ScreenBeam
Wireless Display Receiver

Firmware 2.9.x.x/9.9.x.x

User Manual
V1.0

Applicable for SKU #
• SBWD100E2V/E2X
• SBWD100SMBV
• SBWD950ENT
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Part I. Getting Started

Thank you for your purchase of Actiontec's ScreenBeam Wireless Display Receiver (hereinafter refer to as “ScreenBeam”). ScreenBeam lets you wirelessly stream what’s on your Intel WiDi or Wi-Fi Certified Miracast™ compatible device to your HDTV, including movies, videos, photos, music, and more. The receiver frees your eyes from a tiny screen.

The receiver boasts some great features, including fast connect, enhanced security and IT manageability, smooth video playback, 1080p full HD support, ultra-low delay, Windows 8.1/10 optimization, versatile compatibility, low power consumption, and more.

With ScreenBeam, it's easy to supplement traditional lectures with rich, engaging multimedia like videos, apps, educational programming, and 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.

For optimal wireless display experience, we strongly recommend you update your receiver to the latest firmware. Check firmware update now on actiontec.com/sbupdate.

1.1. Contents in the Box

Contents in the Receiver’s package are listed below:

- ScreenBeam Wireless Display Receiver
- HDMI® Cable
- AC Power Adapter
- HDMI-to-VGA Adapter & 3.5mm audio cable*
- Installation Guide

* Note: Only for SKU # SBWD100E2V and SBWD100SMBV
1.2. Getting to know ScreenBeam Receiver

1.2.1. SBWD100B

- **LED Indicator**, indicating power supply status
- **USB Port**, for configuring CMS connection data, firmware update, and USB over network control (UIBC/UoIP)
- **Reset Button**, for resetting the device to default
- **Video Out Port** (HDMI), for connecting to HDTV/projector for video and audio output
- **Power Input Port**, for power supply

1.2.2. SBWD950A

- **ETHERNET**, for connecting to ScreenBeam Central Management System via Ethernet for receiver management
- **HDMI OUT**, for connecting to HDTV/projector with an HDMI port for video and audio output
- **POWER**, for power supply
- **RESET**, for resetting the device to defaults
- **LED Indicator**, indicating power supply status
- **USB**, for firmware update and USB over network control (UIBC/UoIP)
- **VGA-OUT**, for connecting to an HDTV/projector with a VGA port for video output
● **VGA-IN**, VGA input for VGA bypass

1.3. **System Requirements**

System requirements for the receiver are shown below:

1.3.1. **Receiver Installation**

To install the Receiver, you must have the following items:

- A display device with one HDMI port (Type A) or one VGA port
- An available power outlet

1.3.2. **Compatible Devices**

The Receiver is compatible with the following devices:

- Laptop or notebook with Intel WiDi 4 or higher
- Wi-Fi Certified Miracast™ smartphones and tablets with Windows 8.1+ or Android 4.2+
- Non WiDi / Miracast ready laptops and PCs with Actiontec USB Transmitter (Windows 7 or higher)
Part II. Installing the Receiver

This chapter explains how to connect the Receiver to an HDTV. Make sure you have all the contents from the Receiver’s package available before starting.

2.1. Connecting the Receiver to an HDTV

It is quite easy and fast to set up the Receiver. You can complete the connection in just one minute.

To connect the Receiver to an HDTV:
1. Get the Receiver, AC power adapter, and HDMI cable from the Receiver’s package.
2. Plug one end of the HDMI cable into the HDMI port (“Video Out” or “HDMI-OUT”) on the Receiver, and the other end into an available HDMI port on the HDTV.
3. Plug the connector of the power cord to the Receiver’s power input port labeled “5V DC” or “POWER”, and plug the power adapter to a power outlet.

When Steps 1, 2, and 3 are complete, the hardware should be connected as shown in the figure below:

4. Turn on the HDTV and set it to display the input from the correct HDMI port (the one you have plugged into in Step 2).
5. Verify that the “Ready to connect” screen appears on the HDTV.
The Receiver is connected to the HDTV, and it is ready for use.

**Note:** Connections to other display devices are similar.

6. (Optional) VGA bypass connection is shown below:

**Note:** The VGA bypass connection is for model #SBWD950A only.
Part III.  Setting Up for the First Time

This chapter explains how to connect ScreenBeam Pro EDU-2 for the first time to the source device. There are three source device options: Intel WiDi, Windows 8.1, Windows 10, and Miracast™.

- For Windows 8.1 devices, please proceed to Section “Connecting via Windows 8.1”;
- For Windows 10 devices, please proceed to Section “Connecting via Windows 10”;
- For Windows 7/8 devices, please proceed to Section “Connecting via Intel WiDi App”;
- For Android devices, please proceed to Section “Connecting via Miracast™”.

3.1. Connecting via Windows 8.1

This section explains how to connect a device running Windows 8.1 to ScreenBeam Pro EDU-2.

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

2. From the Devices menu, click Project.
3. From the **Project** menu, select **Add a wireless display**. Windows will search for available devices.

![Project menu](image)

**Note:** If you are running Windows 8.1 and the screens above do not appear, go to [http://www.actiontec.com/widi81](http://www.actiontec.com/widi81) for the latest software update. Or, you can update your Windows 8.1 via the **Windows Update** application.

