# Wirecast Gear User Guide 1.0

The latest version of the Wirecast Gear User Guide is available at:
http://www.telestream.net/pdfs/user-guides/Wirecast-Gear-User-Guide.pdf

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# Preface

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**Note:** Wirecast Gear includes 90 days of complimentary support on both hardware and software.

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Telestream, LLC
848 Gold Flat Road
Nevada City, CA 95959 USA

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

# Introduction to WC Gear

## Introduction

This section presents an overview of Wirecast Gear models, features, etc.), and how to unpack, setup, and register it. Specifications are also provided.

### Topics


- *Overview*
- *Unpacking Wirecast Gear*
- *Registering Wirecast Gear*
- *Specifications*


## Overview

Wirecast Gear is an integrated solution for live production, streaming, video ingest and more. It is designed to provide an easy to operate experience and is based on a standard Windows 10 personal computer.

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**Note:** Consult the *Wirecast User Guide* included with Wirecast Gear. You can download this user guide from the Telestream web site at:
http://www.telestream.net/telestream-support/wire-cast/help.htm

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### Wirecast Gear Models

Wirecast Gear is available in these models:

- Wirecast Gear 110 - 4 Channel HDMI 250GB SSD Video Storage
- Wirecast Gear 210 - 4 Channel SDI 500GB SSD Video Storage
- Wirecast Gear 220 - 4 Channel SDI 2TB SSD Video Storage
- Wirecast Gear 230 - 4 Channel SDI 2TB SSD Video Storage (with input and output capability)

## Features

- Windows 10 Pro 64-bit OS
- 4 Port (SDI or HDMI) high quality video ingest
- Wirecast Pro
- Convertible mini case with rubber feet for table-top use and included rackmount brackets for installing in approved flight/transport cases or in-place rack configurations. Unit has no platter-based hard drives, making it ideal for transport
- Extensive source inputs including professional video connectors
- Multiple LAN/Wifi ports, USB 3.0 (including Type C) and more
- USB 3.0 (including Type C) and more
- Up to 4 channel ISO recording with full Instant Replay capability
- Three digital video output ports for multiple display configuration and on-site large format display outputs (IMAG) with lowest latency including support for up to UHD/4K resolutions
- Live source processing including scaling, rotation, color correction and keying.
- Compatible with industry standard applications such as Adobe CC, Microsoft Office and most standard Windows 10 compatible applications/utilities
- System Refresh allows quick recovery to factory settings in case of system corruption or failure. All Telestream loaded applications will be recovered (user applications must be reinstalled)

# Unpacking Wirecast Gear

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

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

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

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## Shipping Container Contents

Each Wirecast Gear box contains the following:

- Wirecast Gear computer
- Logitech Wireless Keyboard/Mouse combo
- Power cord

- Accessory box - feet, screws, rack ears, rack ears, WiFi antenna
- Plastic bag

# Registering Wirecast Gear

Registering your Wirecast Gear system is a requirement to gain access to your licensed copies of Telestream-bundled software. It also ensures the following:

*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 the Wirecast Gear registration web page: http://www.telestream.net/telestream-support/Wirecast-Gear/register.htm
2. Complete the Wirecast Gear registration.
3. Click Submit to complete registration.

# Specifications

The following topics summarize Wirecast Gear specifications.

***CAUTION:*** Wirecast Gear 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 computer. 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 Wirecast Gear, follow the steps in the Return Merchandise Authorization (RMA) Procedure later in this guide to obtain service.

## Operating System Specifications

Wirecast Gear is pre-installed with Windows 10 OS. Please see the Microsoft web site for specifications.

## Software Specifications

- Telestream *Wirecast Pro* application software
- Telestream *Switch* application software

- NewBlueFX Titler Live Standard, Advance NDI, or Ultimate
  - Model 110 uses NewBlueFX Titler *Present*
  - Model 210 uses NewBlueFX Titler *Sport*
  - Model 220 & 230 uses NewBlueFX Titler *Complete*

## Hardware Specifications

- Intel Core i7-6700 8M Skylake Quad-Core 3.4 GHz
- Intel HD Graphics 530
- Memory - DDR4 Dual Channel Memory
- System Drive - M.2 SATA System Drive
- Storage Drive(s) - High speed SATA 6Gb/s SSD (single or dual, depending on model)
- Video Ingest - 4-channel professional camera inputs with HDMI or SDI models available
- Motherboard features
  - Intel® USB 3.0 with USB Type-C™
  - 802.11ac 867 Mbps dual band wireless (including antenna) + Bluetooth®
  - 115dB SNR HD Audio with Built-in Rear Audio Amplifier
  - Dual Intel® GbE LAN  RJ45
  - PS/2 Keyboard/Mouse Port
  - USB 3.0 Ports - 4 rear/2 front
  - Display outputs - DVI-D, dual HDMI
- Wireless Keyboard and Mouse combo
- Power Supply: AC input, auto-sensing, suitable for most countries worldwide
  - Input Range: 90 ~ 264Vac (RMS), Full Range Input
  - Frequency: 47 ~ 63Hz
  - Input Current: Max 6A (RMS) @ 115Vac, 3A (RMS) @ 230Va
- Dimensions: 16.55 x 9.85 x 2.25 inches, 1.3U rackmount height (rear brackets available for transport cases).

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

# WC Gear Panels

## Introduction

The following topics describe the Wirecast Gear front and rear panels.

**Note:** Please *do not make any connections* just yet. First, read the panel and connector descriptions and then proceed to the *Installation of WC Gear* topic for steps to install and connect to the unit.

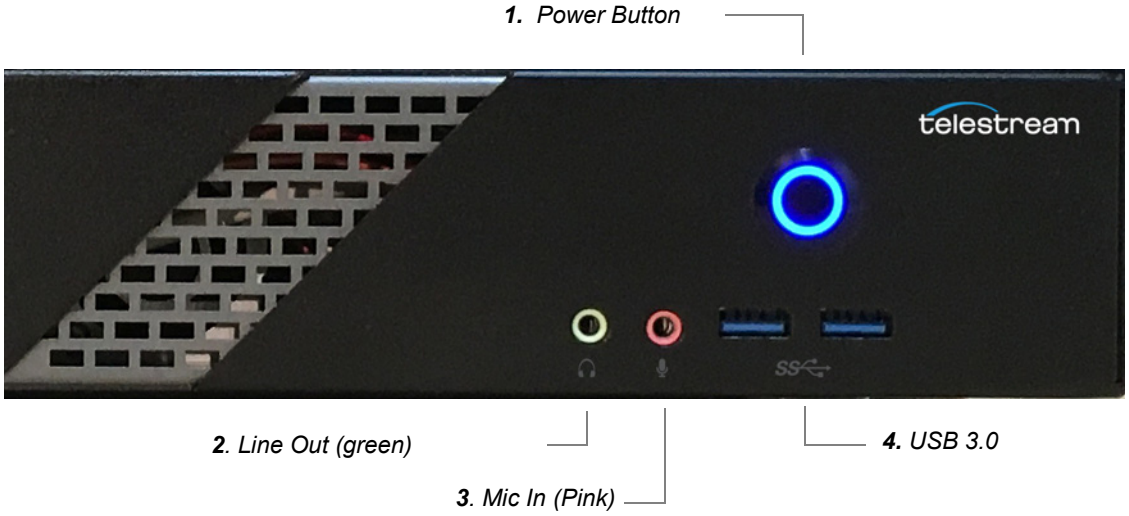
Wirecast Gear is available in HDMI and SDI configurations. Both configurations share the same front panel features, but each configuration has a unique rear panel. Wirecast Gear 100 series models include 4-channel HDMI professional inputs, while Wirecast Gear 200 series models are SDI-based and use BNC connectors.

