Actiontec®

Wireless Display Receiver

ScreenBeam Pro Education Edition 2

Model # SBWD100B

User Guide v1

Table of Contents

Introduction 1

Thank you for purchasing Actiontec's ScreenBeam Pro Education Edition 2 Wireless Display Receiver. The Receiver wirelessly streams what's on your Intel WiDi or Miracast™ compatible device to your HDTV, including movies, videos, photos, music, and more.

The Receiver features fast setup, enhanced security and IT manageability, smooth video playback, full 1080p HD support, ultra-low delay, Windows 8.1 optimization, versatile compatibility, low power consumption.

With the Receiver, it's easy to supplement traditional lectures with rich, engaging multimedia like videos, apps, educational programming, even specialized online course material. This wireless display adapter lets teachers and students wirelessly share content from compatible tablets, smartphones, and laptops onto a projector screen or other display.

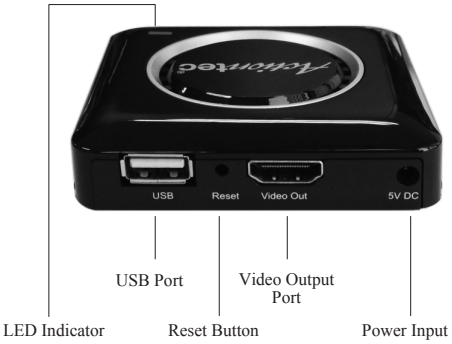
This user manual will take you through the procedures needed to install, connect to, operate, configure, and upgrade the Receiver, and also describe a few different possible scenarios about locating faults.

Package Contents

The following items are in the ScreenBeam Pro Education Edition package:

- ScreenBeam Pro Education Edition 2 Wireless Display Receiver (1)
- HDMI Cable (1)
- HDMI-to-VGA adapter (1)
- AC power adapter (1)
- Quick Start Guide

Features



- **Reset Button**: resets the Receiver to its default settings
- **Video Out Port (HDMI)**: connects the Receiver to HDTV/projector for video and audio output.
- **Power Input**: connects to AC adapter
- **LED Indicator**: displays status of power supply
- **USB Port**: used for firmware upgrades

System Requirements

- Display device with one Type A HDMI port or VGA port
- Available power outlet

Compatible Devices

- Laptop or notebook computer with Intel WiDi 4 or higher
- Smartphone, tablet, or laptop running Windows 8.1
- Wi-Fi Miracast™ certified smartphones and tablets
- Non-WiDi/Miracast-ready laptops and PCs with Actiontec USB Transmitter (Windows 7 or higher)

Setting Up the Receiver

2

This chapter details how to connect the Receiver to an HDTV monitor, and how to set it up for the first time. Make sure you have all the contents from the Receiver's package available before beginning the installation.

Connecting to an HDTV Monitor

To connect the Receiver to an HDTV monitor, make sure the following items are available:

- ScreenBeam Pro Education Edition 2 Wireless Display Receiver
- HDMI cable
- AC power cord

To connect the Receiver to an HDTV monitor:

1. Plug one end of the supplied HDMI cable into the HDMI port (Video Out) on the Receiver, and the other end into an available HDMI port on the monitor.
2. Plug the other end of the power cord into a nearby electrical outlet. The Power LED will illuminate green.

When Steps 1 and 2 are complete, the hardware should be connected as shown in the figure below:

3. Turn on the HDTV monitor and set it to display the input from the HDMI port connected in step 1.

4. Verify that the *Ready To Connect* screen appears on the monitor.

The Receiver is now connected to the monitor, and is ready to use.

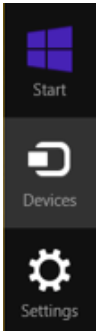
Setting Up for the First Time

This section explains how to connect the Receiver for the first time to a source device. The source device options must be running one of the following operating systmes: Windows 8.1, Intel WiDi, and Miracast™.

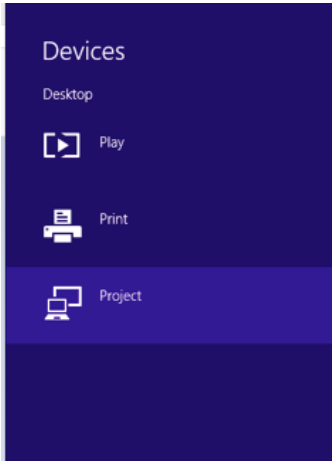
Windows 8.1

To connect to a source device running Windows 8.1:

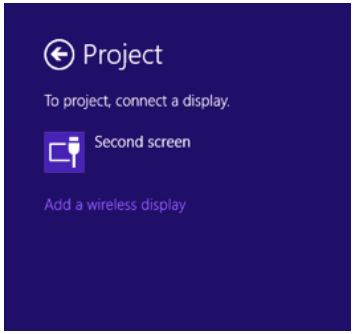
1. From the Windows desktop, go to the *Charms* menu and select **Devices**. You can also use the shortcut keys (Windows logo + K).



2. When the *Devices* menu appears, select **Project**.



3. When the *Project* menu appears, select **Add a wireless display**. Windows will search for available devices.

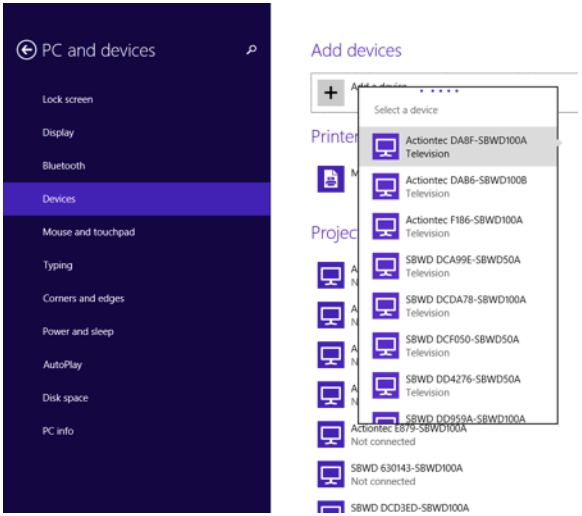


Note: If the device is running Windows 8.1 and the previous screens do not appear, go to

http://www.actiontec.com/widi81

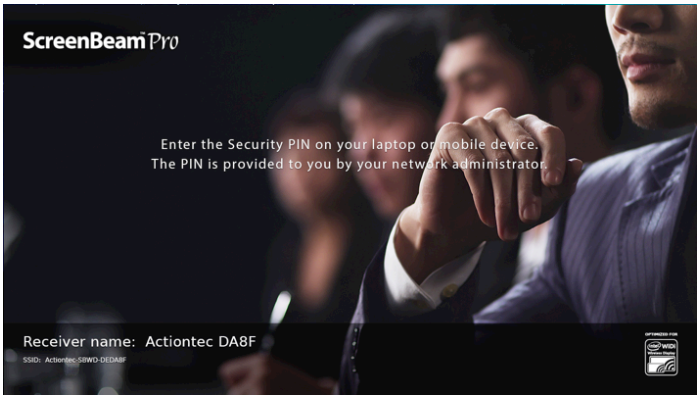
to update the software. Alternatively, the Windows 8.1 device can be updated via the Windows Update application.

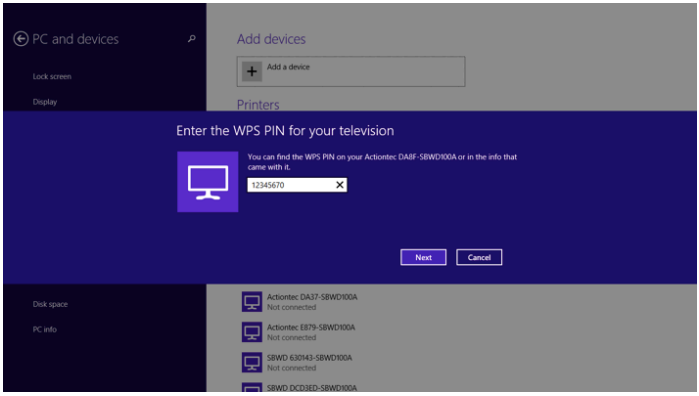
4. A *PC and devices* screen appears. Click **Devices** and, from the list that appears, select the appropriate Receiver.



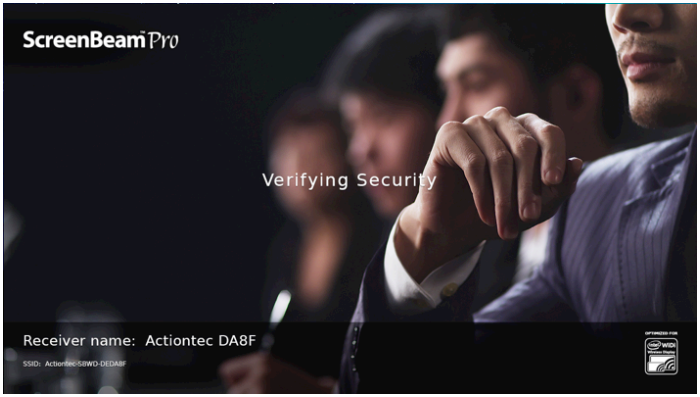
5. A PIN entry box is displayed on the screen of the Windows 8.1 device and a PIN entry countdown on the monitor. Type the PIN provided by the network administrator in the PIN entry box and click **Next** to continue.

