ScreenBeam 1100 Wireless Display Receiver

Firmware 11.0.1.0

User Manual

V1.0

For Catalog # SBWD1100

Table of Contents

Part I Getting Started

Thank you for your purchase of Actiontec's ScreenBeam 1100 Wireless Display Receiver (hereinafter refer to as "ScreenBeam 1100").
ScreenBeam 1100 wireless display receiver enables native screen mirroring from your Windows, Android, and Apple devices - without apps or wires. ScreenBeam 1100 lets you wirelessly stream what's on your wireless display capable 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 10 optimization, versatile compatibility, low power consumption, and more.
ScreenBeam 1100 also supports legacy windows devices (such as Windows 7).

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

1.1 Contents in the Box

Contents in the Receiver's package are listed below:

- ScreenBeam 1100 receiver (1)
- HDMI® Cable (1)
- AC Power Adapter (1)
- Product documentation

1.2 Meeting ScreenBeam 1100

This manual is applicable to the following catalog #s:

- SBWD1100

1.2.1 ScreenBeam 1100

- Power Input **(12V/3A)**, for power supply
- USB ports, (two USB 2.0 and one USB 3.0), for provisioning CMS connection data, firmware update, connecting to touch display, and USB over network control (UIBC)
- Ethernet Port **(ETHERNET)**, for receiver management with CMS / LMI or for multi-media streaming over infrastructure network
- HDMI Output **(HDMI OUT)**, for connecting to HDTV/projector with an HDMI port for video and audio output
- VGA Output **(VGA OUT)**, for connecting to an HDTV/projector with a VGA port for video output
- Audio Output **(AUDIO)**, for outputting audio to speaker (available for both HDMI out and VGA out)
- Power Indicator, indicating power supply status
- Reset button, for resetting the receiver to default settings

1.3 Minimum Requirements

System requirements for the receiver are shown below:

1.3.1 System Requirements

Client device from 2015 or newer with one of the following operating systems:

- Windows 10 build 1709 (and later)
- macOS X 10.10 (and later)
- iOS 9 (and later)
- Android 4.4 (and later) with Miracast

1.3.2 Network Requirements

For wireless display over the existing wireless network or LAN:

- Ethernet: 100BASE-T 10/100 connection (1 Gbps is recommended)
- Wireless: 802.11ac (5GHz is strongly recommended)
- Multicast DNS (mDNS) support is required for iOS and macOS native screen mirroring to auto-discover ScreenBeam
- Required ports
    - 5353 (UDP) for Multicast DNS (mDNS) discovery
    - 7100 (TCP and UDP) for macOS, iOS and Windows 10 mirroring
    - 7250 (TCP) for Miracast over LAN data stream
    - 47000 (TCP) for Airtunes in AirPlay
    - 18000-18009 (TCP) for macOS and iOS AV data

Note: Additional network configuration is not required for Wi-Fi Miracast enabled device to connect. Verify Group Policy and firewall settings allow Wi-Fi Direct groups or hosted networks.

1.3.3 Setup Requirements

- ScreenBeam 1100 receiver
- Display with an available HDMI input or VGA input
- (Optional) Touchscreen with USB touch cable
- An Ethernet network connection with DHCP IP or a Wi-Fi router
  Note: This is used for wireless display over LAN and management.

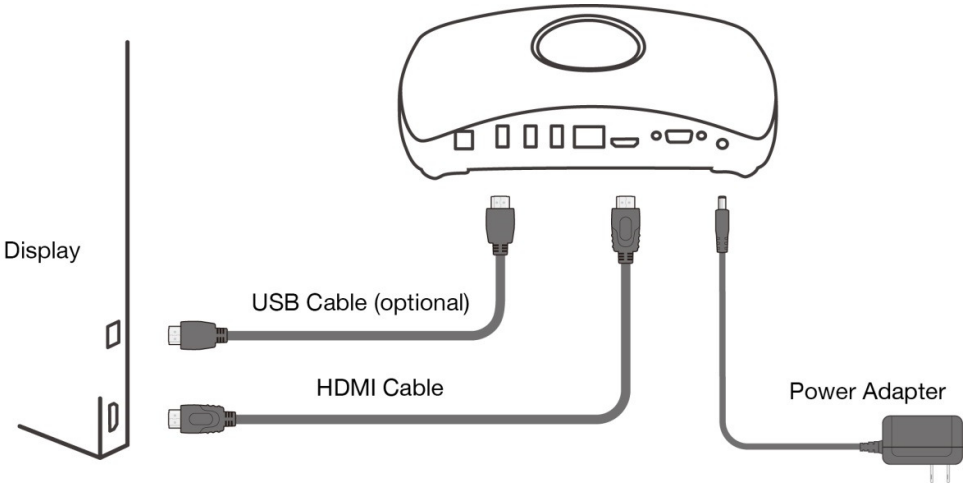
Part II Installing the Receiver

This chapter explains how to connect ScreenBeam 1100 to an HDTV. Make sure you have all the contents from the receiver's package available before starting.