## Topics


- *Front Panel*
- *Rear Panel*
- *Rear Panel Differences*

# Front Panel

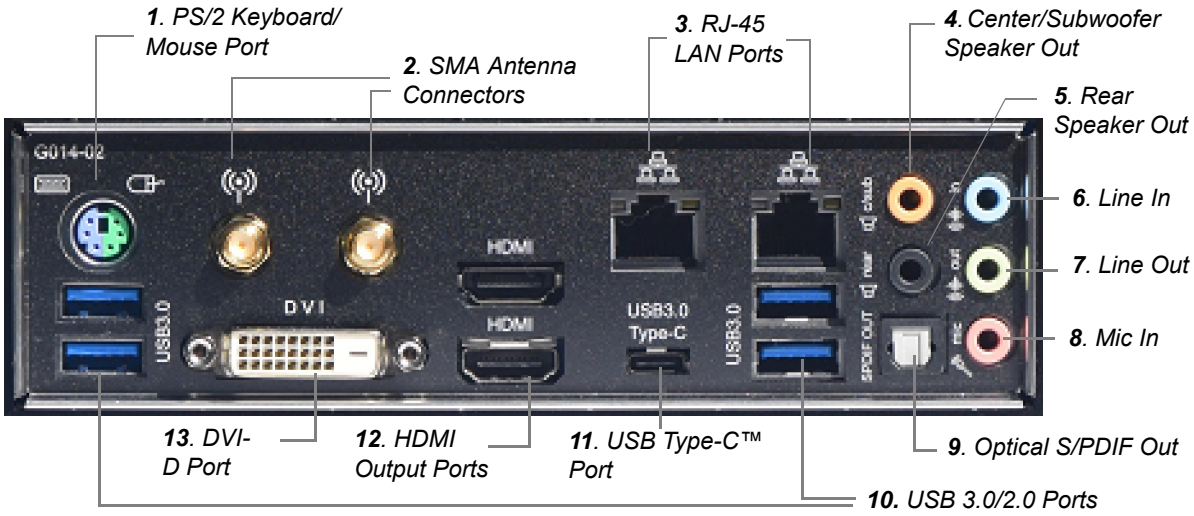
Wirecast Gear has the following connectors on the front panel.



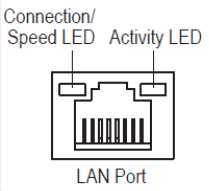

1. **Power Button** This button turns the power on and off. When on, a blue light is displayed.
2. **Line Out (Green)** Use this output for headphones or a speaker system. You can also connect front speakers in a *4/5.1/7.1-channel* audio configuration.
3. **Mic In (Pink)** Use this input for Microphones. Many live producers choose to use a USB-based external audio configuration with either a simple A/D device with professional connectors or a full audio mixer panel for tactile control of audio levels. External devices must be USB 2.1 compatible. Contact the reseller who sold you your Wirecast Gear unit for specific brand and model information.
4. **USB 3.0 Port** The USB 3.0 port supports the USB 3.0 specification and is compatible to the USB 2.0/1.1 specification. Use this port for USB devices.

# Rear Panel

The Rear Panel connectors have the following functionality.




1. **PS/2 Keyboard/Mouse Port** Use this port to connect a PS/2 mouse or keyboard.
2. **SMA Antenna Connectors (2T2R)** Use this connector to connect an antenna. Tighten the antenna cables to the antenna connectors and then move the antenna to a place where the signal is good.
3. **RJ-45 LAN Port** The Gigabit Ethernet LAN port provides Internet connection at up to 1 Gbps data rate. The following describes the states of the LAN port LEDs.




Connection/Speed LED:

| State | Description |
|---|---|
| Orange | 1 Gbps data rate |
| Green | 100 Mbps data rate |
| Off | 10 Mbps data rate |

Activity LED:

| State | Description |
|---|---|
| Blinking | Data transmission or receiving is occurring |
| On | No data transmission or receiving is occurring |

4. **Center/Subwoofer Speaker Out (Orange)** Use this audio jack to connect center/subwoofer speakers in a 5.1/7.1-channel audio configuration.
5. **Rear Speaker Out (Black)** This jack can be used to connect speakers in a 4/5.1/7.1-channel audio configuration.
6. **Line In (Blue)** Line in jack. Use this for external audio devices other than microphones.
7. **Line Out (Green)** Line out jack. This jack supports audio amplifying function. For better sound quality, it is recommended that you connect your headphone/speaker to this jack (actual effects may vary by the device being used). Use this audio jack for a headphone or 2-channel speaker. This jack can be used to connect front speakers in a 4/5.1/7.1-channel audio configuration.
8. **Mic In (Pink)** The Mic in jack. Microphones must be connected to this jack.

***CAUTION:*** When removing any mic cable, pull it straight out from the connector to prevent causing a short inside the cable connector.

9. **Optical S/PDIF Out Connector** This connector provides digital audio out to an external audio system that supports digital optical audio. Before using this feature, ensure that your audio system provides an optical digital audio in connector.
10. **USB 3.0/2.0 Port** The USB 3.0 port supports the USB 3.0 specification and is compatible to the USB 2.0/1.1 specification. Use this port for USB devices.
11. **USB Type-C™ Port** The USB 3.0 port supports the USB 3.0 specification and is compatible to the USB 2.0/1.1 specification. Use this port for USB devices.
12. **HDMI Output Ports** The HDMI port is HDCP compliant and supports Dolby® True HD and dts® HD Master Audio formats. It also supports up to 192KHz/24bit 8-channel LPCM audio output. You can use this port to connect your HDMI-supported monitor. The maximum supported resolution is 4096x2160@24 Hz, but the actual resolutions supported are dependent on the monitor being used.
13. **DVI-D Port** The DVI-D port conforms to the DVI-D specification and supports a maximum resolution of 1920x1200@60 Hz (the actual resolutions supported depend on the monitor being used). Connect a monitor that supports DVI-D connection to this port.

**Note:** The DVI-D port does not support D-Sub connection by adapter.

# Rear Panel Differences

Depending on the Wirecast Gear model, four *HDMI* (model 110) or *SD/HD/3G-SDI* (models 210, 220, 230) video inputs are provided on the right side of the rear panel. The location and numbering of inputs are shown below.

### Model 110 Rear Panel with HDMI

### Model 210/220 Rear Panel with SDI BNC

*SD/HD/3G-SDI BNC Input Connectors*

### Model 230 Rear Panel with SDI BNC and Ref Input

*SD/HD/3G-SDI BNC Input Connectors*

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**Note:** The default SDI number assignment on the model 230 are out of order and differ from the numbering of the model 220.

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Connect the inputs to your video sources, such as cameras, DVD players, computers, editors, graphics cards, and other devices that produce a video output that you want to use as an input for live production.

# Installation of WC Gear

## Introduction

This section shows you how to install WC Gear. This includes physical mounting and wireless connections.

**Note:** Before installing WC Gear, read through the section on *WC Gear Panels*.

### Topics


- *Physical Mounting*
- *Wireless Connections*


## Physical Mounting

Wirecast Gear comes configured for table-top use with the included feet pre-attached. The unique size and shape of Wirecast Gear is designed to occupy a minimum of space while making connectors and cables easily accessible.

Also included with all Gear systems are two rack-mount "ears" and screws that allow the system to fit into a standard 19-inch rack and take up 1.3 RU (Rack Units). This configuration is useful for in-place racks and mobile flypacks where convenient and safe transport of your live production system is required.

**Note:** The rack-mount configuration will require removal of rubber feet remove the vent warning label on top of the unit, if desired. It is there to remind you to never block the top of chassis air vents.

## Wireless Connections

To make connections to your Wirecast Gear system, refer to *WC Gear Panels* for connector functions and locations, and then follow these steps.