4. Select your receiver from the device list.

![Device list](image)

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

**Note:**

- **By default, the security PIN is “12345670”**, if no PIN is displayed on the connected display device. You should obtain the security PIN from your network administrator.
- If a PIN is displayed on the connected display device, you should type this PIN in the PIN entry box.
Enter the Security PIN on your laptop or mobile device. The PIN is provided to you by your network administrator.

Receiver name: Actiontec DA8F

Add devices

Enter the WPS PIN for your television

You can find the WPS PIN on your Actiontec DA8F or in the info that came with it.

[PIN input field with '12345678']

Next  Cancel
6. The HDTV displays messages to show the status of the connection.

7. The device has connected to the Receiver. And the device's screen is displayed on the HDTV.

3.2. Connecting via Windows 10

This section explains how to connect a device running Windows 10 to ScreenBeam Pro.

1. Press the shortcut keys, Windows logo + K, on your keyboard to display the wireless display receiver list.
Note: There are other ways to open the wireless display receiver list:

- Click the Start button, and then select **Settings > Devices > Connected devices > Add a device** to open the wireless display receiver list.
- Click the **Notification** icon on the task bar or press the shortcut keys, Windows logo \(\text{Ctrl} + A\), to open the **Action Center**, and then select **Connect** to open the wireless display receiver list.
- Press the shortcut keys, Windows logo \(\text{Ctrl} + P\), to open the **Project** menu, and then select **Connect to a wireless display** to open the wireless display receiver list.

2. Select your receiver from the device list.
3. A PIN entry box is displayed on the screen of your Windows 10 device. Type the PIN provided by your network administrator in the PIN entry box and click Connect to continue.

Note:
- By default, the security PIN is “12345670”, if no PIN is displayed on the connected display device. You should obtain the security PIN from your network administrator.
- If a PIN is displayed on the connected display device, you should type this PIN in the PIN entry box.
Enter the Security PIN on your laptop or mobile device. The PIN is provided to you by your network administrator.
4. The HDTV displays messages to show the status of the connection.

5. The device has connected to the Receiver. And the device’s screen is displayed on the HDTV.

3.3. Connecting via Intel WiDi App

This section explains how to connect a device running Intel’s WiDi application to ScreenBeam Pro EDU-2.

Follow the procedure below to connect your device to the Receiver:

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 Intel WiDi application scans for available receivers automatically. Select your
receiver and click **Connect**. (The **Connect Automatically** checkbox is optional.)

3. A PIN entry box is displayed on the screen of the WiDi device. Type the PIN provided by your network administrator in the PIN entry box on the WiDi device, and then click **Continue**.

**Note:**

- **By default, the security PIN is “12345670”,** if no PIN is displayed on the connected display device. You should obtain the security PIN from your network administrator.
- If a PIN is displayed on the connected display device, you should type this PIN in the PIN entry box.
4. The HDTV displays messages to show the status of the connection.
5. A "Connection Successful" screen appears on the device's screen. Click Finished, and the device's screen is displayed on the HDTV.

3.3.1. Adjusting the HDTV Picture

If edges of the device screen cannot be seen on the HDTV or you can see black edges, you can adjust the cropping settings. Follow the steps below to adjust cropping:

1. Go to the Intel WiDi application and click the Settings button to open the Settings page.
2. Go to the "Picture and Sound" section, and select “Adjust cropping”.

3. Adjust the HDTV picture by clicking “+” (plus) or “-” (minus).
3.3.2. 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 the Help button, and 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](http://www.intel.com/go/wirelessdisplayupdate); or directly click the Check Intel® WiDi website for updates link on the page.
3.4. Connecting via Miracast™

This section explains how to connect a Miracast™-enabled Android device, such as a smartphone, a tablet, or a game console, to the ScreenBeam Pro EDU-2. For the 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. You may be required to enter a PIN code.
   **Note:**
   - By default, the security PIN is “12345670”, if no PIN is displayed on the connected display device. You should obtain the security PIN from your network administrator.
   - If a PIN is displayed on the connected display device, you should type this PIN in the PIN entry box.

3. Type the PIN in the PIN entry box and tap **Connect** to continue.

4. Wait for the device to pair with and connect to your receiver. When it does, the device’s screen will be displayed on the HDTV.

3.5. Tips for Optimal Performance

For optimal performance, you can try these tips:
- Keep the Receiver within line-of-sight of the source device. Doing this will help ensure the Receiver receives the best possible signal.
- The Receiver’s optimal wireless range is within 30 feet from the source device. However, actual range and effectiveness depends on many factors, including other sources of interference and the building materials used in the surrounding structure.
- Avoid placing the receiver near wireless interference sources, such as electric fans, items with motors, microwave ovens, cordless phones.
Part IV.  Display and Control Options

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

4.1.  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 simultaneously (Windows + P) 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 HDTV screen compared to the 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 HDTV. When in the Extend mode, dragging windows to the right side of the device’s screen displays those windows on the HDTV, while dragging windows to the left of the HDTV screen displays them back on the device’s screen. This mode allows users to display selected content on the HDTV, while all other windows remain on the device's screen. When this mode is first selected, the HDTV displays only the Windows desktop.

- **Second Screen Only**

  The Second Screen Only mode causes the HDTV to be the only display for the device. You’ll see everything on the connected screen, and your device’s screen will be blank.
4.2. Ultra-Low Delay

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

4.2.1. Intel WiDi

You can activate Ultra-Low Delay on a 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 you are using, and then click the **Settings** button.