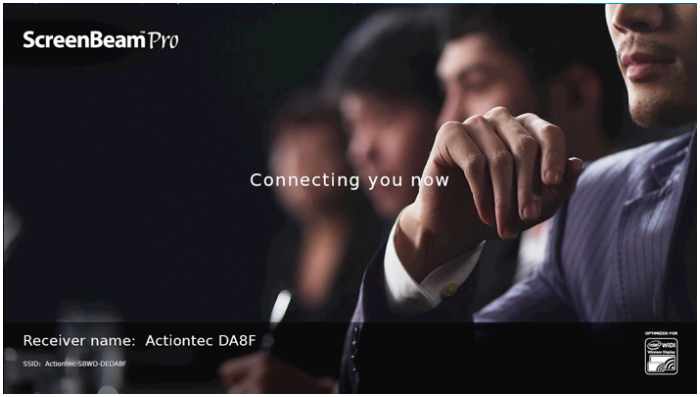
Note: Obtain the security PIN from the network administrator if no PIN is displayed on the connected display device. By default, the security PIN is "12345670." If a PIN is displayed on the connected display device (see lower figure), type this PIN in the PIN entry box.





6. The monitor displays messages to show the status of the connection.





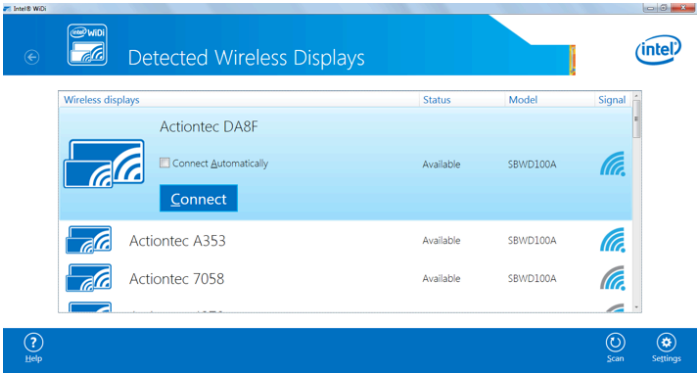
7. When the device's screen is displayed on the monitor, the source device has connected to the Receiver.

Intel WiDi

To connect to a source device running Intel WiDi:

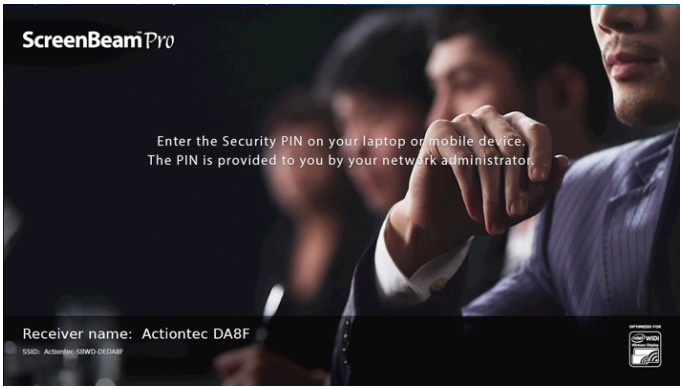
1. Launch the **Intel Wireless Display** application on the device. To find the application, go to **Windows Search** on the device and search for "Intel WiDi."

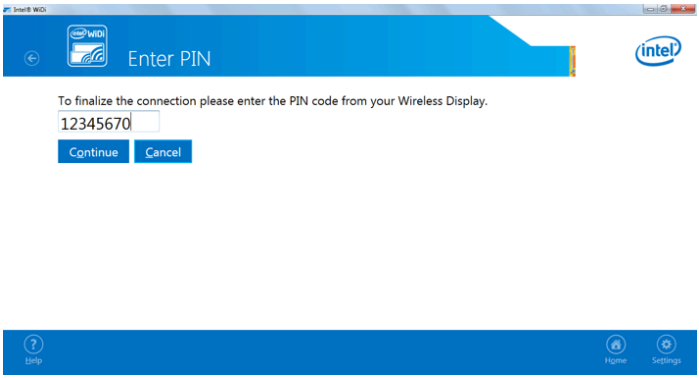
2. The application scans for available Receivers automatically. Select the appropriate Receiver and click **Connect**. (The *Connect Automatically* checkbox is optional.) If the Receiver is not listed, click **Scan**.



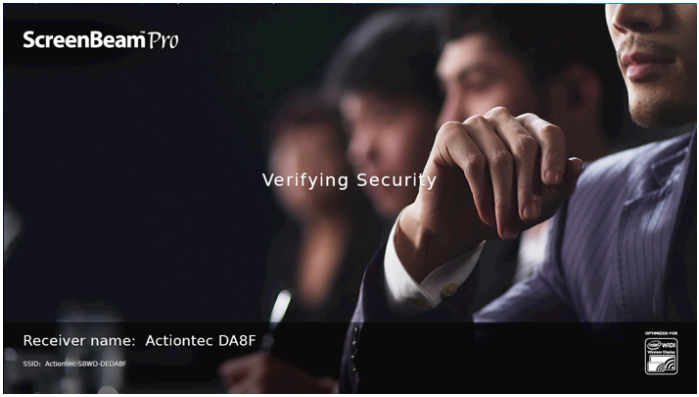
3. A PIN entry box is displayed on the WiDi device's screen, and a PIN entry countdown on the monitor. Type the PIN provided by the network administrator in the PIN entry box on the WiDi device, then click **Continue**.

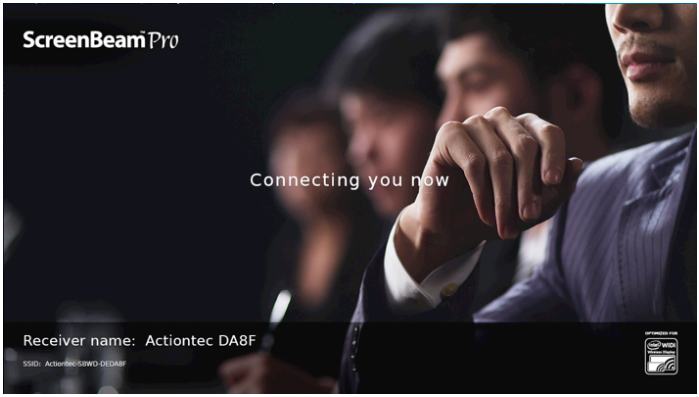
Note: Obtain the security PIN from the network administrator if no PIN is displayed on the connected display device. By default, the security PIN is "12345670." If a PIN is displayed on the connected display device (see lower figure), type this PIN in the PIN entry box.



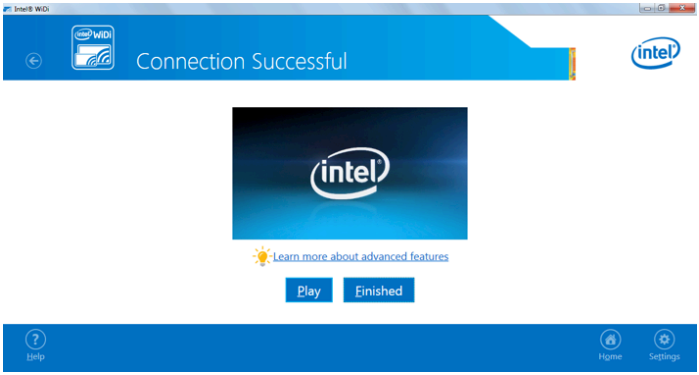


4. The monitor displays messages to show the status of the connection.





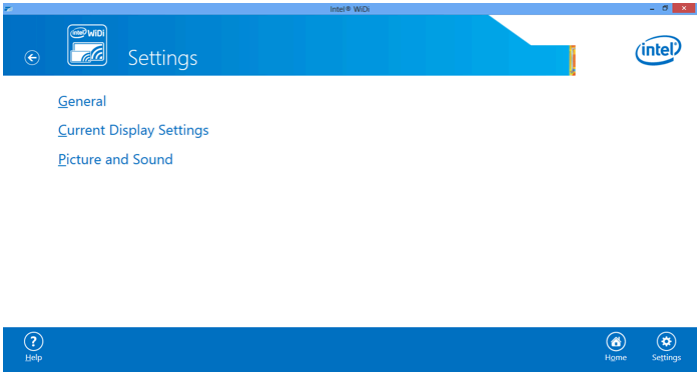
5. A *Connection Successful* screen appears on the source device's screen. Click **Finished**, and the device's screen is displayed on the monitor.