**Note:** The Wirecast Gear system is configured to work with up to three displays.

1. If you plan to use Wifi, connect the antenna to the two jacks and position the antenna as desired.
2. If available, plug a network cable into one of the available RJ45 Ethernet jacks.

**Note:** After it is powered on, Wirecast Gear will attempt to automatically connect to your installed network configuration (via LAN). If your network requires authentication or specific configuration, please check with your network administrator to determine computer and network setting requirements.

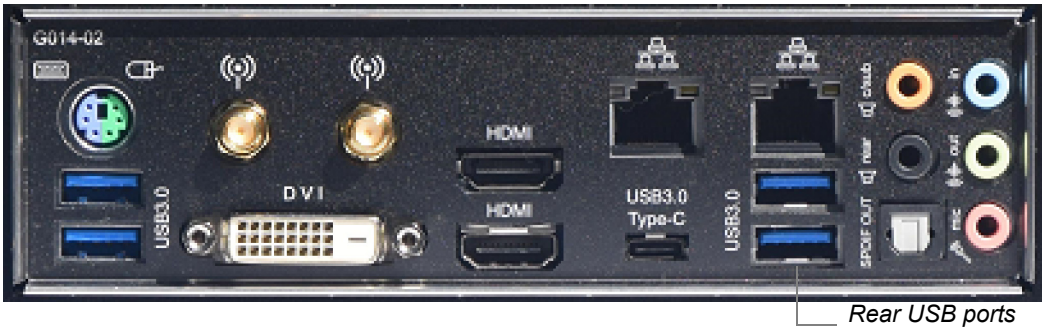
3. Plug HDMI or SDI cables into the 4 video input connectors on the right rear panel.
4. Plug a standard computer monitor into either the HDMI or DVI monitor output ports on the back of the unit.

**Note:** Every Wirecast Gear unit has two HDMI outputs and one DVI-D output. These are standard display outputs that are used for connecting computer monitors. If you have more than one monitor installed, Wirecast will allow you to send a full screen output of your program to the second display as a program monitor. These are also the ports to be used for in-venue, presentation displays (also known as IMAG) as they provide for the lowest latency output.

5. Make audio input and output connections to Line In, Mic In, Speaker Out, and Optical S/PDIF Out.
6. Remove the USB dongles from the bottom of the wireless mouse.

**Note:** The mouse dongle communicates to both the mouse and the keyboard.

7. Insert the USB dongle into a USB port on the front or back of the WC Gear box.




8. Turn the keyboard and mouse on, using the power switch on each.

9. After all connections have been made, plug in the attached power cord to provide power to the unit. For input power requirements, see *Specifications*.
10. Turn on Wirecast Gear unit by pushing the power button on the front. The button will light, and the unit will begin to boot up.

# Using WC Gear

## Introduction

This section shows you how to get started using WC Gear and what to do when you boot up for the first time.

### Topics


- *Getting Started*
- *First Time Boot*
- *Configuring the I/O Ports*


## Getting Started

To get started using Wirecast Gear, follow these steps:

1. If you aren't familiar with Wirecast, read the *Wirecast User Guide*. You can download it from the Telestram web site at:
   http://www.telestream.net/telestream-support/wire-cast/help.htm
2. Personalize Windows as explained in the *First Time Boot* topic below.
3. Create individual Windows user accounts on the Wirecast Gear machine, if desired.

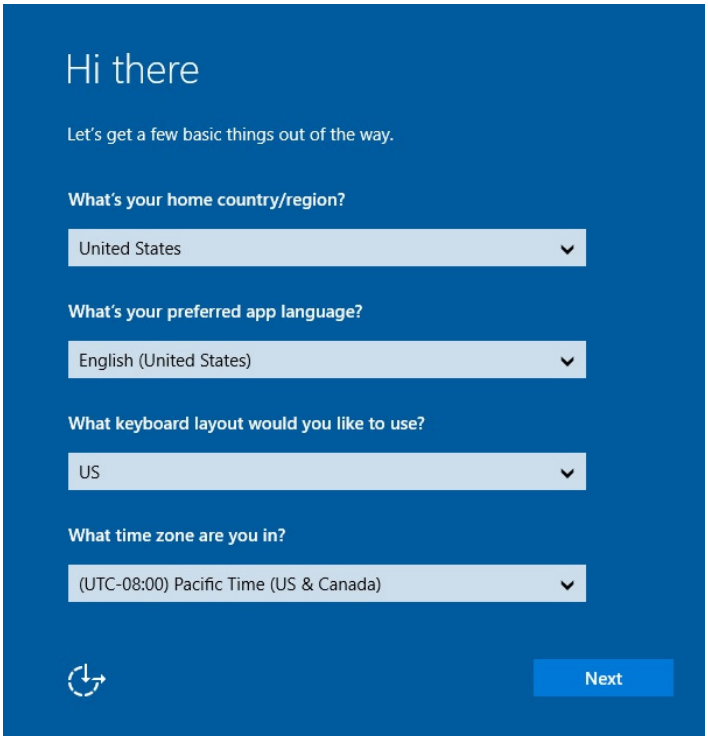
You are now ready to start using Wirecast to stream your live presentations.

## First Time Boot

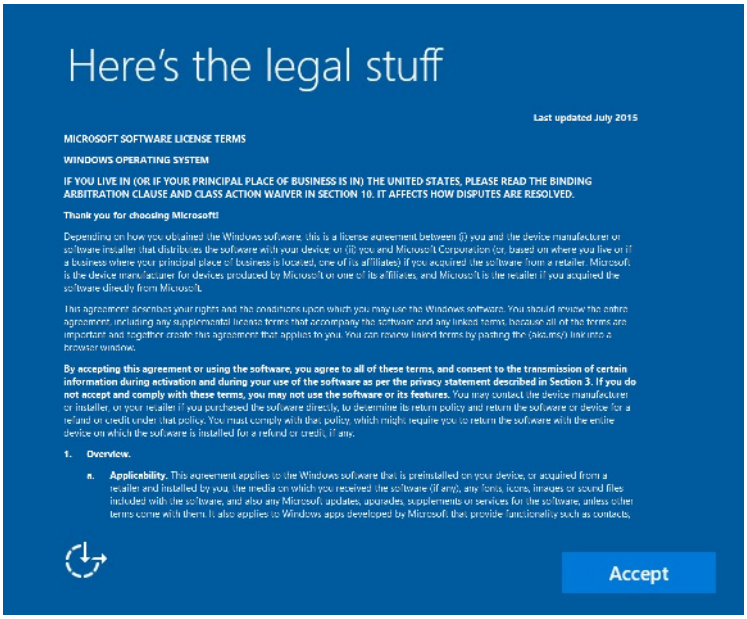
Every Wirecast Gear unit includes a pre-activated copy of Windows 10 Pro 64-bit. There is no need to enter a serial number or product key.

