seelct *Finish* to save new settings.

Ensure that the video cable from the monitor is securely plugged in to the correct connector on the LongView Wireless receiver.

Ensure that the video cable from the LongView Wireless transmitter is securely plugged in to the correct connector on the server.

Table C.1: Troubleshooting (Continued)

Slow response from peripherals attached to LongView Wireless receiver
Run Auto Setup from the OSD. Remember to select *Finish* to save new settings.
The distance between the two LongView Wireless extender devices may be too great, reducing the quantity of data that can be sent through the radio link. Move the LongView Wireless receiver closer to the LongView Wireless transmitter.

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The Power of Being There.

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