2.1 Setting up ScreenBeam 1100 Receiver

It is quite easy and fast to set up the receiver. You can easily complete the setup by your own. To connect the Receiver to an HDTV:

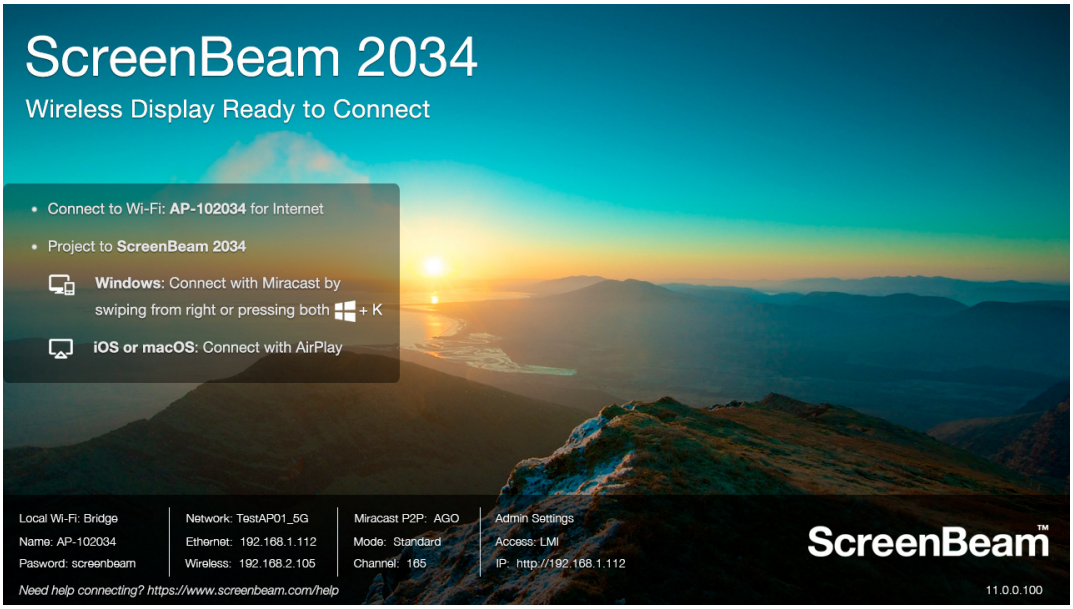
1. Get the receiver, AC power adapter, and HDMI cable from the Receiver's package, and place the receiver next to the display.
2. Plug one end of the HDMI cable into the HDMI port ("**HDMI-OUT**") on the Receiver, and the other end into an available HDMI port on the HDTV.
3. (Optional) If the display has USB HID touch capability, insert the HID USB connector into a USB port on the ScreenBeam receiver. (USB cable is not included).
4. (Optional) Connect one end of the Ethernet cable to the receiver's Ethernet port and connect the other end to the network switch with DHCP IP. (Ethernet cable is not included).
   Note: Refer to Section 2.2 for more information on setting up a network connection.
5. Plug the connector of the power cord to the Receiver's power input port labeled "**12V/3A**", 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:



Note: Power adapter may vary in different region.