2. On the "Settings" screen, select **Current Display Settings**.

3. Select **Prioritize Speed** in the "Quality vs. Speed" section and click the **Apply Settings** button. Refer to Intel's support documentation for more information.
4.3.  USB over Network

The Receiver’s USB over Network (UoIP) feature allows the use of USB HID peripheral devices, either from the source device or from the USB device side. To connect a USB keyboard, mouse, or trackpad:

1. Log into the receiver’s local web management console, and set the UoIP or UIBC feature to Enable. Refer to Section 5.3.9. Setting up USB Local Access for details.
2. Plug the device into the Receiver’s USB port and wait for the device to be detected. This may take 10-15 seconds.
3. Use the USB keyboard, mouse, or trackpad to control the source device.

Note: UoIP is compatible with Intel WiDi only.

4.4.  Restore to Default

To restore the Receiver’s default factory settings:

1. Power on the Receiver, and wait until the "Ready to Connect" screen appears.
2. Hold down the Receiver’s "Reset" button with a pin.
3. When the "Reset to Default" screen appears on the HDTV, release the "Reset" button.

The Receiver reboots, and it will be running with its default settings.
Part V. Device Management for IT Administrator

ScreenBeam Pro EDU-2 provides a local management web server to manage the device. With the web server, IT administrators can configure the receiver easily.

5.1. Log into the Local Management Web Server

There are two situations: when the receiver’s wireless network SSID broadcast is enabled and when it is disabled. Refer to Section 5.3.17. Setting up Broadcast Network Name for detail about disabling/enabling the receiver’s wireless network SSID broadcast.

5.1.1. When SSID Broadcast is Enabled

Follow the procedure below to log into the local management web server:

1. Connect to the receiver’s SSID from a wireless-enabled laptop (or other devices with Wi-Fi access ability and a web browser). You can find the receiver’s SSID in the lower left corner of the Ready to connect screen.

2. Click the Wi-Fi network icon on the taskbar of your device, and find the receiver’s wireless SSID. Click the Connect button.
3. The Connect to a Network window appears. Type the network security key in the Security key box and click OK to continue. 
   Note: By default, the network security key is “12345678”.

4. A URL (it is “http://192.168.51.1” in this example) is displayed on the connected display.
**Note:** This link will be displayed in full screen for a few seconds, and then it is displayed in the lower left corner.

5. Access the URL address ("http://192.168.51.1" in this example) with a web browser on the laptop.

![](http://192.168.51.1)

6. The web server login interface appears. Type the username and password in the **Username** and **Password** boxes and click the **Login** button.

![Login Interface](http://192.168.51.1)

**Note:**
- By default, the **Username** is “Administrator” and **Password** is “Actiontec”.
- The username and password are case sensitive.

### 5.1.2. When SSID Broadcast is Disabled

Follow the procedure below to log into the local management web server:

1. Connect to the receiver’s SSID from a wireless-enabled laptop (or other devices with Wi-Fi access ability and a web browser). You can find the receiver’s SSID in the lower left corner of the **Ready to connect** screen.

![Ready to connect](http://192.168.51.1)

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

![Open Network and Sharing Center](http://192.168.51.1)
3. The **Network and Sharing Center** window appears. Click **Set up a new connection or network**.

4. The **Set up a new connection or network** window appears. Choose the **Manually connect to a wireless network** option.

5. The **Manually connect to a wireless network** window appears. Type in or select the following information.
   - **Network name**: The SSID of the ScreenBeam Pro EDU-2 receiver you wish to connect
Security type: WPA2 Personal
Encryption type: AES
Security key: 12345678 (default)

6. Check **Connect even if the network is not broadcasting**. Click **Next**.
7. You have added the receiver’s SSID successfully. Click **Close**.

8. Your device will connect to the SSID automatically if you have selected “**Start this connection automatically**”. Otherwise, go to the **Networks** page and connect to the
9. A URL (it is “http://192.168.51.1” in this example) is displayed on the connected display.

![ScreenBeam Pro](image)

**Note:** This link will be displayed in full screen for a few seconds, and then it is displayed in the lower left corner.

10. Access the URL address (“http://192.168.51.1” in this example) with a web browser on the laptop.

![Web browser screenshot](image)

11. The web server login interface appears. Type the username and password in the Username and Password boxes and click the Login button.

![Login interface](image)

**Note:**
- By default, the Username is “Administrator” and Password is “Actiontec”.
- The username and password are case sensitive.

### 5.1.3. Log Out

1. Go to the Log out tab page by clicking the Log out tab.

![Logout tab](image)

2. Click the “Yes” button to log out.
3. You will log out from the local management web page immediately.

5.2. Changing Local Management Console’s Display Language

Before you log into the local management console, you can change the console’s display language. Follow the procedure below:

1. Open the local management console’s login page. Refer to Section 5.1. **Log into the Local Management Web Server** for details.

2. On the upper right corner of the screen, select your language. Available languages are English, Simplified Chinese, Traditional Chinese, Japanese, French, German, Dutch, Korean, Spanish, Italian, and Russian.