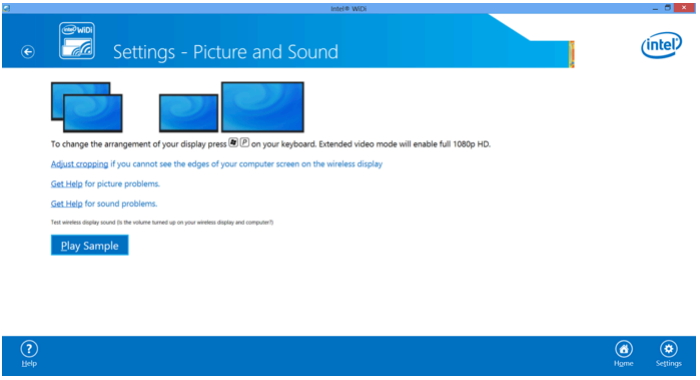
Adjusting the Monitor's Picture

If edges of the source device's screen cannot be seen on the monitor, or there are black bars around the picture, the Receiver's cropping settings can be adjusted. To do this:

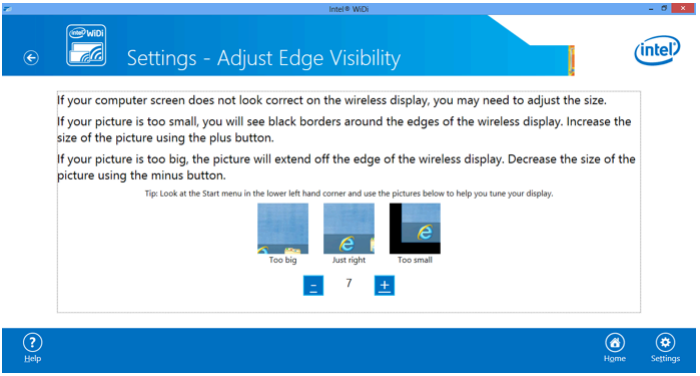
1. From the Intel WiDi application, click **Settings**. The *Settings* screen appears.



2. In the *Picture and Sound* section, select **Adjust cropping**.



3. Adjust the monitor's picture by clicking + (plus sign) or - (minus sign).

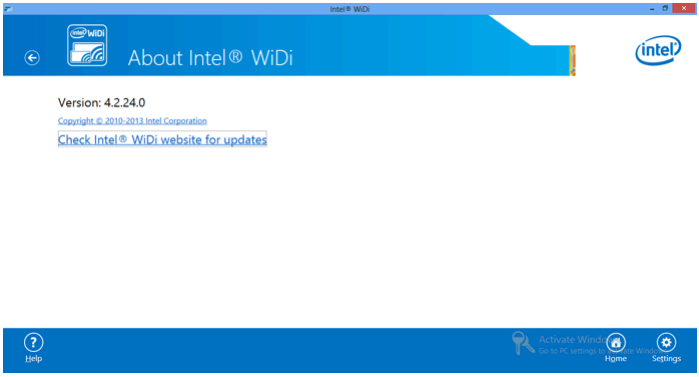


WiDi Software Version Support

Make sure the device supports Intel Wireless Display (WiDi) software version 3.5 or higher. To find out which version of Intel WiDi the device is running, launch the Intel WiDi application and click **Help**, then navigate to the *About Intel® WiDi* section. To obtain the latest Intel WiDi software and drivers, go to:

http://www.intel.com/go/wirelessdisplayupdate

or click **Check Intel® WiDi website for updates**.



Miracast™

To connect a Miracast™-enabled Android device to the Receiver, use the following procedure. For best performance, the Miracast™ device should be running the latest software.

1. On a Miracast™-enabled Android device, locate and open the Wireless Display Application (check for the application under *Settings*).

   Note: The name of the Wireless Display application depends on the device type and model. Refer to the device's user manual for more details.

2. The Wireless Display application scans for available devices. Select the Receiver from the device list. A PIN may be required.

   Note: Obtain the security PIN from the network administrator if no PIN is displayed on the connected display device. By default, the security PIN is "12345670." If a PIN is displayed on the connected display device, enter this PIN in the PIN text box.

3. Enter the PIN in the PIN text box, then click **Connect**.

4. Wait for the device to pair with and connect to the Receiver. When it does, the source device's screen will be displayed on the monitor.

Tips for Optimal Performance

To get the most out of the Receiver:

- Keep the Receiver in line-of-sight in relation to the source device. This will help ensure the Receiver receives the best possible signal.
- The Receiver's optimal wireless range is within 30 feet of the source device. However, actual range and effectiveness depends on many factors, including the amount of existing signal interference and the building materials used in the surrounding structure.
- Avoid placing the Receiver near other possible sources of interference (such as electric fans or other devices with electric motors), microwave ovens, and cordless phones.

Display and Control Options

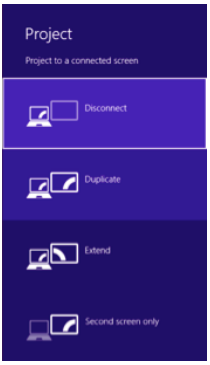
3

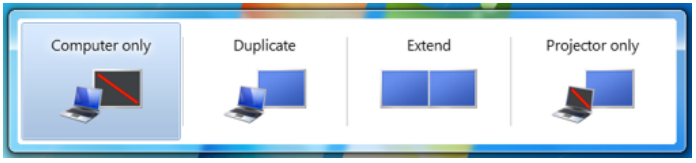
This chapter describes the various display modes and control options that are supported by the Receiver.

Display Mode

The Receiver supports three display modes when connected with a compatible wireless display application (Intel WiDi or Windows 8.1 Project, for example).

In Windows, press the Windows logo + P keys on the keyboard simultaneously to launch the display options and select the desired display mode from the options.





Duplicate

The *Duplicate* mode is used to display the same content on both the device's screen and the HDTV simultaneously.

Note: There may be minor delay between the content displayed on the monitor compared to the source device's screen. This is due to the current state of wireless display technology.

Extend

The *Extend* mode creates a single, extended "screen" between the source device and the monitor. When in Extend mode, dragging windows to the right side of the device's screen displays those windows on the monitor, while dragging windows to the left of the monitor displays them back on the device's screen. This mode allows users to display selected content on the monitor, while all other windows remain on the device's screen. When this mode is first selected, the monitor displays only the Windows desktop.

Second Screen Only

The *Second Screen Only* mode causes the monitor to be the only display for the device. All content will be displayed on the monitor; the source device's screen will be blank.

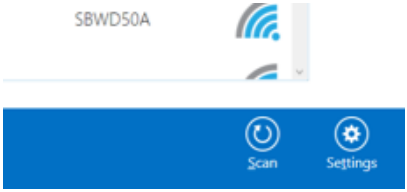
Ultra-Low Delay

The Receiver also supports Ultra-Low Delay mode, which helps reduce end-to-end wireless display latency. Real-time applications, such as games, can run without noticeable delay when Ultra-Low Delay mode is enabled on supported devices.

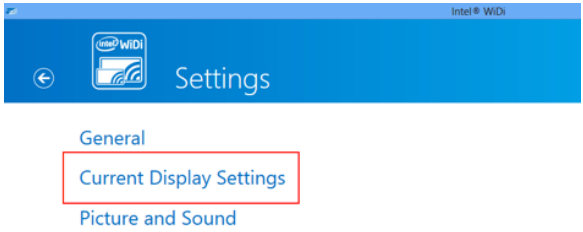
Intel WiDi

Ultra-Low Delay is only available on a source device running Intel WiDi 3.5 or higher. Follow the steps below to switch to ultra-low delay mode:

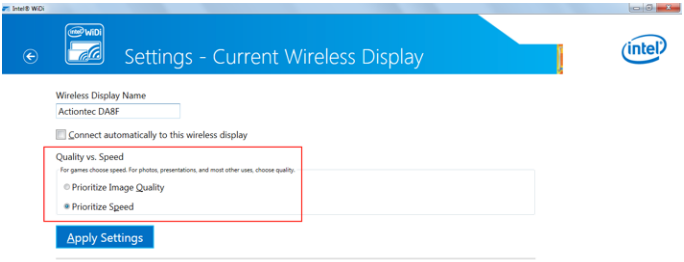
1. Launch the Intel WiDi application, connect to the Receiver, then click **Settings**.



2. In the *Settings* screen, select **Current Display Settings**.



3. Select **Prioritize Speed** in the *Quality vs. Speed* section, then click **Apply Settings**.



For more information, see Intel's support documentation.

Restore Default Settings

To restore the Receiver's default settings:

1. Power on the Receiver and wait until the *Ready to Connect* screen appears.
2. Hold down the Receiver's *Reset* button with the end of a paper clip.
3. When the *Reset to Default* screen appears on the monitore, release the *Reset* button.

The Receiver reboots. When it finishes, it will running with its default settings.

Advanced Settings

4

This chapter details the procedures to upgrade the the Receiver's firmware, in addtion to other advanced settings. The Receiver provides a local management web server to access advanced settings. With the web server, IT administrators can setup, configure and upgrade the Receiver. These settings should only be accessed by an experienced network technician.

Logging Into the Web Server

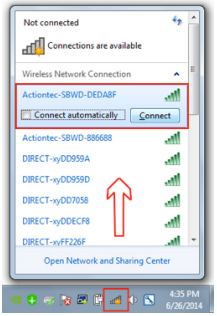
There are two ways to log into the Receiver's web server: when SSID broadcast is enabled, and when it is disabled.