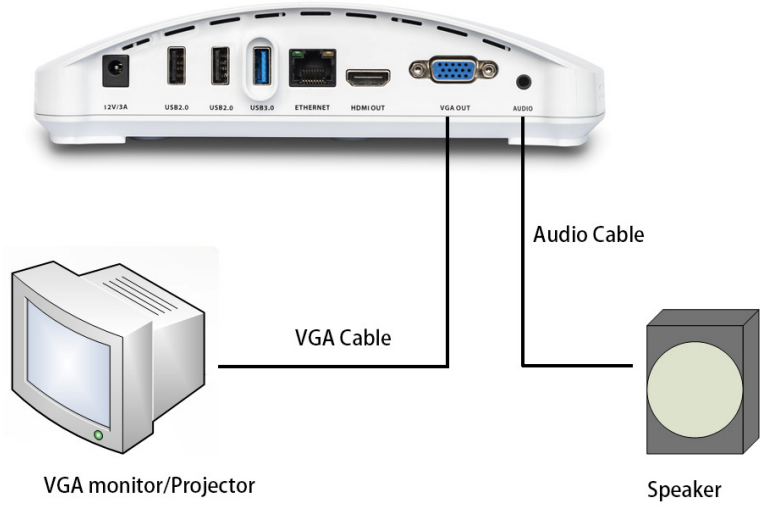
6. Turn on the HDTV and set it to display the input from the correct HDMI port (the one you have plugged into in Step 2).

7. Verify that the "**Wireless Display Ready to Connect**" screen appears on the HDTV.



The Receiver is connected to the HDTV, and it is ready for use.

8. (Optional) If your display/projector provides no HDMI input but VGA input, you can connect your ScreenBeam receiver to the display/projector via VGA output, as shown below:



2.2 Connecting the Receiver to a Network

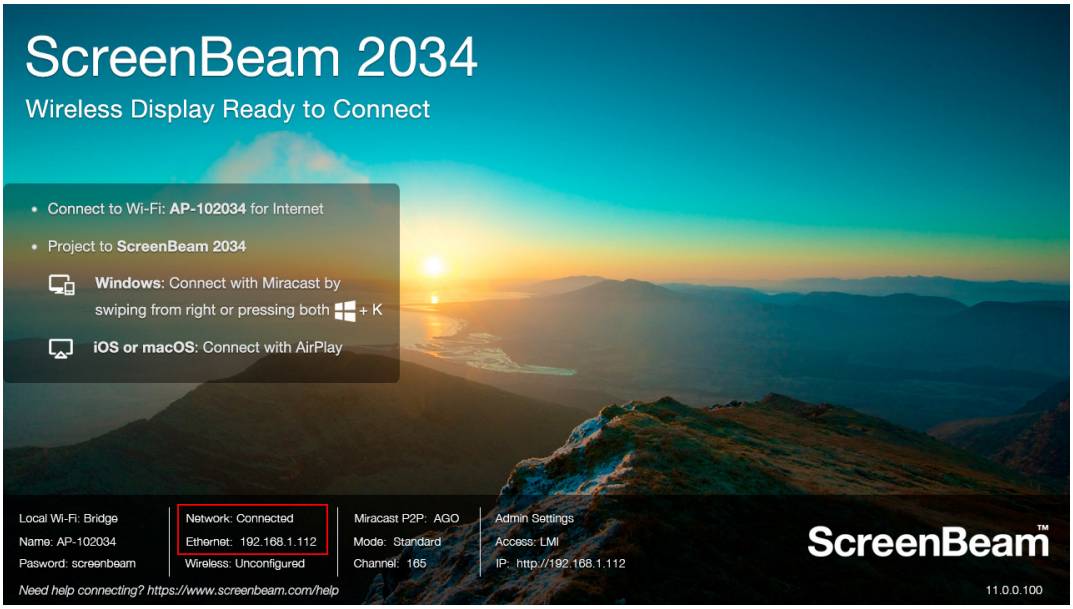
ScreenBeam 1100 receiver supports both wired and wireless connections. You can deploy ScreenBeam 1100 receivers based on your network requirements.
Note: The setups in this section are optional.

2.2.1 Wired Connection

ScreenBeam 1100 receiver provides a built-in Ethernet port, allowing direct connection to an Ethernet network.

Follow the procedure below to connect the receiver to a network:

1. Connect your ScreenBeam receiver to your network with a quality Ethernet cable.
2. The receiver will be assigned an IP address after a few seconds, if a DHCP server is available on your network.



Note: ScreenBeam receiver is set to obtain an IP address automatically by default. If you want to set the receiver's IP address or DNS server to static, consult your network administrator.

- Refer to Section **5.2 Using Local Management on ScreenBeam** for detail on how to log into the receiver's Local Management Interface.
- Refer to Section **5.3.6.3 Setting up the Receiver's IP Address** for detail on how to set up the receiver's IP address.
- Refer to Section **5.3.6.4 Specifying a DNS Server for the Receiver** for detail on how to set up the receiver's DNS server.

2.2.2 Wireless Connection

ScreenBeam 1100 receiver provides a built-in WLAN adapter, which allows the receiver to wirelessly connect to your network. We need to set up the wireless connection parameters before starting the connection.