3. The display language changes immediately.

**Note:** This setting changes the webpage’s display language only.
5.3. Configuring the Receiver

After you have logged into the web server, you can configure ScreenBeam Pro EDU-2 on the webpage.

5.3.1. Renaming the Receiver

Follow the procedure below to rename your receiver:

1. Go to the Device Configuration tab page by clicking the Device Configuration tab.

2. Go to the Device Name Access line and set the Device Name Access to Enable.

3. Type a new name in the Device Name box.

   Note: Apostrophe (’), dash (-), quotation mark ("), and backslash (\) are not allowed.

4. Click the Apply button, and then click OK on the pop-up message box to confirm.

   Note: New settings take effect immediately.

5.3.2. Changing the Login Username and Password

Follow the procedure below to modify the username and password for user login:

1. Go to the Device Configuration tab page by clicking the Device Configuration tab.
2. Go to the **Administrator Username** and **Administrator Password** lines, and type the new username and password in the **Administrator Username** and **Administrator Password** boxes, respectively.

2. Go to the **Device Configuration** tab page by clicking the **Device Configuration** tab.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

5.3.3. Changing the Receiver’s Display Language

Follow the procedure below to set up the receiver’s display language:

1. Go to the **Device Configuration** tab page by clicking the **Device Configuration** tab.

2. Go to the **Display Language** line, and choose a desired language from the **Display Language** drop-down box.

   Currently available languages are Simplified Chinese, Traditional Chinese, Dutch, English, French, German, Japanese, Korean, and Spanish.

   **Note:** This will change the language display on the TV screen, but not that on the configuration webpage.
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

5.3.4. **Modifying the Receiver’s Host Name**

Follow the procedure below to modify your receiver’s host name:

1. Go to the **Device Configuration** tab page by clicking the **Device Configuration** tab.

2. Go to the **Host name** line, and type a new host name in the **Host name** box.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.
Note: The receiver’s new host name takes effect after the reboot.

5.3.5. Setting up PIN Pairing Method

Follow the procedure below to set up PIN pairing method:
1. Go to the **Features** tab page by clicking the **Features** tab.

2. Go to the PIN setup section, and set the **Force PIN Pairing** feature to **On** or **Off**.
   - Select "**Off**" to disable the PIN enforcement function. PIN or PBC pairing is used when connecting your device to the receiver for the first time.
   - Select "**On**" to enable the PIN enforcement function. In this case, you must enter a PIN code on the device connecting to the receiver every time or the first time.
     **Note:** Some wireless display source device may not support PIN entry and may not be able to connect with the ScreenBeam receiver if this mode is enabled. Refer to the device’s user manual for detail about enabling the PIN connection.

3. Select a PIN pairing method.
   - **Every time**: You are required to provide the PIN every time you connect your device to the receiver.
   - **the 1st time**: You are required to provide the PIN the first time you connect your device to the receiver.
4. Select a PIN generation method.
   When the **Force PIN Pairing** feature is enabled, the system provides two PIN generation methods: **Static** and **Random**.
   - **Static**: Users can define seven (7) digits, and then the system generates an eight (8) digit PIN with that seven digits included. By default, the PIN is **12345670**. Enter seven (7) digits in the **Static PIN** box, and the system generates the eighth (8th) digit. This PIN will not be displayed on the connected display.
   - **Random**: A PIN code is generated randomly by the system and displayed on the connected HDTV/projector.

5. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

5.3.6. **Managing HDMI/VGA Port Output**

Follow the procedure below to set up HDMI/VGA port output:
1. Go to the **Features** tab page by clicking the **Features** tab.

2. Go to the **HDMI Port Power management** line, and select a desired option in the **HDMI Port Power management** drop-down box. There are three options: **Always On**, **Screensaver**, and **Display Off**.
   By default, it is set to **Display Off**. The receiver’s output will be turn off after the defined wait time is up.
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

5.3.7. Setting up HDCP Encryption

Follow the procedure below to set up HDCP encryption:

1. Go to the **Features** tab page by clicking the **Features** tab.

2. Go to the **HDCP Encryption** line, and select an option from the **HDCP Encryption** box. There are three options available: **Enable**, **Disable**, and **Demo Mode**.
   - **Enable**: This option is default. HDCP encryption is enabled to protect HDCP protected media.
   - **Disable**: Disabling the **HDCP Encryption** function will improve connection speed and compatibility. However, you cannot play HDCP protected media.
   - **Demo Mode**: Reserved.
3. Click the Apply button, and then click OK on the pop-up message box to confirm.

**Note:** The receiver’s new HDCP encryption mode takes effect after the reboot.

### 5.3.8. Setting up the VGA Compatibility Mode

Follow the procedure below to select a VGA compatibility mode:

1. Go to the Features tab page by clicking the Features tab.

2. Go to the VGA Compatibility Mode line, and select the desired option in the VGA Compatibility Mode box. There are three options: Disable, 1080, 720, and 480.
   - **Disable:** The video output is in consistence with the source device.
   - **1080:** The video output is set to 1080p or 1080i, depending on the display device.
   - **720:** The video output is set to 720p or 720i, depending on the display device.
   - **480:** The video output is set to 480p or 480i, depending on the display device.