When you first power up Wirecast Gear, you are prompted to configure Windows for your locale and personal preferences. The following screen shots explain this process:

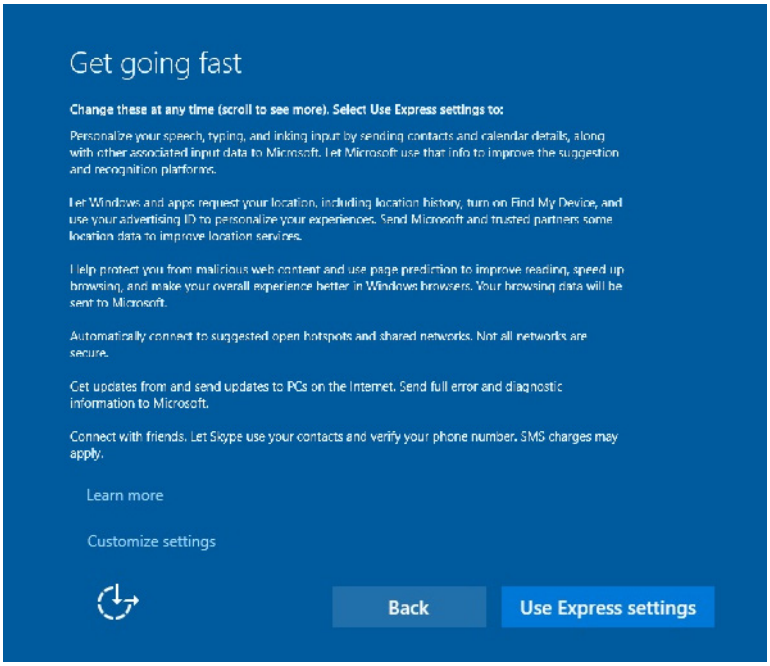
**1.** Select Location, Language and Time.



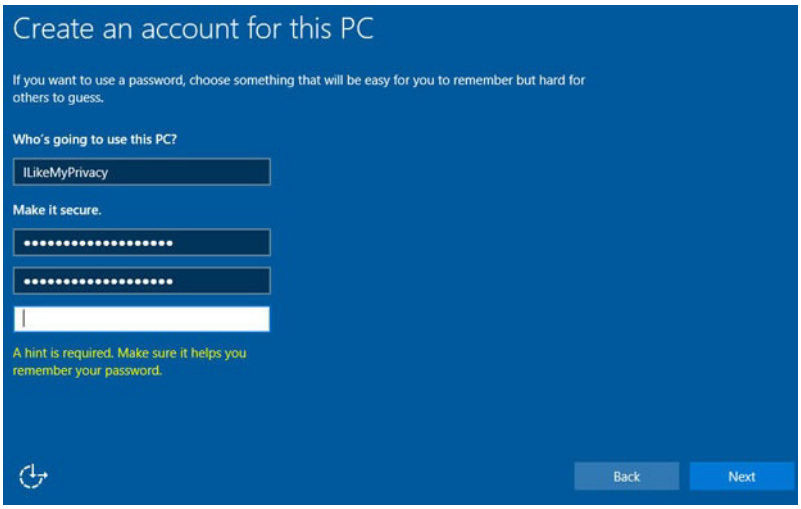

**2.** When the Microsoft License Acceptance displays, read and click Accept.



**3.** Unless you have a specific requirement, click *Use Express settings*.




**4.** When the Create Account window displays, enter your user name and password and click *Next*.




After a brief period of configuration, your Wirecast Gear will boot for the first time into Windows 10.

# Configuring the I/O Ports

**Note:** This section applies only to Wirecast Gear model 230.

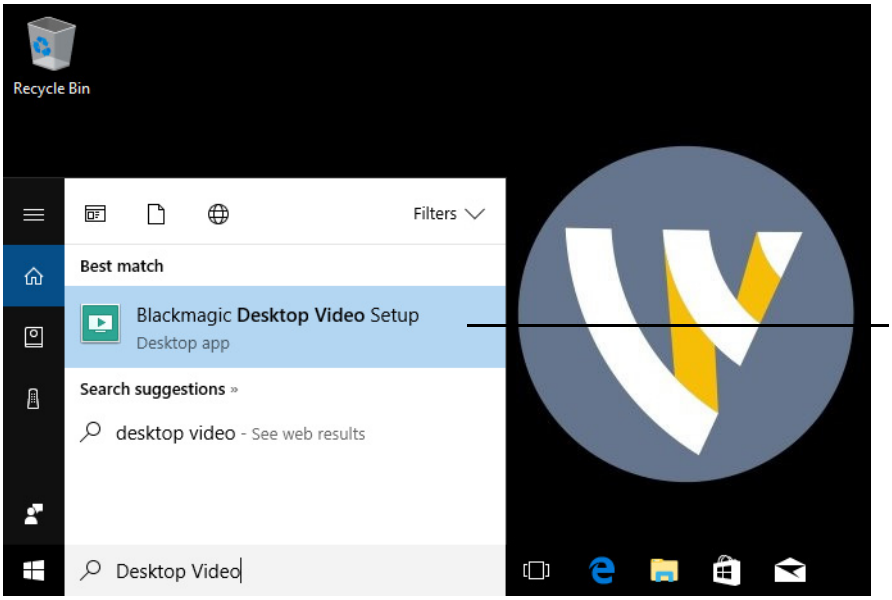
## Introduction

This section demonstrates how to setup the individual SDI connectors on the Blackmagic DeckLink Duo card. This enables the card to capture from all four inputs simultaneously in Wirecast.

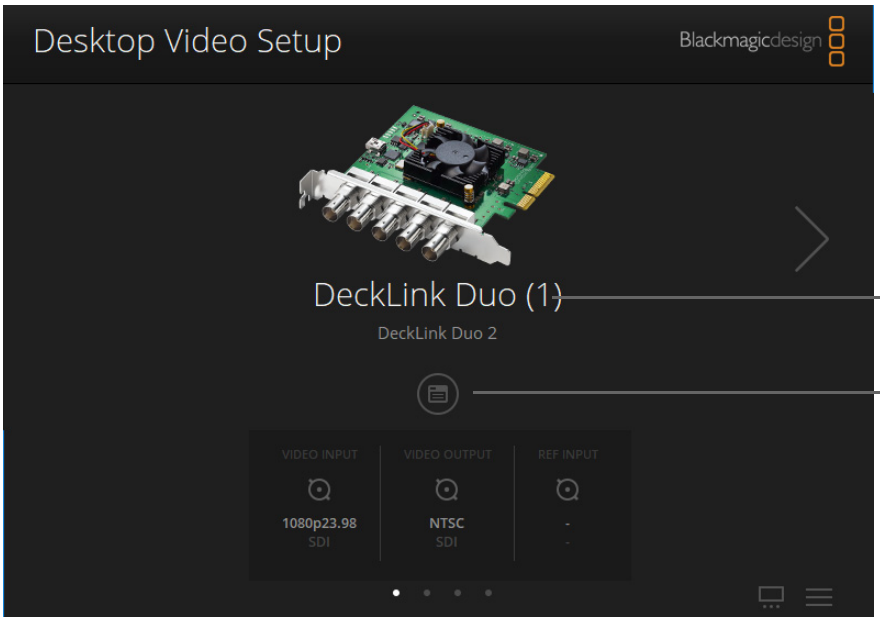
## Setup

To configure the SDI connectors on the Blackmagic card, follow these steps:

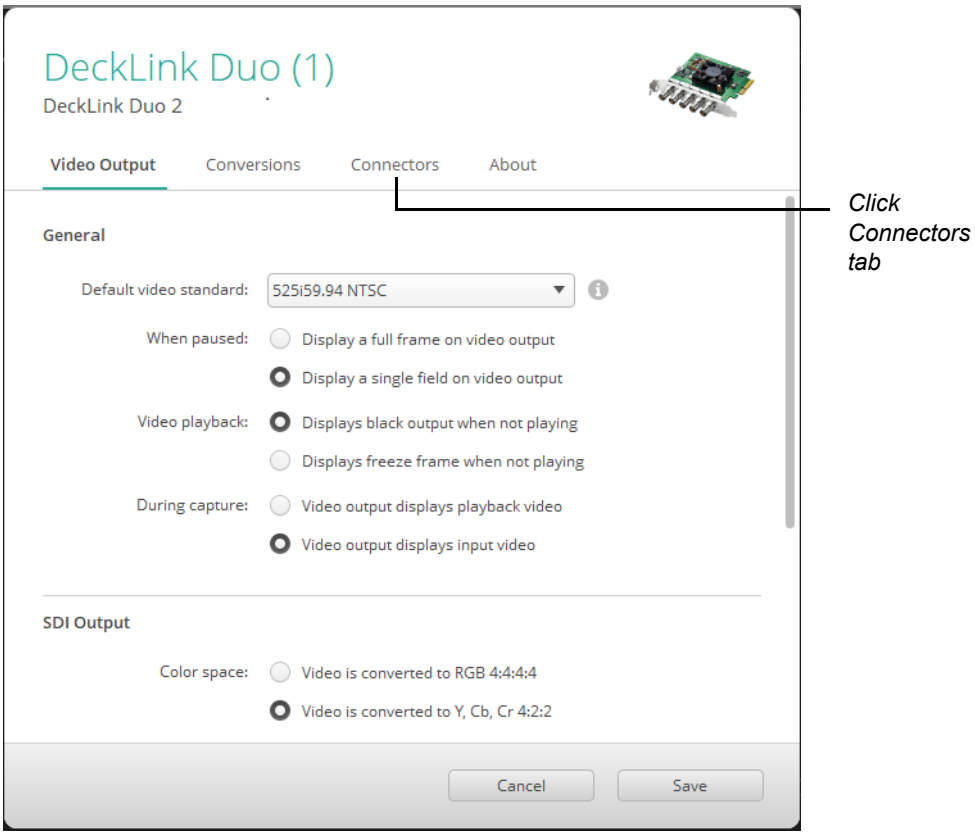
1. Press the Windows key and the "S" key together, to open the search window. Enter "Desktop Video" to display the Blackmagic setup icon, and then press the Enter key to select it.



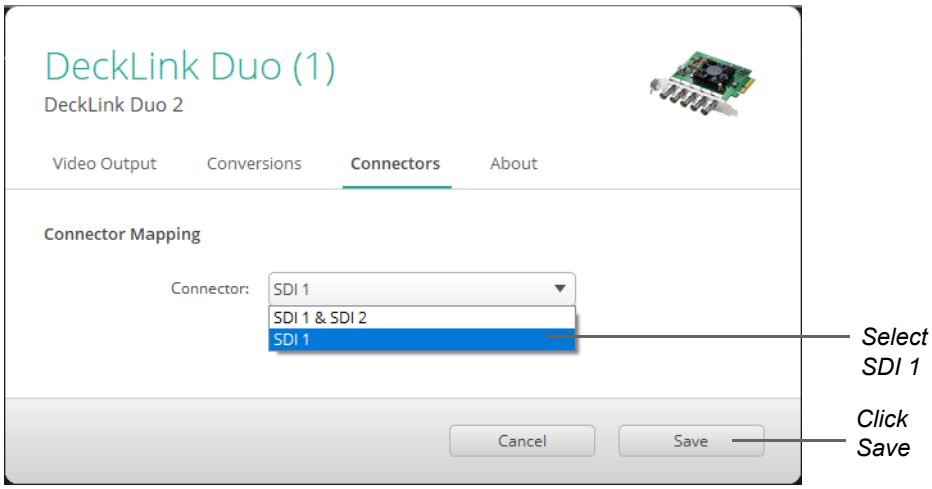
**2.** When the setup window displays, logical input (1) is selected. Click on the configure button in the middle of the window to setup this logical input.



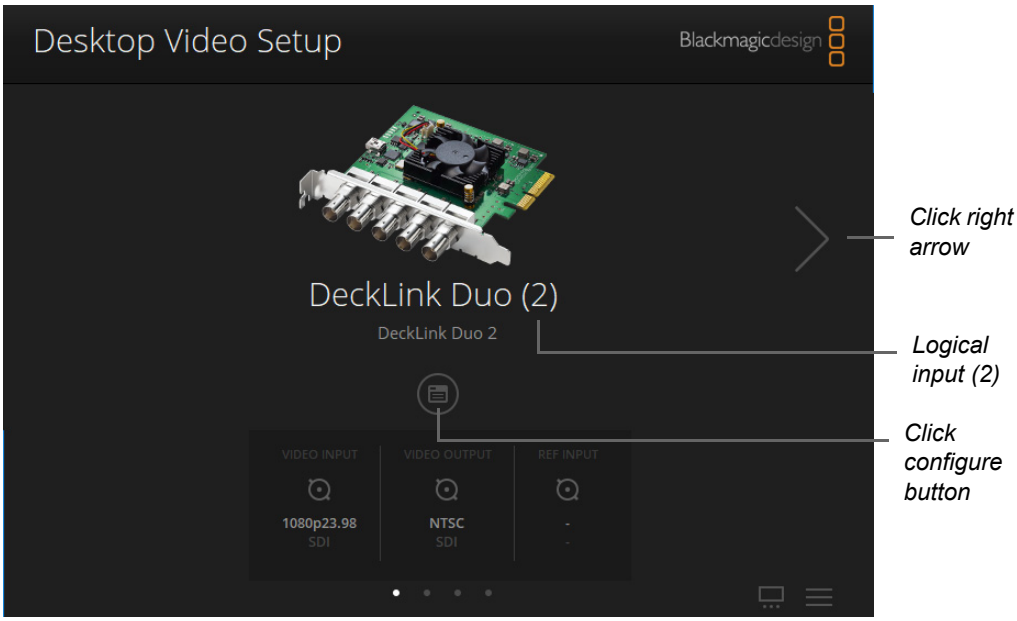

**3.** When logical input (1) setup window displays, click the *Connectors* tab.



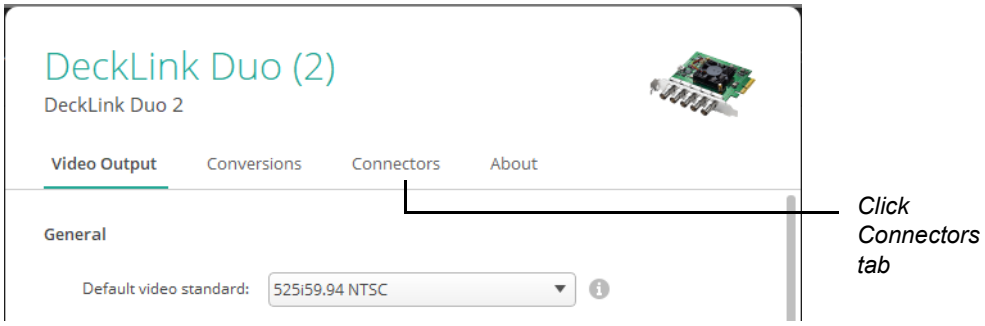
4. When the connector tab window displays, select connector *SDI 1* from the drop-down menu, then click *Save*.



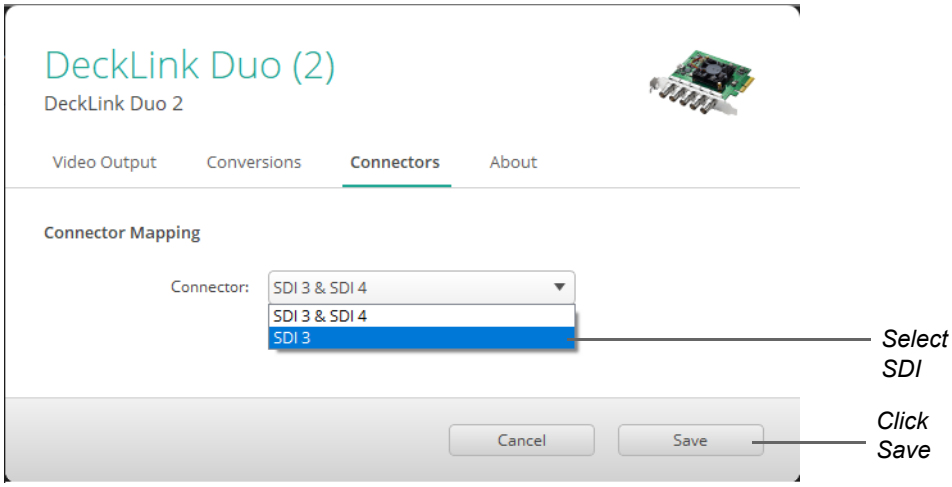

5. When the setup window displays, click the right arrow to select the setup page for the DeckLink Duo (2) input. Then click the Configure button in the center of the page to open the properties for logical input (2).