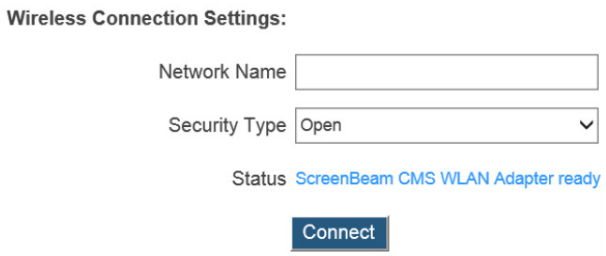
Follow the procedure below to connect the receiver to a wireless network:

1. Go to the receiver's Local Management Interface (LMI), and set IP address assignment and DNS assignment to auto in the **Remote Management** tab page.

Note:

- If you want to set the receiver's IP address or DNS server to static, consult your network administrator.
- Refer to Section **5.2 Using Local Management on ScreenBeam** for detail on how to log into the receiver's Local Management Interface.
- Refer to Section **5.3.6.3 Setting up the Receiver's IP Address** for detail on how to set up the receiver's IP address.
- Refer to Section **5.3.6.4 Specifying a DNS Server for the Receiver** for detail on how to set up the receiver's DNS server.

2. Go to LMI > **Remote Management** > **Wireless Connection Settings**, and configure the parameters according to specific requirements.



- **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.

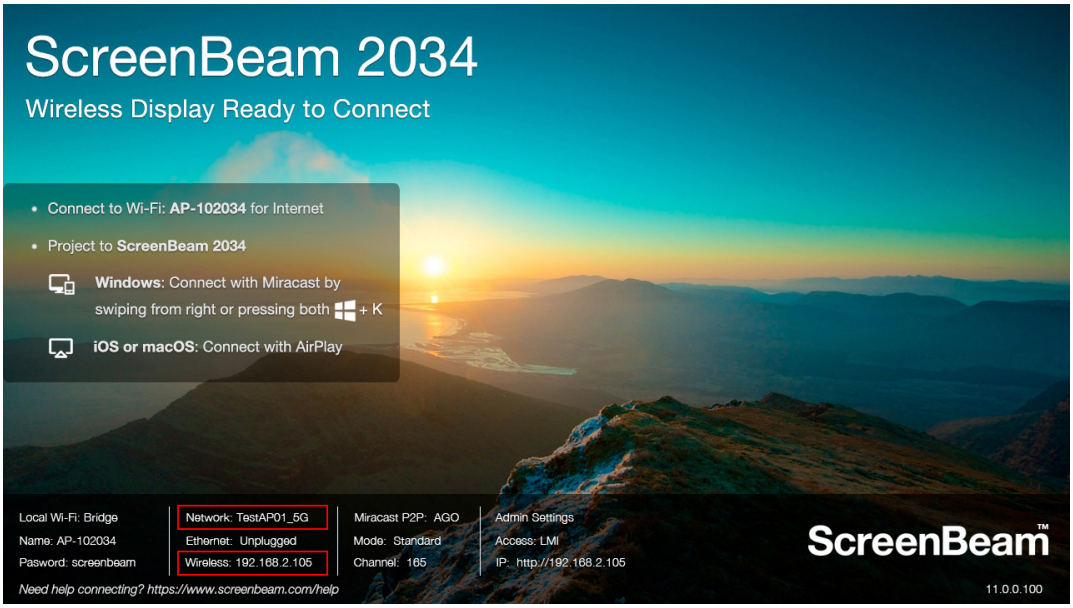
Note:

- 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 to connect the receiver to your network. The adapter will connect to the wireless router (AP) in a few seconds.

Note:

- Connect the WLAN adapter to your network when the receiver is in **Wireless Display Ready to Connect** state.
- In AGO mode, you can configure the wireless connection parameters, but the receiver may start to connect to the AP after it returns to **Wireless Display Ready to Connect** state.
- The WLAN adapter may take some time to connect to your network, depending on your network environment.