**Note:** The VGA compatibility mode is not available when HDMI-CEC is enabled.

3. Click the Apply button, and then click OK on the pop-up message box to confirm.
5.3.9. Setting up USB Local Access

A USB port is provided on the ScreenBeam Pro wireless display receiver for multi-purpose uses. You can set up the USB port in the local management page. Follow the procedure below to set up the USB port:

1. Go to the **Features** tab page by clicking the **Features** tab.

2. Configure the **USB Local Access** feature according to practical requirements. There are three options: **Disable**, and **Enable**.

   - **Disable**: Select “Disable” to disable the USB port on the receiver.
   - **Enable**: Select “Enable” to allow full functions of the USB port. In this case, users not only can upgrade the receiver, but also can control the source device by connecting a keyboard/mouse to the receiver via the USB port (with the **User Input Back Channel (UIBC)** or **USB over IP (UoIP)** function enabled).

     - **UIBC**: The connected keyboard/mouse does not support combo keys or mouse right-click.
       - Note: Working with a Windows 10 source device, combo keys and mouse right-click are also supported.
     - **UoIP**: The connected keyboard/mouse supports full functions.
       - Note: UoIP is compatible with Intel WiDi only.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.
5.3.10. Adjusting TV Screen Size

Follow the procedure below to adjust the size of your TV screen:
1. Go to the **Features** tab page by clicking the **Features** tab.

2. Go to the **TV Screen Size (Overscan Settings)** line, and select the desired option in the **TV Screen Size (Overscan Settings)** drop-down box.
   - The value for TV screen size ranges from 0 to 25. The larger the value is, the bigger the screen will be.
   - **Allow source device to override overscan value**: When this option is enabled (checked), the overscan value is in consistence with the setting on the source device. Otherwise, the overscan value is in consistence with the setting on the receiver.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

5.3.11. Setting up Output Aspect Ratio

If the output does not fit your display screen due to wrong aspect ratio, you can try selecting a proper aspect ratio for your display screen.
Follow the procedure below to adjust the aspect ratio for your TV screen:
1. Go to the **Features** tab page by clicking the **Features** tab.
2. Go to the **Aspect Ratio** line, and select a proper option in the **Aspect Ratio** drop-down box.

In case of selecting the **4:3** option, you can also fine tune the horizontal and vertical offsets.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

---

5.3.12. Setting up One Touch Play (HDMI-CEC)

Follow the procedure below to set up the One Touch Play (HDMI-CEC) function:

1. Go to the **Features** tab page by clicking the **Features** tab.

2. Go to the **One Touch Play (HDMI-CEC)** line, and set the **One Touch Play (HDMI-CEC)** feature to **On** or **Off**.

There are two options: **On**, and **Off**. After this function is enabled, the receiver can wake up the connected display device and the display device will switch to the source that the receiver connects to.

The display device will be waked up in one of the following conditions:
a. when the receiver is powered on;
b. when a connection to the receiver is established; and
c. when a power-on receiver is connected to the display device.

**Note:** The display device must support HDMI-CEC, and this function is enabled.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

### 5.3.13. Updating the Receiver’s Background Image

Follow the procedure below to update the receiver’s background:

1. Go to the **Features** tab page by clicking the **Features** tab.

2. Go to the **Background Image** line, and click the **Browse** button next to the **Background Image** box.

3. The **Choose File to Upload** window appears. Select an image for the background and click the **Open** button to confirm.
Note:
- The images must be in .png and .jpeg/.jpg formats.
- The file size must not exceed 2.5 MB.
- The best image size is 1280*720 pixels (width x height).

4. Click the **Apply** button to upload the background image to the receiver.

5. A confirmation message appears. Click **OK** to continue.

6. After a while, the background image will be updated. You can check it on the connected display.

**5.3.14. Updating the Receiver’s Screensaver Image**

Follow the procedure below to update the receiver’s screensaver:

1. Go to the **Features** tab page by clicking the **Features** tab.
2. Go to the **Screen Saver Image** line, and click the **Browse** button next to the **Screen Saver Image** box.

3. The **Choose File to Upload** window appears. Select an image for the screensaver and click the **Open** button to confirm.

![Choose File to Upload](image)

**Note:**
- The image must be in .png format.
- The file size must not exceed 200 KB.
- The best image size is 300*60 pixels.

4. Click the **Apply** button to upload the screensaver image to the receiver.

![Apply](image)

5. A confirmation message appears. Click **OK** to continue.
6. After a while, the screensaver image will be updated. You can check it on the connected display when the screensaver is running.

5.3.15. Setting up Network Information Display on TV Screen

Follow the procedure below to set up the receiver’s network information display:

1. Go to the Local Management tab page by clicking the Local Management tab.

2. To enable/disable the Show network information on TV screen feature, go to the Show network information on TV screen line, and set the feature to Enable or Disable. By default, this feature is disabled, that is network information is not displayed.

   ![Show network information on TV screen](image)

   **Note:** By default, the receiver’s network information is not displayed.

3. Click the Apply button, and then click OK on the pop-up message box to confirm.

5.3.16. Modifying the Receiver’s Wireless Network Name (SSID)

Follow the procedure below to modify the receiver’s SSID:

1. Go to the Local Management tab page by clicking the Local Management tab.

2. Go to the Network Name (SSID) and Network Password section, and type a new name in the Network Name (SSID) box and a new password in Network Password box.
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

4. The receiver reboots, and the new SSID takes effect after the reboot.

### 5.3.17. Setting up Broadcast Network Name

Follow the procedure below to set up Broadcast Network Name:

1. Go to the **Local Management** tab page by clicking the **Local Management** tab.

2. To enable/disable the **Broadcast Network Name** feature, go to the **Wireless Local Management Interface Settings** section, and set the **Broadcast Network Name** feature to **Enable/Disable**.