**6.** Click the Connectors tab.

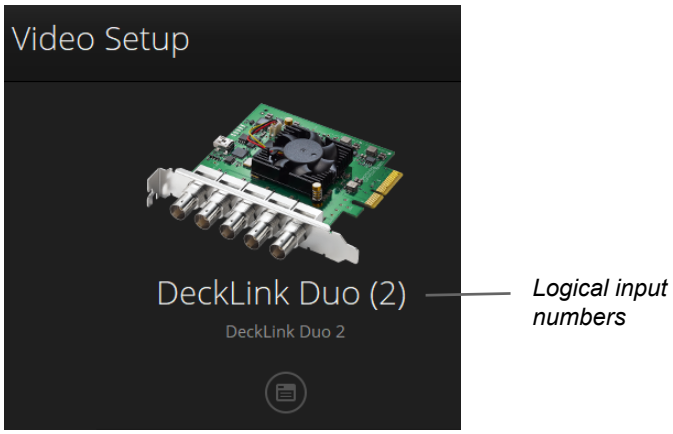



**7.** select connector *SDI 3* from the drop-down menu, then click *Save*.

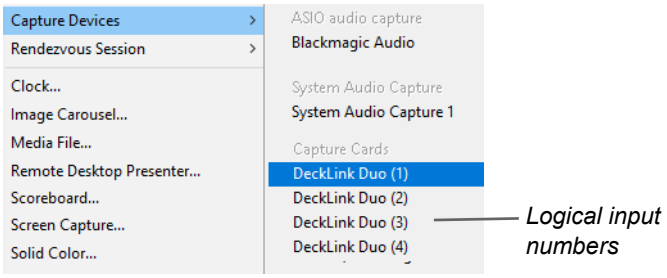



**8.** Check logical inputs (3) and (4) to make sure they are assigned to *SDI 2* and *SDI 3*, and not to a dual connector setting like "*SDI 3 & SDI 4*".

***NOTE:*** Even though you are configuring logical input (2), you are assigning physical connector *SDI 3* to it. The logical input numbers are displayed in parentheses, as "(2)", etc., in the Blackmagic setup window:



But they are also displayed as selections in *Capture Devices* of the Shot Selection menu:

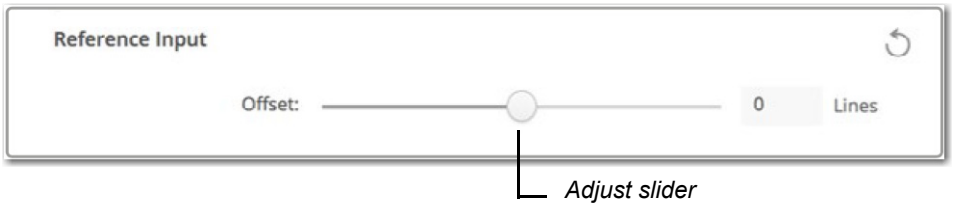



The physical SDI connectors are identified by "*SDI 1*", etc. (See "Model 230 Rear Panel" on *Rear Panel Differences* for details).

## Reference Input

The Reference Adjustment enables you to set the timing of the video outputs relative to the reference input signal. This is often used when the video output needs to be synced up with other video outputs. The reference adjustment can be accurately timed down to the sample level.

To adjust the reference input, move the offset slider to time the video output relative to the reference input. The Reference input slider is located at the bottom of the Video Output tab at the in the Connector Setup window.




This adjustment makes it possible to switch between devices on a downstream router (or production switcher), by eliminating any "glitching" when switching is performed.

# Troubleshooting and Updating WC Gear

## Introduction

This section shows you how to troubleshoot Wirecast Gear and how to get updates

### Topics


- *General*
- *Drive Initialization*
- *Windows Update Issues*


## General

If your Wirecast Gear computer does not operate as expected, the following tips may provide assistance.

***CAUTION:*** Wirecast Gear is a sealed device, with no serviceable parts and no internal peripheral bays. Please do not open the chassis to try to diagnose the hardware failure yourself, unless permitted to do so. This will void your warranty with Telestream and our manufacturer.

- Close any programs (except Wirecast) that you are not using because other programs can take up too much memory.
- Save any work in progress, then close and reopen Wirecast.
- Restart the computer. Random problems can sometimes be resolved by a restart. Be sure to save your work before you shut the computer down.

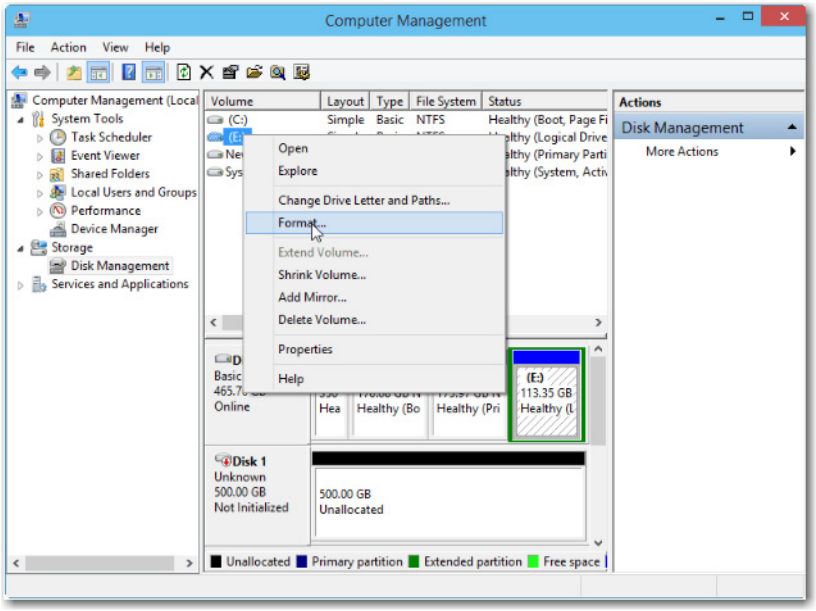
If you cannot resolve an issue yourself, see *Obtaining Support | Information | Assistance*.

# Drive Initialization

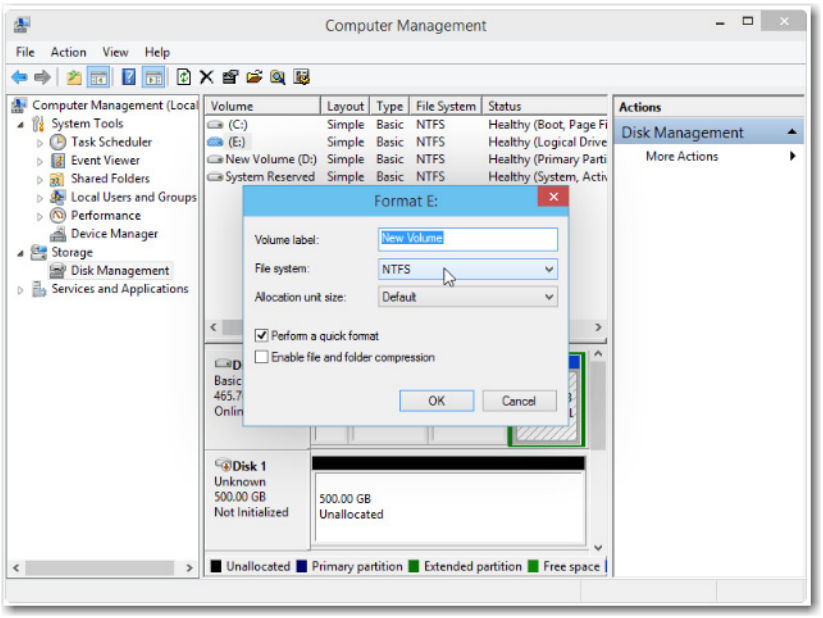
If you have received a Wirecast Gear unit and it is missing the secondary hard drive in Windows, but you can see it in Disk Management (right click on the start button, choose disk management), the drive is just in need of initialization.