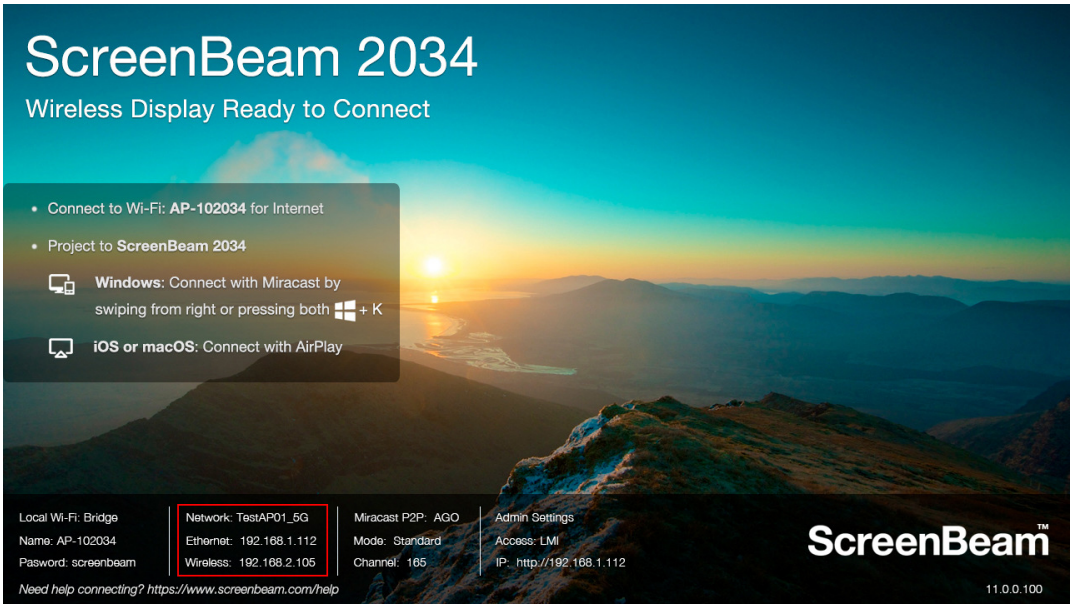


2.2.3 Dual-network Connection

ScreenBeam 1100 can be connected to two different networks concurrently. This dual-network

feature allows the flexibility of supporting wireless display for either staff (on internal network) or visitors (on guest network).

1. Plan your network in advance. For example, one for internal use, and one for guest use.
2. Connect ScreenBeam 1100 to the internal network via Ethernet, and verify that an IP address is assigned.
3. Connect ScreenBeam 1100 to the guest network via wireless connection, and verify that an IP address is assigned.



Now both the user that connects to the internal network and the user that connects to the guest network can connect to ScreenBeam for wireless display.

Part III Connecting Client Device

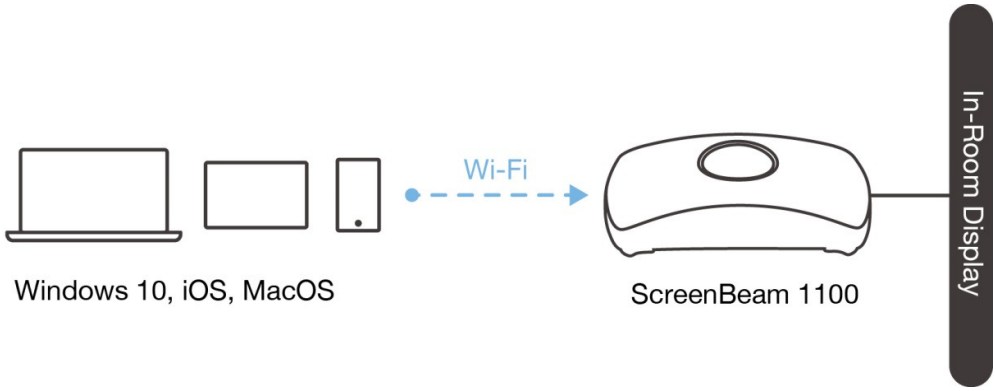
This section provides the instructions on how to connect to ScreenBeam using the native screen mirroring from the most common operating systems.
Refer to www.screenbeam.com/setup for details and instructions for common operating systems.
Note: The web page will display the instructions based on the client-device OS. Use the links at the bottom of the web page to select OS-specific instructions.

3.1 Overview of Network Modes

The ScreenBeam 1100 allows presenters with Windows 10, macOS, iOS, or Android device to wirelessly display without requiring any apps. ScreenBeam 1100 supports local Wi-Fi, Wi-Fi Miracast, and wireless display over existing infrastructure network. Two or more modes can operate concurrently to support various scenarios where both internal and guest users could simply connect and project.