SSID Broadcast Enabled

Follow the procedure below to log into the local management web server when SSID broadcast is enabled:

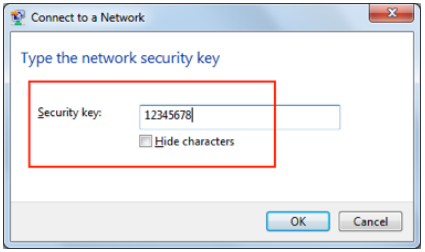
1. Find the Receiver's SSID in the lower left corner of the *Ready To Connect* screen.

2. Connect to the Receiver's SSID from a wireless-enabled laptop (or other device with Wi-Fi access ability and a web browser).



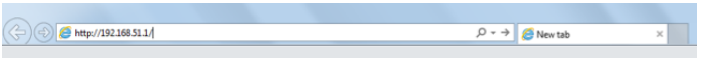
3. Enter the network security key in *Security key* text box of the *Connect to a Network* dialog box, then click **OK**.

Note: The default network security key is "12345678."



4. A URL is displayed on the connected HDTV monitor. After a few seconds, the URL will be displayed in the lower left-corner of the screen.

5. Enter the URL in the address bar of a web browser on a computer connected to the same network.



6. The web server login screen appears. Type the user name and password in the appropriate text boxes and click **Login**.

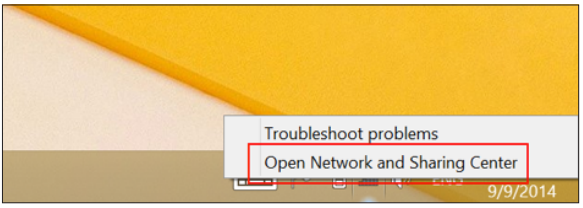
Note: The default username is "Administrator" and the default password is "Actiontec." Both the user name and password are case sensitive.

SSID Broadcast Disabled

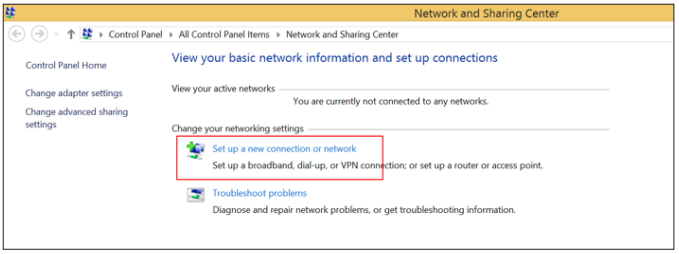
Follow the procedure below to log into the local management web server when SSID broadcast is disabled:

1. Find the Receiver's SSID in the lower left corner of the *Ready To Connect* screen.

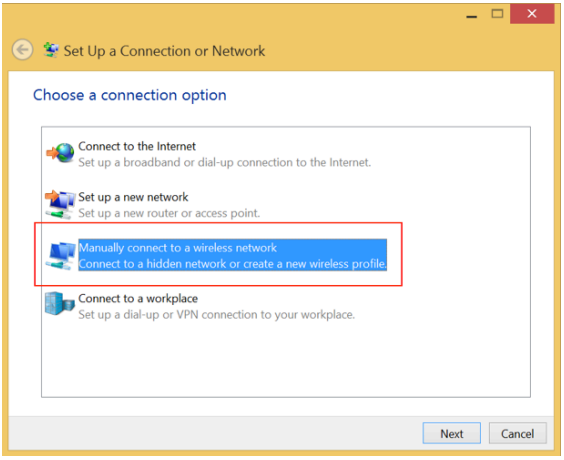
2. Right-click the Wi-Fi network icon on the taskbar and select **Open Network and Sharing Center**.



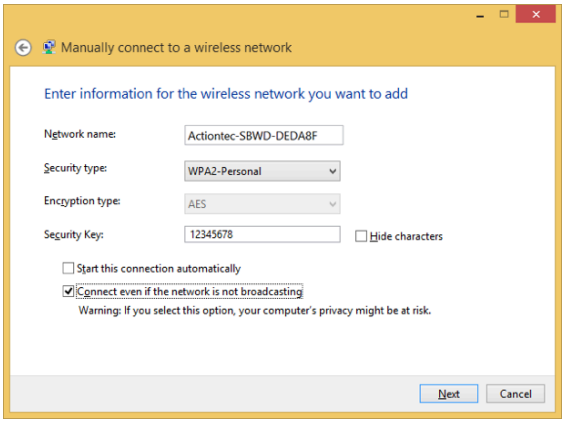
3. The *Network and Sharing Center* window appears. Click **Set up a new connection or network**.



4. The *Set Up a Connection or Network* window appears. Select **Manually connect to a wireless network**.

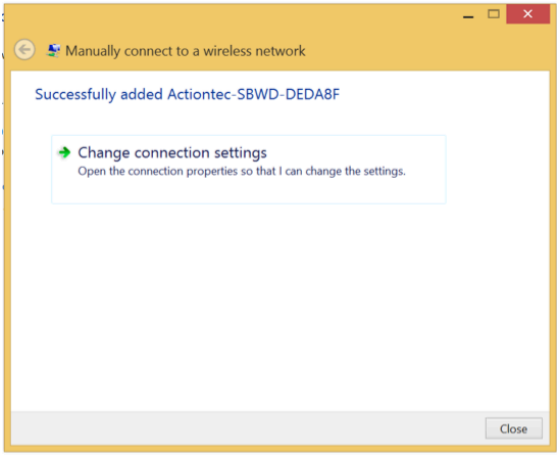


5. The *Manually connect to a wireless network* window appears. Enter or select the following:
Network name: the SSID of the Receiver to be connected.
Security type: WPA2 Personal
Encryption type: AES
Security key: 12345678 (default key)



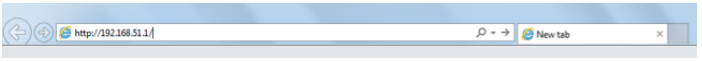
6. Click in the *Connect even if the network is not broadcasting* checkbox, then click **Next**.

7. In the next window, click **Close**.

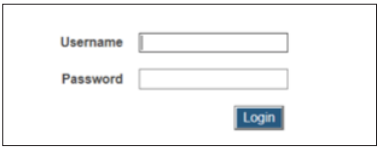


8. A URL is displayed on the monitor. After a few seconds, the URL will be displayed in the lower left-corner of the screen.

9. Enter the URL in the address bar of a web browser on a computer connected to the same network.



10. The web server login screen appears. Type the user name and password in the appropriate text boxes and click **Login**.



Note: The default username is "Administrator" and the default password is "Actiontec." Both the user name and password are case sensitive.

Logging Out

To log out from the web server, click **Logout** from any web server screen, then click **Yes**.

Configuring the Receiver

After logging into the web server, you can access the the Receiver advanced settings through the web browser.

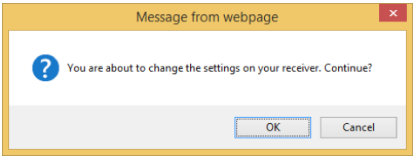
Renaming the Receiver

1. Click **Device Configuration** from any web server screen. The *Device Configuration* screen appears.

2. Click in the *Enable* button next to *Device Name Access*.

3. Enter a new name in the "Device Name" text box. Apostrophes (‘), dashes (-), and quotation marks (“) cannot be used in the device name

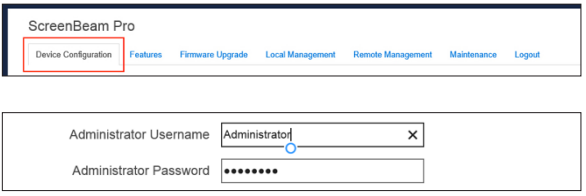
4. Click **Apply**, then click **OK** in the pop-up window.



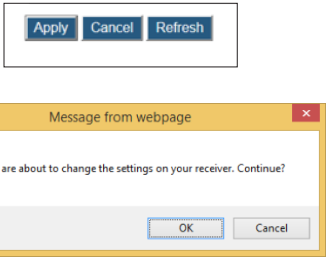
The new settings take effect immediately.

Changing the Username and Password

1. Click **Device Configuration** from any web server screen, then enter a new username and password in the *Administrator Username* and *Administrator Password* text boxes, respectively.



2. Click **Apply**, then click **OK** in the pop-up window.

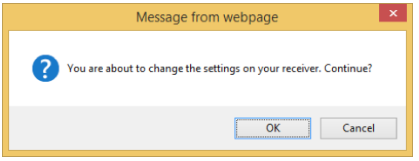


The user name and password have been changed.

Changing the Language

1. Click **Device Configuration** from any web server screen, then select a language from the *Display Language* drop-down menu. Currently available languages are English, French, Italian, Japanese, Simplified Chinese, Traditional Chinese, Russian, Spanish, and German.