**Note:** By default, the receiver's network name (SSID) is not broadcasted. In this situation you can connect to the SSID manually. Refer to Section 5.1.2. **When SSID Broadcast is Disabled** for detail.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.
4. The receiver reboots, and the new setting takes effect after the reboot.

5.3.18. Setting up Wireless Connection Properties

The receiver can wirelessly connect to your network through the ScreenBeam CMS WLAN Adapter. We need to set up the wireless connection parameters before starting the connection.

Follow the procedure below to set up the receiver’s wireless connection properties:

1. Go to the Remote Management tab page by clicking the Remote Management tab.

2. Go to the Wireless Connection Property Settings section, and configure the parameters according to specific requirements.

<table>
<thead>
<tr>
<th>Wireless Connection Property Settings:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Name</td>
</tr>
<tr>
<td>Security Type</td>
</tr>
<tr>
<td>Status</td>
</tr>
</tbody>
</table>

- **Network Name**: The SSID of the wireless router (AP).
- **Security Type**: Select a security type, the one you have selected on your wireless router. Available security types are *Open*, *Shared*, *WPA-PSK[TKIP]*, *WPA2-PSK[AES]*, *WPA-PSK[TKIP]+WPA2-PSK[AES]*, *PEAP/MSCHAPV2*, and *EAP-TLS*.
- **Status**: It displays the connection states.

When *Shared*, *WPA-PSK[TKIP]*, *WPA2-PSK[AES]*, or *WPA-PSK[TKIP]+WPA2-PSK[AES]* is selected,
- **User Name**: Not used.
- **Password**: The pre-shared password for the wireless SSID.

When *PEAP/MSCHAPV2* is selected,
- **User Name**: This is for authentication through a RADIUS server. It is RADIUS account User Name.
• **Password**: It is RADIUS account password.

When **EAP-TLS** is selected, the following items are available:

• **User Name**: It is the User Principal Name or RADIUS Identity (if necessary).  
  **Note**: The User Name supports these characters: a-z, A-Z, 0-9, @, ,, and _.  
• **Password**: It is the password of the Private Key.  
• **System Date & Time**: It is used to set date and time for the receiver. You should set the date and time according to the validity period of the certificates.  
• **CA Certificate**: It is the root certificate. Click the Browse button to browse and add the certificate.  
• **User Certificate**: It is the user certificate. Click the Browse button to browse and add the certificate.  
• **Private Key**: It is the user’s private key. Click the Browse button to browse and add the certificate.  
• **Validity Period**: It displays the effective period of the certificates.  

**Note:**  
• Currently, only certificates in the “.pem” format are supported, and the certificates must be generated using the “DER encoded binary X.509” method.  
• The length of the certificate file name must not exceed 64 bytes, and the file size must be less than 100 KB.  
• All the three certificates are required for authentication.  
• You must select the right certificate file for each type of certificate.  
3. Click the **Connect** button, and then the adapter will connect to the wireless router (AP).  
**Note:**  
• Connect the CMS WLAN Adapter to your network when the receiver is in **Ready to Connect** state.  
• The CMS WLAN Adapter may take some time to connect to your network, depending on your network environment.

### 5.3.19. Setting up the Receiver’s IP Address

Follow the procedure below to set up the receiver’s IP address:

1. Go to the **Remote Management** tab page by clicking the **Remote Management** tab.  
2. Go to the **TCP/IP Setting** section, and set the **IP Assignment** to **Auto** or **Static**.  
  • **Auto**: The receiver will be assigned an IP address by the DHCP server.  
  • **Static**: You can define the IP address, subnet mask, and default gateway for the receiver. If you select **Static**, you can define a DNS server.
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

---

### 5.3.20. Specifying a DNS Server for the Receiver

Follow the procedure below to specify a DNS server for the receiver:

1. Go to the **Remote Management** tab page by clicking the **Remote Management** tab.

2. Go to the **TCP/IP Setting** section, and set the **DNS Assignment** to **Auto** or **Static**.
   - **Auto**: The receiver will be assigned a DNS server automatically.
   - **Static**: You can define a DNS server for the receiver. When you select **Static**, you must define a DNS server.
5.3.21. Specifying the ScreenBeam CMS for the Receiver

Follow the procedure below to specify a management server for the receiver:

1. Go to the Remote Management tab page by clicking the Remote Management tab.

2. Go to the Central Management System Setting section, and define the CMS Host and the CMS Port.
   - CMS Host: It is the IP address or the FQDN/hostname/domain name/alias name (if you have properly configured the DNS server and the DHCP server) of the server that hosts the ScreenBeam CMS. It supports a domain with six labels at most.
     Note: We recommend using the DNS setting.
   - CMS Port: It is the communication port of the ScreenBeam CMS.

3. Click the Apply button, and then click OK on the pop-up message box to confirm.
5.3.22. Rebooting the Receiver

Follow the procedure below to reboot the receiver:
1. Go to the Maintenance tab page by clicking the Maintenance tab.
2. Click the Yes button next to “Reboot Receiver”.
3. Click OK on the pop-up message box to confirm.