To do this, follow these steps:

1. Open *Disk Management*, right click the partition you need to format (partition D), then select *Format*.




2. In the pop-up window, set file system and cluster size, then click *OK*.



Your drive is now accessible in Wirecast and Windows.

# Windows Update Issues

If you receive an question mark (?) with a yellow exclamation mark next to the capture devices, you may be experiencing a Microsoft Windows update issue.

Microsoft issued a statement updates will cause Windows computers (including Wirecast Gear) to lose their drivers to capture devices. The fastest way to resolve this is to download the latest drivers from the Magewell website: http://www.magewell.com/downloads.

Below is a link to an article that further explains the Microsoft Windows update issue: http://www.howtogeek.com/243581/windows-10-may-delete-your-programs-without-asking/.

# Support for WC Gear

## Introduction

This section shows you how to obtain customer support for WC Gear and how to make returns.

### Topics


- *Obtaining Support | Information | Assistance*
- *Return Merchandise Authorization (RMA) Procedure*


## Obtaining Support | Information | Assistance

Support options for your Wirecast Gear are listed and briefly described below. Provide your organization name, and contact information, and the serial number of the affected unit. If the problem cannot be resolved remotely, request an RMA (Return Material Authorization).

| Support Resources | Details and Contact Information |
|---|---|
| **Reseller Support** | If you purchased your Wirecast Gear from a reseller and did not also purchase GearCare Premium Support, please contact your reseller for product support. |
| **Telestream WC Gear Support** | Customers who bought Wirecast Gear directly from Telestream may request support as outlined below.<br>• Support Web Site: http://www.telestream.net/telestream-support/Wirecast-Gear/support.htm<br>• Support Email: desktopsupport@telestream.net<br>Terms and times of support services vary, per the terms of your current service contract with Telestream. |
| **GearCare Premium Support** | Customers who bought GearCare Premium Support may request support as outlined below. Includes a 3-year extended warranty and overnight replacement.<br>• US Support Phone: 1-844-550-5208<br>• International Support Phone: 1-530-470-2029<br>• Support Email: desktopsupport@telestream.net<br>See also the web sites above and below. |
| **Wirecast Information, Assistance, FAQs, Forums, & Upgrades** | • Wirecast Web Site: http://www.telestream.net/telestream-support/wire-cast/support.htm |
| **Telestream, LLC General Information** | • Web Site: www.telestream.net<br>• Sales and Marketing Email: info@telestream.net<br>Physical location and mailing address:<br>Telestream, LLC<br>848 Gold Flat Road<br>Nevada City, CA USA 95959 |
| **Telestream Technical Writers** | • Email: techwriter@telestream.net<br>Comments, corrections, or suggestions about this guide and other Telestream guides are encouraged. |

# Return Merchandise Authorization (RMA) Procedure

If your Wirecast Gear needs service of any kind, see *Obtaining Support | Information | Assistance* on the previous page for contact information.

If you are instructed by Telestream Support to return your Wirecast Gear, follow the procedure below. Please do not return a Wirecast Gear unit unless you receive an RMA number from Telestream first.

Before returning your Wirecast Gear, Telestream recommends that you back up the entire contents of all computer drives.

## Support and RMA Process

1. Contact the reseller where your hardware was purchased for service. If you purchased directly from Telestream or your unit is covered by Premium Support, contact Telestream.
2. Telestream Support opens a case for you.
3. Telestream Support follows an established drill-down to categorize the problem, and determine a resolution path.
4. If the problem is beyond our initial level of Support, our representatives will access and diagnose your device remotely. You will need to grant us Internet access to your device.
5. Upon a failed hardware diagnosis, our representative escalates the case to an RMA and gives you instructions for shipping the unit to our manufacturing partner for repair.
6. The RMA process triggers a case with our manufacturing partner.
   a. If you have Premium Support, the manufacturing partner gathers your shipping and contact information and sends you an overnight replacement. The manufacturer will also give you instructions and an RMA for returning the failed unit.
   b. If you do not have Premium Support, the manufacturing partner gives you instructions and an RMA for returning the failed unit and gathers your return shipping information. You are requested to ship the unit to our manufacturing partner for repair and return to you.
7. Upon case resolution, Telestream Support reviews and closes the case and sends you a satisfaction questionnaire.
8. We appreciate your business and ask you to return the questionnaire promptly so that we can continue to improve the quality of our product support to you and our other customers.

# Regulatory Compliance Statements

## Introduction

This section presents the Regulatory Compliance Statements for the Wirecast Gear models 110, 210, 220 and 230. It also includes European Union and European Fair Trade Association Regulatory Compliance, along with Warning and Caution Messages

### Topics


- *Regulatory Compliance Statements for the Wirecast Gear models 110, 210, 220 and 230*
- *Federal Communications Commission (FCC) Compliance Notices*
- *Canadian ICES Statements*
- *European Union and European Fair Trade Association Regulatory Compliance*
- *Warning and Caution Messages*


## *Regulatory Compliance Statements for the Wirecast Gear models 110, 210, 220 and 230*

### Local Restrictions on 802.11a, 802.11b, 802.11g and 802.11n Radio Usage Caution

Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11g and 802.11n wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11g and 802.11n products are designed for use only in specific countries, and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use. Any deviation from the permissible power and frequency settings for the country of use is an infringement of national law and may be punished as such.

To determine whether you are allowed to use your wireless network device in a specific country, please check to see if the radio type number that is printed on the

identification label of your device is listed in the manufacturer's OEM Regulatory Guidance document at URL http://www.telestream.net/pdfs/regulatory/

Gear-regulatory-guidance.pdf, or contact Telestream directly.

# *Federal Communications Commission (FCC) Compliance Notices*

This section includes the following FCC statements for the Wirecast Gear models 110, 210, 220 and 230:

- These models contain FCC ID: PD98260NG
- Class B Interference Statement
- RF Radiation Exposure & Hazard Warning
- Non-Modification Statement
- Unlicensed National Information Infrastructure Bands Operation Statement

## Class B Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## FCC Caution

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

## RF Radiation Exposure & Hazard Statement

To ensure compliance with FCC RF exposure requirements, this device must be installed in a location such that the antenna of the device will be greater than 20 cm (7.8 in.) from all persons. Using higher gain antennas and types of antennas not covered under the FCC certification of this product is not allowed. Installers of the radio and end users of the product must adhere to the installation instructions provided in this manual. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

## Non-Modification Statement

Use only the supplied antenna. Unauthorized antennas, modifications, or attachments could damage the Wirecast Gear models 110, 210, 220 and 230 and violate FCC regulations. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. Please contact Telestream for a list of approved 2.4 GHz and 5.0 GHz antennas.

## Unlicensed National Information Infrastructure (U-NII) Bands Operation Statement

Within the 5.25-5.35 GHz band, U-NII devices will be restricted to indoor operations to reduce any potential for harmful interference to co-channel MSS operations.