2. Click **Apply**, then click **OK** in the pop-up window.

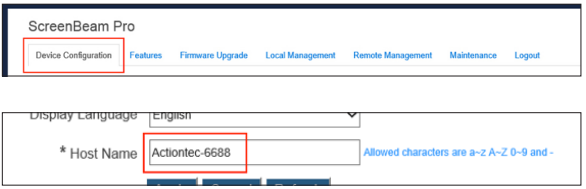


After the Receiver reboots, the language is changed.

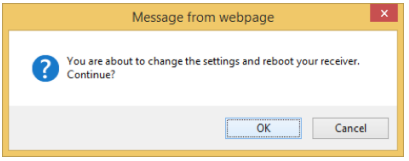
Changing the Receiver's Host Name

The Receiver's host name is for DNS discovery, which is used for connecting a receiver to the ScreenBeam Central Management System.

1. Click **Device Configuration** from any web server screen, and enter a new host name in the *Host Name* text box.



2. Click **Apply**, then click **OK** in the pop-up window.



The new host name takes effect after the Receiver reboots.

Setting Up PIN Pairing

1. Click **Features** from any web server screen, and set the *Force PIN Pairing on First Connection* feature On or Off.

Force Pin Pairing on First Connection

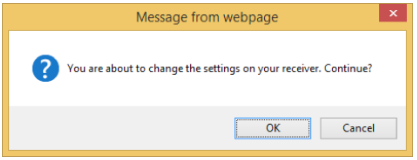
On - Select "On" to enable the PIN enforcement function. In this case, you must enter a PIN code on the device connecting to The Receiver for the first time. When this function is enabled, the system provides two PIN generation methods: Random and Static.
Off - Select "Off" to disable the PIN enforcement function. PIN entry or PBC is used when connecting your device to the receiver for the first time.

Pin Generation Method

Random - causes a randomly generated PIN to be created by The Receiver, which will be displayed on the HDTV or projector screen.
Static - allows the user to create a custom PIN. Enter the seven digits in the "Static" text box, then click **Apply**. The Receiver creates an eight-digit PIN and displays it in the "Static PIN" text box. This PIN will not be displayed on any connected display.

Note: Some source devices may not support PIN entry and may not be able to connect with The Receiver if this mode is enabled. Refer to the device's user manual for detail about enabling the PIN connection.

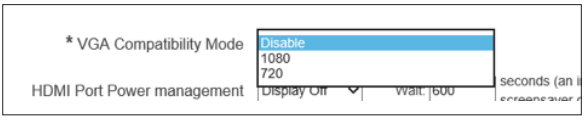
2. Click **Apply**, then click **OK** in the pop-up window.



The PIN Pairing option has been changed.

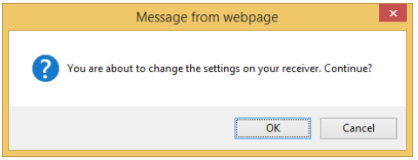
Setting Up VGA Compatibility Mode

1. Click **Features** from any web server screen, and then, in the *VGA Compatibility Mode* list box, select the desired option.



Disable - the video output is consistent with the source device.
1080 - the video output is set to 1080p or 1080i, depending on the connected display.
720 - the video output is set to 720p or 720i, depending on the connected display.
Note: VGA Compatibility Mode is not available when HDMI-CEC is enabled.

2. Click **Apply**, then click **OK** in the pop-up window.

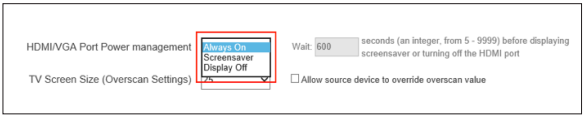


The VGA Compatibility Mode has been changed.

Managing HDMI/VGA Port Output

To set up HDMI/VGA port output:

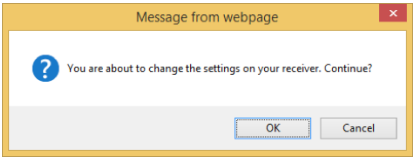
1. Click **Features** from any web server screen, and then, in the *HDMI/VGA Port Power management* list box, select the desired option.



Always On - the HDMI output is always on.
Screensaver - the system runs the screensaver after the defined idle time expires. Define the idle time in the *Wait* text box.

Display Off - the system turns the HDMI/VGA output off after the defined idle time expires. Define the idle time in the *Wait* text box.

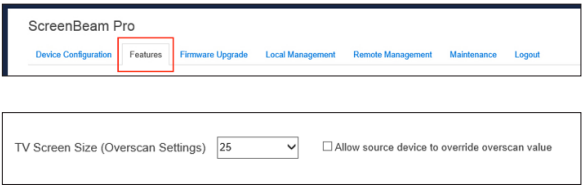
2. Click **Apply**, then click **OK** in the pop-up window.



The HDMI/VGA output setting has been changed.

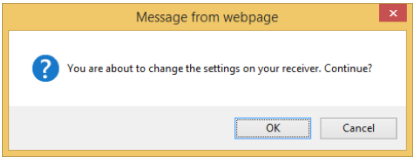
Adjusting Screen Size

1. Click **Features** from any web server screen, and then, in the *TV ScreenSize (Overscan Settings)* list box, select the desired option.



TV Screen Size (Overscan Settings) - selecting a value changes the size of the display on the screen; a larger value causes a larger screen.
Allow source device to override overscan value - enabling this option causes the overscan value to stay consistent with the setting on the source device.

2. Click **Apply**, then click **OK** in the pop-up window.



The Screen Size setting has been changed.

One Touch Play (HDMI-CEC)

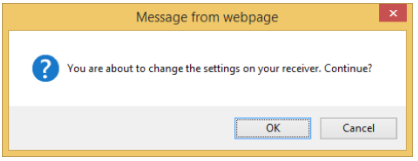
One Touch Play enables the Receiver to wake up the connected display and switch automatically to the connected source. To set up One Touch Play, click **Features** from any web server screen, then turn *One Touch Play (HDMI-CEC)* **On** or **Off**.

Once One Touch Play has been activated, the display device will wake when one of the following events occurs:

- The Receiver is powered up
- a connection to the Receiver is established
- a powered-up Receiver is connected to the display

Note: To use this function, the display must support HDMI-CEC.

After finishing with this setting, click **Apply**, then click **OK** in the pop-up window.



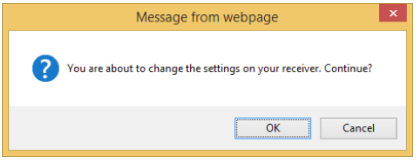
The One Touch Play setting has been changed.

Setting Up HDCP Encryption

1. Click **Features** from any web server screen, and then, in the *HDCP Encryption* list box, select the desired option.

Enable - enables HDCP encryption to secure HDCP-protected media.
Disable - disables HDCP encryption. HDCP-protected media cannot be played, but connection speed and compatibility is improved.
Demo Mode - reserved.

2. Click **Apply**, then click **OK** in the pop-up window.



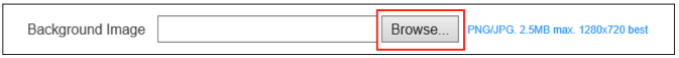
The HDCP encryption setting has been changed.

Updating the Background Image

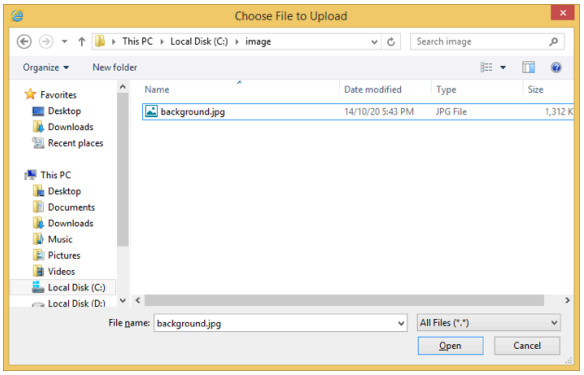
To update the Receiver's background image:

1. Click **Features**.

2. The *Features* window appears. Scroll down to the *Background Image* section, then click **Browse**.



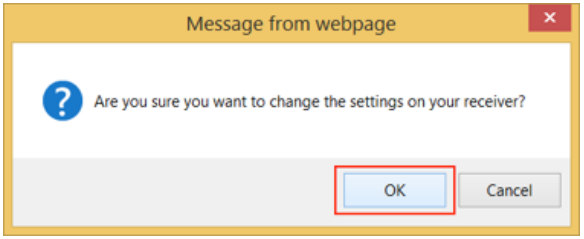
3. The *Choose File to Upload* window appears. Select an image for the screen-saver, then click **Open**.



The image must be a .png or .jpg/.jpeg file and not exceed 2.5 MB in size, with optimal dimensions of 1280 x 720 pixels (width x height).

4. Click **Apply**.

5. In the *Message from webpage* window that appears, click **OK**.



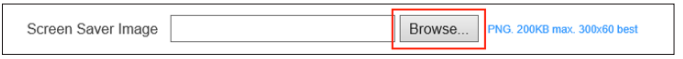
The Background Image setting is configured.