5.3.23. Resetting the Receiver to Default

Follow the procedure below to reset the receiver:
1. Go to the Maintenance tab page by clicking the Maintenance tab.
2. Click the Yes button next to “Reset Settings to Factory”.

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3. Click **OK** on the pop-up message box to confirm.

4. The receiver reboots, and the receiver is reset to factory defaults after the reboot.
   
   **Note**: All settings will be reset to defaults.

### 5.4. Updating Firmware for the Receiver

Users can wirelessly upgrade firmware for the receiver through the local web management console. Follow the procedure below to upgrade your receiver:

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

   **Note**: You should disconnect from the receiver’s SSID and connect to a router’s SSID before downloading firmware.

2. Log into ScreenBeam Pro’s web server, and go to the **Firmware Upgrade** tab page by clicking the **Firmware Upgrade** tab.

   ![Firmware Upgrade Tab](image)

   On the **Firmware Upgrade** tab page, you can check the current firmware version in the **Firmware Version** section.

   **Note**: You can update the receiver’s firmware to a higher version only.

   ![Firmware Version](image)

3. Click the **Browse** button to display the **Choose File to Upload** dialog box.
4. Select the firmware file ("install.img") and click the “Open” button to continue.

5. Click the **Apply** button, and then click **OK** on the pop-up message box to continue.

6. The web server starts transferring the firmware file to the receiver.
7. The receiver reboots and upgrades itself after the file is uploaded successfully. Firmware upgrade status is displayed on the connected display.

8. When the receiver returns to the **Ready to connect** Screen, your receiver has been upgraded.

**Warning! Do NOT power off your receiver during the upgrade process. The upgrade will take some time. Please be patient.**
Appendix I. Troubleshooting and FAQs

This chapter describes some problems you may encounter using ScreenBeam Pro EDU-2, 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](http://192.168.51.1), but failed. Why?
Connect to the receiver’s SSID, and then access the URL again.

I’m not seeing anything on my HDTV screen after powering on the Receiver.
Check the cable connections and make sure the TV Input setting is the same as the HDMI port to which the Receiver is connected.

After upgrading from Windows 8 to Windows 8.1, I can no longer connect to ScreenBeam Pro EDU-2 receiver 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 (Shortcut URL: [http://www.actiontec.com/widi81](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 EDU-2.
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 EDU-2: Go to Charms > Devices > Project > Add a wireless display > Connect to ScreenBeam Pro EDU-2 receiver.

In some instances, I can’t connect to the Receiver 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.

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 the Receiver.
* 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 the Receiver. 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.

I’m seeing choppiness and brief pauses while watching local video on my Miracast™ device.
Wireless interference may cause the video playback to be choppy. If this occurs, try the following:
• Make sure you are in the same room as the Receiver is.
• Set the media player to use the H/W decoder, if available.
• Reboot the Miracast™ device and Receiver and connect again.
• Avoid moving the Miracast™ device around too much.
• Change the wireless channel on your wireless router/access point, or on your receiver.

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. Re-connect the WiDi session or connect to the AP first before starting a WiDi session.

I encounter connection failure with ScreenBeam Pro EDU-2 and my device can’t connect to it any more.
• Reboot the ScreenBeam Pro EDU-2 and try connection again. Or, reboot your device (laptop/Ultrabook/tablet/smartphone) and try connection again.
• Reboot both the ScreenBeam Pro EDU-2 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 the ScreenBeam Pro EDU-2 from your device (PC/laptop/Ultrabook), and try connection again.

I can’t connect to the Receiver with ScreenBeam Configuration Utility on my device. The Utility can’t find the Receiver.
ScreenBeam Pro EDU-2 is not compatible with ScreenBeam Configuration Utility. To configure or upgrade the receiver, you should use the ScreenBeam local management web server or Central Management System.
When I connect the source device to a wireless network (router/AP), why ScreenBeam
Pro EDU-2 disconnects automatically?
The source device’s communication channel has changed when you connect your device to a wireless network (router/AP) in the situation that the source device is connected to ScreenBeam Pro EDU-2. As a result, ScreenBeam Pro disconnects from the source device. The solution is that you should connect your device to the wireless network before connecting it to ScreenBeam Pro EDU-2. In this way, ScreenBeam Pro EDU-2 works on the same channel with the source device and the wireless network, and no connection interruption will occur.

FAQs

How do I configure the settings for the Receiver?
All changes to the Receiver settings are done through the web management console. To access:

1. Wirelessly connect a PC/laptop to the ScreenBeam Pro EDU-2’s network. By default, this network is named “Actiontec-SBWD-xxxxxx” where “xxxxxx” refers to the last six characters of the device ID, found on both the Ready to connect screen and on the label on the bottom of the Receiver. The default network security key is “12345678.”
2. Enter the URL address displayed on the Ready to connect screen in the Address bar of a web browser on the PC/laptop. The default URL is http://192.168.51.1.
3. Enter the username and password in the appropriate text boxes. “Administrator” and “Actiontec” are the default username and password, respectively.

Can I view protected content if ScreenBeam Pro EDU-2 receiver is connected HDMI-to-VGA adapter?
No. The HDMI-to-VGA adapter does not support playback of protected content such as blue-ray.