The U-NII devices shall accept any interference from legal communications and shall not interfere with the legal communications. If interference is caused, the user must stop operating the device immediately and cannot resume operation until the harmful interference is clear.

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in this user manual.

## Dynamic Frequency Selection (DFS)

U-NII devices operating in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems in order to reduce the likelihood of interference to radar.

The modification of wireless broadband and other transceiver devices to operate on unauthorized frequencies or the disabling of DFS capabilities is a violation of FCC rules and may result in unlawful interference to radio communications services critical to public safety

# *Canadian ICES Statements*

Contains IC: 1000M-8260NG

This device complies with ICES-003 and RSS-247 of Industry Canada.

Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Ce dispositif est conforme aux normes NMB003 et CNR-247 d'Industrie Canada.

1. L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes :
2. il ne doit pas produire de brouillage et l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

To prevent radio interference to the licensed service (i.e. co-channel Mobile Satellite systems) this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing and not supported by Wirecast Gear 110, 210, 220 and 230 Models.

Pour éviter les interférences radio au service agréé (c.-à-d. Les systèmes par satellite mobile co-canal), cet appareil est destiné à fonctionner à l'intérieur et à l'extérieur des fenêtres pour assurer un blindage maximal. L'équipement (ou son antenne d'émission) installé à l'extérieur est soumis à l'octroi de licences et n'est pas pris en charge par les modèles Wirecast Gear 110, 210, 220 et 230.

## RF Radiation Exposure & Hazard Statement

To ensure compliance with RSS-102 RF exposure requirements, this device must be installed in a location such that the antenna of the device will be greater than 20 cm (7.8 in.) away from all persons. Using higher gain antennas and types of antennas not covered under the IC certification of this product is not allowed. Installers of the radio and end users of the product must adhere to the installation instructions provided in this manual. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

## Exposition aux radiations RF & Mention de danger

Pour assurer la conformité avec les exigences RSS-102 d'exposition aux RF (Radio Fréquences), cet appareil doit être installé dans un endroit ou l'antenne de l'appareil sera située à une distance de plus de 20 cm (7.8 po) de toutes personnes. L'utilisation d'antennes à gain plus élevé et les types d'antennes qui ne sont pas couverts en vertu de la certification IC de ce produit n'est pas autorisée.  Les installateurs de la radio et les utilisateurs du produit final doivent se conformer aux instructions d'installation

fournies dans ce manuel. Cet émetteur ne doit pas être co-implanté ou exploité en conjonction avec toute autre antenne ou transmetteur.

## Deployment Statement

This product is certified for indoor deployment only in the 5150 - 5250 MHz band. Do not install or use this product outdoors in that frequency band in Canada.

## Déclaration de déploiement

Ce produit est certifié pour le déploiement à l'intérieur tout en rencontrant les limites de cette bande de fréquences:  5150 - 5250 MHz.  Ne pas installer ou utiliser ce produit à l'extérieur au Canada, si cette bande de fréquences ne peut ne peut être rencontrée.

## Operation in the Frequency Bands 5470-5725 MHz and 5725-5850 MHz

Until further notice, devices subject to this section shall not be capable of transmitting in the band from 5600-5650 MHz. This restriction is for the protection of Environment Canada's weather radars operating in this band.

Users are advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

## Fonctionnement dans les bandes de fréquence 5470-5725 MHz et 5725-5850 MHz

Jusqu'à nouvel avis, les appareils soumis à cette section ne doivent pas être transmis dans la bande de 5600-5650 MHz. Cette restriction concerne la protection des radars météorologiques d'Environnement Canada opérant dans cette bande.

Les utilisateurs êtes avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

# *European Union and European Fair Trade Association Regulatory Compliance*

This equipment may be operated in the countries that comprise the member countries of the European Union and the European Fair Trade Association. These countries, listed below, are referred to as The European Community throughout this document:

AUSTRIA, BELGIUM, BULGARIA, CYPRUS, CZECH REPUBLIC, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, IRELAND, ITALY, LATVIA, LITHUANIA,

LUXEMBOURG, MALTA, NETHERLANDS, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, UNITED KINGDOM, ICELAND, LICHTENSTEIN, NORWAY, SWITZERLAND

# Declaration of Conformity

Declaration of Conformity is marked by this symbol:

CE

This indicates compliance with the Essential Requirements of the Radio Equipment Directive (RED) of the European Union (2014/53/EU). This equipment meets the following conformance standards:

**Safety:** EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 + A2: 2014 (T-Mark License), IEC 60950-1: 2005 (2nd Ed.) + Am 1: 2009 + Am 2: 2013 (CB Scheme Certificate)

**EMC:** EN 301 489-1 v2.1.1 (2017-02), EN 301 489-17 v3.1.1 (2016-11),
EN 55032: 2012, CISPR 32: 2015, EN 55024: 2010, CISPR 24: 2010,
EN 61000-3-2: 2014, EN 61000-3-3: 2013,
EN 61000-4-2: 2009, EN 61000-4-3: 2006 + A1: 2008 + A2: 2010,
EN 61000-4-4: 2012, EN 61000-4-5: 2006, EN 61000-4-6: 2009, EN 61000-4-11: 2004

**Note:** The products are licensed, as required, for additional country specific standards for the International Marketplace. Additional issued licenses available upon request.

**Radio:** EN 300 328v2.1.1 (2016-11), EN 301 893v2.1.1 (2017-05) & EN 300 440v2.1.1 (2017-03)

**SAR:** EN 62311: 2008

**Environmental:** RoHS 2011/65/EU, WEEE 2012/19/EU

You can visit the following URL for a complete copy of the Declaration of Conformity:
http://www.telestream.net/pdfs/regulatory/Wirecast-Gear-CE-cert-9-7-2017.pdf

## Warning!

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take appropriate measures.

## Achtung!

Dieses ist ein Gerät der Funkstörgrenzwertklasse B. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

### Attention!

Ceci est un produit de Classe B. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.

## National Restrictions

### Indoor Operation

The Wirecast Gear models 110, 210, 220 and 230 operate in the 5150 to 5350 MHz frequency band and are restricted to indoor use only!

### Antenna

The Wirecast Gear models 110, 210, 220 and 230 have integrated antennas which cannot be replaced.

### Power Level Control

The Wirecast Gear models 110, 210, 220 and 230 do not allow for customized power level control.

### Operating Frequency

The operating frequency of the Wirecast Gear models 110, 210, 220 and 230 is determined by the host access point. As such, it is important that the host access point is correctly configured to meet the local regulations.

The above symbol on the product or its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste for recycling, please contact your local authority, or where you purchased your product.

# *Warning and Caution Messages*

The following caution statements, warning conventions, and warning messages apply to this product and manual.

Warning Symbol

Hazard Symbol

Caution Symbol

## Before operation please read the following:

Warning! Read and follow all warning notices and instructions marked on the product or included in the documentation.

Warning! Do not use this device near water and clean only with a dry cloth.

Warning! Do not block any ventilation openings or place anything on top of the device to ensure proper CPU cooling. Install in accordance with the manufacturer's instructions.

Warning! Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Warning! Refer all servicing to qualified Telestream or Telestream-designated service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning! Disconnect the external AC power supply line cord(s) from the mains power before moving the unit.

Warning! Only use attachments and accessories specified and/or sold by the manufacturer.

Warning! Unplug this device during lightning storms or when unused for long periods of time.

Warning! Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Warning! Since the Mains plug is used as the disconnection for the device, it must remain readily accessible and operable.

Warning! Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device.

Warning! Do not open the chassis. There are no user-serviceable parts inside. Opening the chassis will void the warranty unless performed by a Telestream service center or licensed facility.

Hazard! High Voltage. This situation or condition can cause injury due to electric shock.