Updating the Screensaver Image

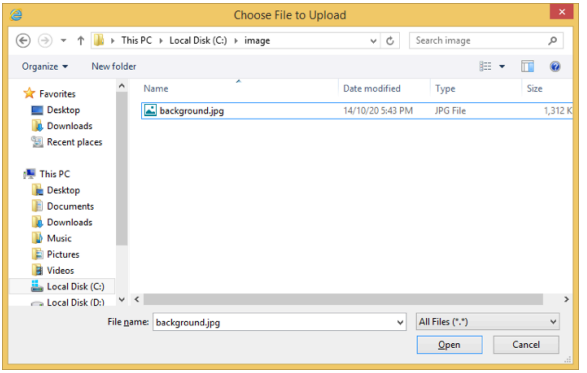
To update the Receiver's screensaver image:

1. Click **Features**.

2. The *Features* window appears. Scroll down to the *Screen Saver Image* section, then click **Browse**.



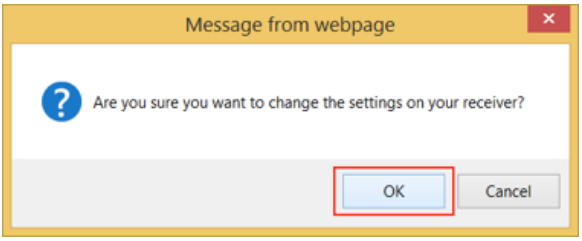
3. The *Choose File to Upload* window appears. Select an image for the screensaver, then click **Open**.



The image must be a .png file and not exceed 200 KB in size, with optimal dimensions of 300 x 60 pixels (width x height).

4. Click **Apply**.

5. In the *Message from webpage* window that appears, click **OK**.

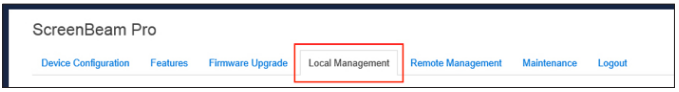


The Screensaver Image setting is configured.

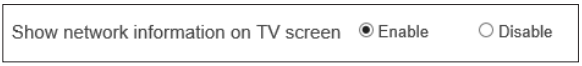
Setting Up Network Information Display

To show network information on the Receiver's display:

1. Click **Local Management**.

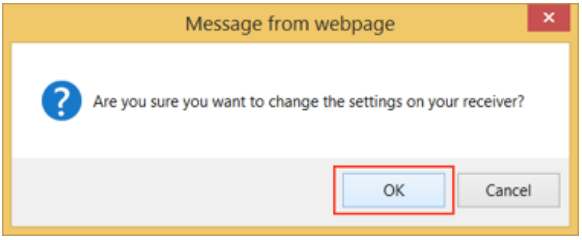


2. The *Local Management* window appears. Scroll down to the *Show network information on TV screen* options. Click in the *Enable* radio button.



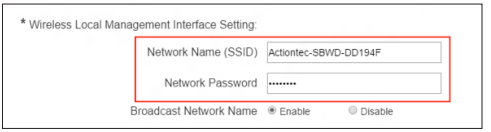
3. Click **Apply**.

4. In the *Message from webpage* window that appears, click **OK**.

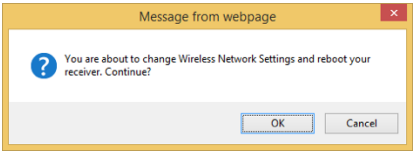


Modifying the Wireless Network Name (SSID)

1. Click **Local Management** from any web server screen, and then, in the *HDCP Encryption* list box, select the desired option.



2. Enter a new name in the *Network Name (SSID)* text box.
3. Enter a new password in the *Network Password* text box.
4. Click **Apply**, then click **OK** in the pop-up window.



After the Receiver reboots, the new network name and password will take effect.

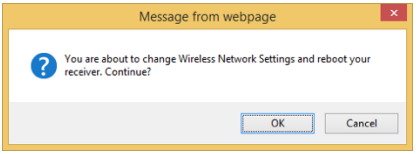
Modifying the Broadcast Network Name

1. Click **Local Management** from any web server screen, and then, in the *Broadcast Network Name* section, enable/disable option.

   By default, the Receiver is set not to broadcast its network name.

2. Enter a new name in the *Network Name (SSID)* text box.

3. Click **Apply**, then click **OK** in the pop-up window.



After the Receiver reboots, the new broadcast network name setting will take effect.

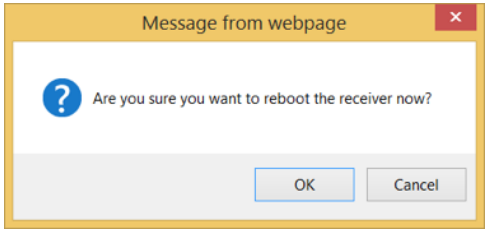
Rebooting the Receiver

To reboot the Receiver:

1. Click **Maintenance**.

2. The *Maintenance* window appears. Scroll down to the *Reboot Receiver* section, then click **Yes**.

3. In the *Message from webpage* window that appears, click **OK**.



The Receivter reboots.

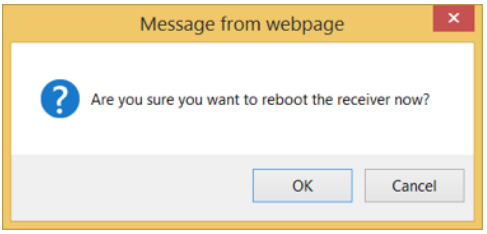
Resetting the Receiver to Factory Defaults

To reset the Receiver to its factory default settings:

1. Click **Maintenance**.

2. The *Maintenance* window appears. Scroll down to the *Reset Settings to Factory* section, then click **Yes**.

3. In the *Message from webpage* window that appears, click **OK**.



The Receiver reboots. When complete, the Receiver will be operating with its factory default settings. All custom settings are erased.

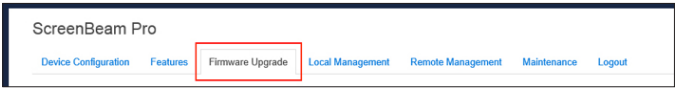
Updating the Receiver's Firmware

Actiontec periodically provides firmware updates to add functionality and/or eradicate bugs. To update the Receiver's firmware:

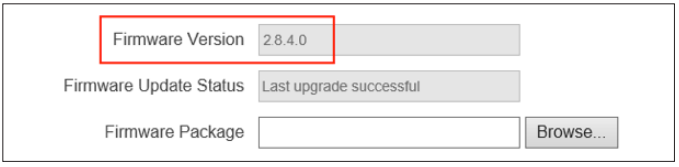
1. Download the latest firmware from the Actiontec website: http://www.actiontec.com/sbupdate

   Note: Be sure to disconnect from the Receiver's wireless network and connect to a router's wireless network before downloading the firmware

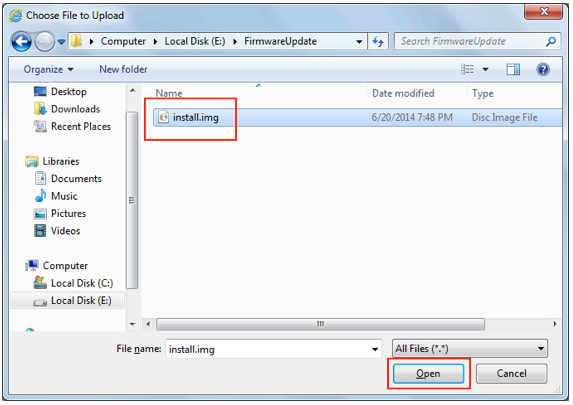
2. Log into the Receiver's web server and click **Firmware Upgrade**.



3. The *Firmware Upgrade* window appears. Check the current firmware in the *Firmware Version* section.

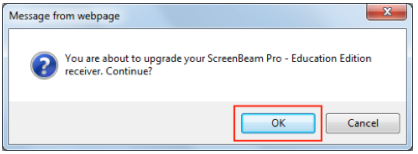


4. Click **Browse**. The *Choose File to Upload* window appears.

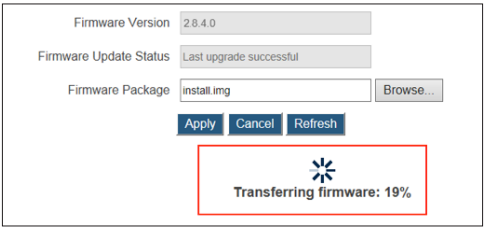


5. Select the firmware file (install.img), then click **Open**.

6. Click **Apply**, then click **OK** in the pop-up window.



7. Wait as the firmware file is uploaded.



8. The Receiver reboots and upgrades after the firmware file is uploaded.

9. The firmware upgrade is complete when the *Ready To Connect* screen reappears

Warning! Do not power off the Receiver or remove the USB flash drive while the update is in progress.

The Receiver's firmware is updated.

ScreenBeam Central Management System

5

ScreenBeam Pro Educationi Edition 2 supports centralized management with Actiontec's ScreenBeam™ Central Management System (CMS), which can manage thousands of ScreenBeam Pro Receivers (including receiver grouping, configuration, firmware update, etc.)