Can my device connect to ScreenBeam Pro EDU-2?
To connect to ScreenBeam Pro EDU-2, 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 a Notebook, it may support Intel WiDi if it meets the following Processor, Graphics, and Wireless chipset 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 EDU-2 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, they should indicate similar meaning.

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

Visit ScreenBeam Pro EDU-2 compatibility page for the recommended Miracast devices.

**Do I need to install drivers/apps to use the ScreenBeam Pro EDU-2 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 EDU-2’s video/audio performance:

- Place your device closer to the Receiver.
- 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 the Receiver.
- Turn off the Wi-Fi devices that are not in use currently.

**What wireless signal range can I expect with the Receiver?**

The Receiver 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 to the Receiver.

**Do I need an existing wireless network to use the Receiver?**

No. The Receiver 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 the Receiver’s firmware?**

You can upgrade the receiver’s firmware by using the local management web server or ScreenBeam Central Management System.
How do I configure the receiver's general settings, such as changing language, rename the receiver, enable/disable screensaver, and idling time for screensaver?
You can configure the receiver's general settings by using the local management web server or ScreenBeam Central Management System.

How do I configure the receiver's general settings, such as changing language, rename the receiver, enable/disable screensaver, and idling time for screensaver?
You can configure the receiver's general settings wirelessly by using the receiver’s webpage.
1. Connect your device’s Wi-Fi to the receiver’s network “Actiontec-SBWD-xxxxxx” that is displayed on the Ready to connect screen. The default network security key is “12345678”.
2. Access the web management URL that is displayed on the Ready to connect screen with a web browser on your device.
3. Enter the username and password which is “Administrator” and “Actiontec” by default. See the user manual for more details.

How can I adjust the display to fit properly to my TV screen?
You can adjust the display by using the receiver’s local management web server or ScreenBeam Central Management System.
- Log into the receiver’s web server, and adjust the display in the TV Screen Size (Overscan Settings) section of the Features page.
- In the ScreenBeam Central Management System, double click the receiver to open the receiver configuration page, and then adjust the TV screen size in the Features section.

Can I extend my Windows desktop to the HDTV or Projector from my Intel WiDi device?
Yes. After the connection to ScreenBeam Pro EDU-2 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 the “Duplicate”, “Extend” or “Second screen only” mode.

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

My device supports 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 the Receiver 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 the Receiver in the Wi-Fi Direct devices scan list, they will not be able to connect to the Receiver. The device must support Miracast™ to connect with the Receiver.

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

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

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

Some Miracast™ devices cannot connect to both the Wi-Fi router and the Receiver 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 the Receiver simultaneously?**

No. You can connect one device to the Receiver at a time.

**Can I connect to multiple ScreenBeam Pro EDU-2 Receivers simultaneously?**

No. You can only connect to one ScreenBeam Pro EDU-2 at a time.

**My TV/Projector does not have an HDMI Input. Can I still use ScreenBeam Pro EDU-2?**

Yes. An HDMI-to-VGA adapter is available for compatibility with legacy display devices. The adapter is an optional item.

**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 EDU-2 to access online content directly?**

No. ScreenBeam Pro EDU-2 does not directly connect to the Internet. You must use a source device (laptop/Ultrabook/tablet/smartphone) to wirelessly stream the online content to your Receiver.

**Can ScreenBeam Pro EDU-2 support UoIP?**

No. ScreenBeam Pro EDU-2 does not support UoIP.
Can I push media to the Receiver using DLNA?
No. The Receiver is not a DLNA media receiver.

Does the Receiver work with the Apple iPhone, iPad, or iPod?
No. The Receiver 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 the receiver 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 EDU-2?
ScreenBeam Pro EDU-2 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 EDU-2.
- 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 EDU-2.
Appendix II. Specifications (Model: SBWD100B)

General
- **Language:** English, Simplified Chinese, Traditional Chinese, Japanese, French, German, Dutch, Korean, Spanish, Italian, and Russian
- **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
- Yes, one by one or in batch

Certification
- Wi-Fi Miracast™
- Intel® WiDi (Gen 4)

Regulatory Compliance
- FCC, IC, UL, CE, SRRC, C-Tick, TELEC, RoHS 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
  - Windows 8.1
  - Android 4.2 and higher
• Non WiDi/Miracast ready laptops and PCs with Actiontec USB Transmitter
  - 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.
Appendix III. Specifications (Model: SBWD950A)

General
- **Language**: English, Simplified Chinese, Traditional Chinese, Japanese, French, German, Dutch, Korean, Spanish, Italian, and Russian
- **Dimensions**: 6.61 x 6.61 x 1.36 inch (168.0 x 168.0 x 34.5 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 in and VGA out, female DE-15

VGA Output Resolution
- 640x480@60Hz, 800x600@60Hz, 1024x768@60Hz, 1280x800@60Hz, 1366x768@60Hz, 1280x1024@60Hz

USB Interface
- USB 2.0, type A

Ethernet Interface
- 10/100 Mbps, RJ-45

Wireless
- Miracast: 802.11 a/b/g/n/ac Dual-band 2.4 & 5 GHz
- WLAN: 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 5W
- **LED Indicator**: Power On

Firmware Upgrade
- Yes, one by one or in batch

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Appendix IV. Notices

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.

GPL Info

For GNU General Public License (GPL) related information, go to

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