Actiontec's ScreenBeam™ Central Management System is a full-featured software utility that remotely configures and manages ScreenBeam wireless display Receivers. After initial setup, the CMS utility will communicate over the network to each Receiver, allowing for full control of each unit. The CMS utility eases the burden of having to individually configure each Receiver in the network.

Note: ScreenBeam CMS, licensing, and network adapter are sold separately. Refer to http://www.actiontec.com/sbcms for more information.

Troubleshooting and FAQs

6

This chapter describes some problems you may encounter using ScreenBeam Pro, and possible solutions to those problems. Also included are frequently asked questions (FAQs), and answers to those questions.

Troubleshooting

I tried to access the URL (http://192.168.51.1) but failed.

Connect to the Receiver's SSID, then access the URL again.

I'm not seeing anything on my HDTV after powering on ScreenBeam Pro.

Check the cable connections and make sure the TV Input setting is the same as the HDMI port to which ScreenBeam Pro is connected.

After upgrading from Windows 8 to Windows 8.1, I can no longer connect to ScreenBeam Pro, or I'm having problems with my connection.

Make sure you've followed Intel's instructions after the upgrade. Refer to Intel's WiDi website (URL: **http://www.actiontec.com/widi81**) for more information.

Intel WiDi does not work after upgrading to Windows 8.1 and I can't connect to ScreenBeam Pro.

Windows 8.1 provides native Miracast feature. Previous Intel WiDi systems upgraded to Windows 8.1 must use the Project feature. To connect with ScreenBeam Pro receiver: Go to Charms > Devices > Project > Add a wireless display > Connect to ScreenBeam Pro receiver.

In some instances, I can't connect to ScreenBeam Pro from WiDi after installing antivirus software.

This is also a known issue with Intel WiDi. To solve the problem, add Intel WiDi to the antivirus-approved whitelist of applications, and then reconnect.t

I'm seeing artifacts and experiencing a choppy, juddering video stream.

In noisy Wi-Fi environments, audio and video freezes may be observed while playing video content, and longer than expected latency may occur when streaming. To ensure you have an optimal Wi-Fi environment:

- Disconnect and reconnect ScreenBeam Pro.
- If the source device is connected to a wireless router, restart the router, or change the wireless channel on your wireless router/AP. Refer to the wireless router's user manual for more information.

I'm seeing choppiness and brief pauses while watching Internet video on my Miracast™ device.

Wireless interference may cause Internet video playback to be choppy. If this occurs, try the following:

- Disconnect the device from ScreenBeam Pro. Make sure the Internet connection is good and that the video playing on the phone is smooth.
- Clear the YouTube cache and try playing the video again.

My Windows 8.1 displays to the TV but the four edges are cut off (overscan).

This is expected with some system's supported display resolution. You can adjust Windows screen resolution settings to fit the PC's screen on your TV display.

When I connect to an access point or wireless router with an active WiDi session, the WiDi connection drops.

This is a known issue with Intel WiDi. It happens with either 3.5.41.0 or 4.0.1.8 on both Windows 7 or 8. Reconnect the WiDi session or connect to the AP first before starting a WiDi session.

I encounter connection failure with ScreenBeam Pro 2 and my device can't connect to it any more.

- Reboot ScreenBeam Pro and try connection again. Or, reboot your device (laptop/Ultrabook/tablet/smartphone) and try connection again.
- Reboot both the ScreenBeam Pro and your device and try connection again.
- If you are using a Windows 8.1 operating system, go to Change PC settings > PC and Devices > Devices > Projectors, remove the profile of ScreenBeam Pro from your device (PC/laptop/Ultrabook), and try connection again.

I can't connect to ScreenBeam Pro with ScreenBeam Configuration Utility on my device. The Utility can't find ScreenBeam Pro.

ScreenBeam Pro Education Edition 2 is not compatible with the ScreenBeam Configuration Utility

When I connect the source device to a wireless network, the Receiver disconnects automatically.

This occurs when the source device's communication channel has changed when connecting your device to a wireless network. To avoid, connect your device to the wireless network before connecting it to the Receiver.

Frequently Asked Questions (FAQs)

Can my device connect to ScreenBeam Pro?

To connect to ScreenBeam Pro, your device must be Intel WiDi compatible or Wi-Fi Miracast-capable.

For a system to support Intel WiDi 3.5 (or later), it should have most if not all Intel chipsets (Processor, Graphic Card, and Wireless chipset). Here are some tips on the types of PC system that can support Intel WiDi.

- If your system is an Ultrabook (4th Gen Intel Core processor), it's most likely to support and have Intel WiDi 4.x preinstalled.
- If your system is an Ultrabook (3rd Gen Intel Core processor or older), it should have the required chipsets to support Intel WiDi. Update your drivers and download the Intel WiDi software at: http://www.intel.com/go/wirelessdisplayupdate.

- If your system is a laptop or notebook computer, it may support Intel WiDi if it meets the following requirements:

  Processor - One of the following processors is required:

  - 2nd generation Intel Core i3/i5/i7 Mobile Processor
  - 3rd Generation Intel Core i3/i5/i7 Mobile and Desktop Processor
  - 4th Generation Intel Core i3/i5/i7 Mobile and Desktop Processor
  - Intel Pentium N3510 Processor
  - Intel Celeron N2805 Processor
  - Intel Celeron N2810 Processor
  - Intel Celeron N2910 Processor
  - Intel Atom Z3740 Processor
  - Intel Atom Z3740D Processor
  - Intel Atom Z3770 Processor
  - Intel Atom Z3770D Processor

  Graphics - One of the following graphics solutions is required:

  - Intel Iris Pro Graphics 5200
  - Intel Iris Graphics 5100
  - Intel HD Graphics 5000
  - Intel HD Graphics 4600
  - Intel HD Graphics 4400
  - Intel HD Graphics 4200
  - Intel HD Graphics 4000
  - Intel HD Graphics 3000 (mobile)
  - Intel HD Graphics 2500
  - Intel HD Graphics 2000 (mobile)

  Wireless Adapter - One of the following wireless adapters is required:

  - Intel Centrino Wireless-N 1000, 1030, 2200, or 2230
  - Intel Centrino Wireless-N 2200 for Desktop
  - Intel Centrino Advanced-N 6200, 6205, 6230, or 6235
  - Intel Centrino Advanced-N 6205 for Desktop
  - Intel Centrino Wireless-N + WiMAX 6150

- Intel Centrino Advanced-N + WiMAX 6250
- Intel Centrino Ultimate-N 6300
- Intel Dual Band Wireless-N 7260
- Intel Dual Band Wireless-AC 7260
- Intel Dual Band Wireless-AC 7260 for Desktop
- Intel Dual Band Wireless-AC 3160
- Intel Wireless-N 7260
- Broadcom BCM43228
- Broadcom BCM43241
- Broadcom BCM4352

Operating System - One of the following operating systems is required:

- Microsoft Windows 7
- Microsoft Windows 8
- Microsoft Windows 8.1

- System requirements for Wi-Fi Miracast™

  Android 4.2

  Windows 8.1

- ScreenBeam Pro is not compatible with Apple devices.

How can I tell if my device supports Wi-Fi Miracast?

Look for one of the following Miracast applications on your device. Only some application names are listed below. Different manufacturers may have different names for the Miracast apps on their products. But, it should indicate similar meaning.

- Wireless display
- Wireless mirroring
- Screen mirroring
- AllShareCast (Samsung devices only)
- Cast screen

See the ScreenBeam Pro compatibility page for recommended Miracast devices.

Can I view protected content if the ScreenBeam Pro Receiver is connected via an HDMI-to-VGA adapter?

No. The HDMI-to-VGA adapter does not support playback of protected content such as Blu-ray discs.

Do I need to install drivers/apps to use the ScreenBeam Pro Receiver?

- For Windows 7/8, you may need to install the Intel WiDi (3.5 or higher) application.
- For Windows 8.1, you only need to install the latest Windows updates.
- For Android 4.2 or higher, no app is required.

  Note: Your device must be Intel® WiDi-compatible or Wi-Fi Miracast™-capable.

How can I improve my video/audio performance?

You can try the following methods to improve the ScreenBeam Pro's video/audio performance:

- Place your device closer to ScreenBeam Pro.
- Connect your device to a wireless network that is using a cleaner wireless channel or change the wireless channel on the current wireless network, and then connect the device to ScreenBeam Pro.
- Turn off the Wi-Fi devices that are not in use currently.

What wireless signal range can I expect with ScreenBeam Pro?

ScreenBeam Pro is designed to be used in the same room with the source device. For best performance, the source device should be placed within 20 meters of ScreenBeam Pro.

Do I need an existing wireless network to use ScreenBeam Pro?

No. ScreenBeam Pro connects directly with the Intel WiDi or Miracast™-enabled device, and no wireless network is needed. However, the source device needs to be connected to an Internet router or data network to view online content.

How can I upgrade ScreenBeam Pro's firmware?

See "Updating the Receiver's Firmware" on page 42 for more information.

How do I configure ScreenBeam Pro's general settings, such as changing language, rename ScreenBeam Pro, enable/disable screensaver, and idling time for screensaver?

You can configure ScreenBeam Pro's general settings wirelessly by using ScreenBeam Pro's web server. See chapter 4, "Advanced Settings," on page 21, for more information about configuring ScreenBeam Pro.

How can I adjust the display to fit properly to my TV screen?

See "Adjusting Screen Size" on page 33 for more information.

Can I extend my Windows desktop to the HDTV or Projector from my Intel WiDi device?

Yes. After the connection to ScreenBeam Pro receiver is established, by default you should see the laptop screen mirrored to the HDTV or Projector.

To extend your Windows desktop to an HDTV or a Projector, press the Windows key and P key together, and select "Duplicate", "Extend" or "Second screen only" mode.

Where can I find more information and get support for Intel WiDi?

For more information about Intel Wireless Display, access this page: http://www.intel.com/p/en_US/support/highlights/wireless/wireless-display.

My device can support Intel WiDi. Where can I find Intel WiDi on my device? And where can I obtain the latest Intel WiDi application and graphic drivers for my Intel WiDi device?

In Windows, search for "Intel WiDi" and launch the application if you find it. If Intel WiDi software is not available on your system, go to http://www.intel.com/go/wirelessdisplayupdate and download the latest Intel WiDi software for your system. Make sure to also upgrade your system to the latest Graphics and Wireless drivers for best wireless display experience.

What is Wi-Fi Miracast™?

Wi-Fi Certified Miracast™ is a groundbreaking solution for seamlessly displaying video between devices, without cables or a network connection. Users can view pictures from a smartphone on a big screen television, share a laptop screen with the conference room projector in real-time, and watch live programs from a home cable box on a tablet. Miracast™ connections are formed using Wi-Fi Certified Wi-Fi Direct™, so access to a Wi-Fi® network is not needed–the ability to connect is inside Miracast™-certified devices.

What is Wi-Fi Direct and can I connect to ScreenBeam Pro using Wi-Fi Direct?

Wi-Fi Direct is a peer-to-peer technology that Miracast™ connections are formed in. Even though some newer Android 4.0 and Windows 8.1 devices may detect ScreenBeam Pro in the Wi-Fi Direct devices scan list, they will not be able to connect to ScreenBeam Pro. The device must support Miracast™ to connect with ScreenBeam Pro.

Can I connect to the Wi-Fi router and ScreenBeam Pro simultaneously with my Intel WiDi laptop?

Yes. Connect the laptop to an available Wi-Fi router first, and then connect to ScreenBeam Pro. You can then view online content and beam it to the HDTV.

Can I connect to the Wi-Fi router and ScreenBeam Pro simultaneously with my Miracast™ device?

Some Miracast™ devices cannot connect to both the Wi-Fi router and ScreenBeam Pro at the same time. Refer to the device manufacturer's or carrier's user manual for more information.

Can I connect several Intel WiDi or Miracast devices to ScreenBeam Pro simultaneously?

No. You can connect one device to ScreenBeam Pro at a time.

Can I connect to multiple ScreenBeam Pro Receivers simultaneously?

No. You can only connect to one ScreenBeam Pro Receiver at a time.

My TV/Projector does not have an HDMI Input. Can I still use ScreenBeam Pro?

Yes. An HDMI-to-VGA adapter is included for compatibility with legacy display devices.

Can Microsoft Surface Pro tablet output Intel WiDi?

Originally, Microsoft Surface Pro does not support wireless display. However, it can support wireless display after you upgrade its operating system to Windows 8.1. The latest Microsoft Surface 2 and Surface Pro 2 with Windows 8.1 can support wireless display.

Can I use the ScreenBeam Pro to access online content directly?

No. ScreenBeam Pro does not directly connect to the Internet. You must use a source device (laptop/Utrabook/tablet/smartphone) to wirelessly stream the online content to your Receiver.

Can ScreenBeam Pro support UoIP?

No.

Can I push media to ScreenBeam Pro using DLNA?

No. ScreenBeam Pro is not a DLNA media receiver.

Does ScreenBeam Pro work with the Apple iPhone, iPad, or iPod?

No. ScreenBeam Pro does not support Apple devices or the AirPlay protocol.

How to set my receiver to use the 5G frequency?

Generally, the 5G band can provide clearer channels, and ScreenBeam Pro works in this band can produce better performance.

To set your receiver on the 5G band, you must prepare a 5G router first.
Note: not all routers support the 5G band. You can confirm this with the product manufacturer.

When a 5G router is available, connect your device to the 5G router first, and then connect your device to your receiver. Then your receiver will works in the 5G band.

How to identify if my device can connect to ScreenBeam Pro?

ScreenBeam Pro supports Intel WiDi ready and WiFi Certified Miracast devices.

- If the Intel WiDi (3.5 or higher) application is already installed on your device, your device can connect to ScreenBeam Pro.
- If your device does not have Intel WiDi, try this simple method to check if your device supports Intel WiDi. Download the Intel WiDi (3.5 or higher) application and try installing it on your device. If it can be installed, your device supports Intel WiDi. If the application can't be installed, update the drivers of the graphic adapter and wireless adapter on your device first, and then install the application. If it can be installed, your device supports Intel WiDi. Otherwise, your device doesn't support Intel WiDi.
- To check if your device is Miracast enabled, check if the WiFi Certified Miracast logo is printed on the package of your device or directly on your device, or, if the wireless display app is available on your device. If yes, your device can connect to ScreenBeam Pro.

Specifications

A

General

Language: English, French, German, Italian, Japanese, Simplified Chinese, Traditional Chinese, Russian, and Spanish
Dimensions: 3.07 x 2.95 x 0.79 inch (78 x 75 x 20 mm)

Video

H.264 compression
Supports up to full HD 1080p30 resolution

Audio

LPCM & AAC
Supports up to 5.1 channels

A/V interface

HDMI Type-A female connector
VGA via adapter (included)

Wireless

802.11 a/b/g/n Dual-band 2.4 & 5 GHz
WPA2, WPS virtual PBC, AES 128-bit

Content Protection

HDCP 2.x for HDMI

Electrical

Input: 5V/2A
Consumption: Less than 4W
LED Indicator: Power On

Firmware Upgrade

Wireless upgrade
USB

Certifications

Wi-Fi Miracast™
Intel® WiDi (Gen 5)

Regulatory Compliance

FCC, IC, UL, CE, SRRC, C-Tick, TELEC, RoHS, NCC, IDA, and WEEE
Warranty: Localized to country of sale

Environmental

Operating temperature: 0 ºC to 40 ºC (32 ºF to 104 ºF)
Storage temperature: 0 ºC to 70 ºC (32 ºF to 158 ºF)
Operating humidity: 10% to 85%, non-condensing
Storage humidity: 5% to 90%, non-condensing

HDMI-to-VGA (YZ-050)

Supports VGA output, 10-bit resolution up to 165MHz pixel rate of up to (1080p and UXGA)
Supports LPCM and compressed surround sound
Supports VGA output: 480I/P, 576I/P, 720P, 1080I/P, 640x480, 800x600, 1024x768, 1280x720, 1280x768, 1280x800, 1280x960, 1360x768, 1366x768, and 1920x1080
Does not support protected content playback

Compatibility

Intel WiDi-ready Ultrabooks, laptops, and tablets
Wi-Fi Miracast smartphones, tablets, and laptops running Windows 8.1 or Android 4.2 and higher
Non-WiDi/Miracast ready laptops and PCs with Actiontec USB Transmitter running Windows 7 and higher
Not compatible with Apple devices

System Requirements

Windows 8.1 or higher (with Miracast support)
Intel WiDi capable laptop or tablet with Intel WiDi 4 (and higher)
Wi-Fi Miracast capable smartphone, or tablet, or laptop

Note: Specifications are subject to change without notice.

Notices

B

Warranty

This product has a one-year Limited Hardware Warranty and 90-day free software updates from the date of purchase.

Local Law

This Limited Warranty Statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state in the United States, from province to province in Canada, and from country to country elsewhere in the world.

To the extent that this Limited Warranty Statement is inconsistent with local law, this Statement shall be deemed modified to be consistent with such local law. Under such local law, certain disclaimers and limitations of this Warranty Statement may not apply to the customer.

Go to **http://www.actiontec.com/products/warranty.php** for more information.

GPL Info

For GNU General Public License (GPL) related information, go to **http://opensource.actiontec.com**.

EU CE Declaration of Conformity

To obtain the complete Declaration of Conformity form in softcopy, go to the Actiontec Electronics Declarations of Conformity EU/EEA website at **http://international.actiontec.com/support/doc**.

The symbol below is placed in accordance with the European Union Directive 2002/96 on the Waste Electrical and Electronic Equipment (the WEEE Directive). If disposed of within the European Union, this product should be treated and recycled in accordance with the laws of your jurisdiction implementing the WEEE Directive.

Technical Support

Go to http://www.actiontec.com/sbupdate for product support, updates, and more information including:

- Firmware updates
- Troubleshooting
- Registration
- FAQs

Technical Support Phone Number

United States: 1-888-436-0657