3.1.1 Local Wi-Fi

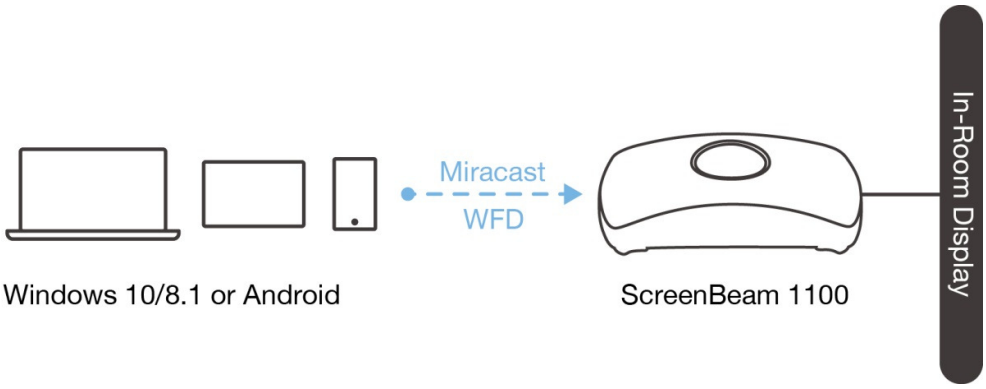
The ScreenBeam Wi-Fi mode provides the simplest form of network for client devices to connect and project. In this mode, user needs to connect the client device Wi-Fi to the ScreenBeam Wi-Fi and then select the receiver to mirror. This mode is ideal for guest client devices that need wireless display and/or Internet access. Internet is available if the ScreenBeam receiver is connected to the existing network, wired or wireless, if bridge mode is enabled. Mobile device with cellular service can access the Internet and wireless display if bridge mode is disabled.



Note: ScreenBeam Wi-Fi is fully secured and manageable via ScreenBeam CMS with options to tune the wireless transmission power, channel and encryption type.

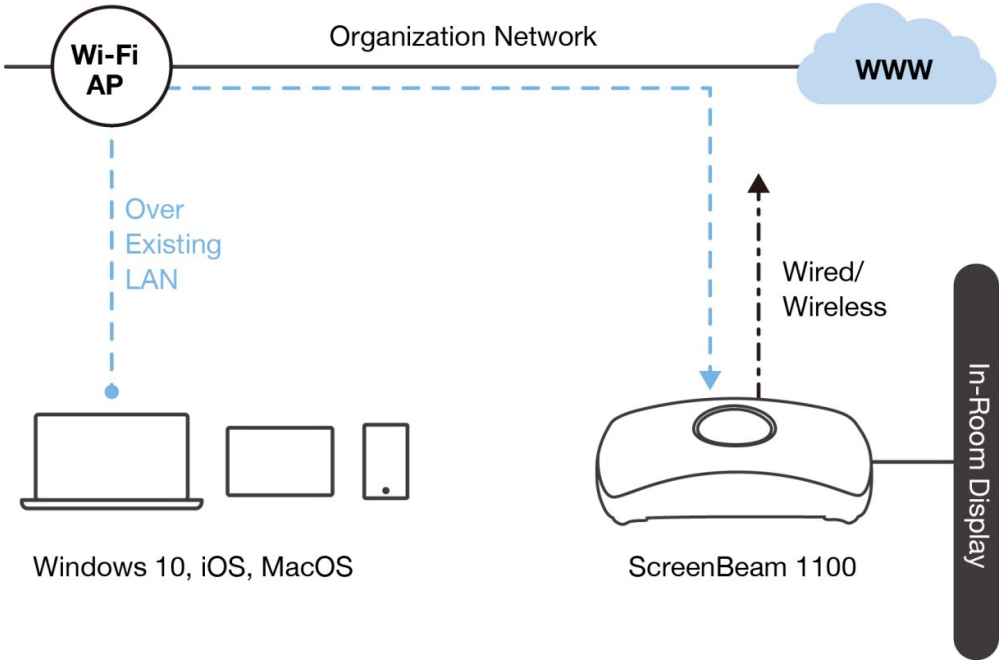
3.1.2 Wi-Fi Miracast

The Wi-Fi Miracast mode allows compatible Wi-Fi Miracast devices to connect directly to ScreenBeam, even when connected to an infrastructure wireless network. Miracast is commonly available on Windows 10/8.1 and Android 4.4 (and later) devices since 2015. Users can enjoy wireless display and Internet access if the client device is already connected to Wi-Fi.



3.1.3 Wireless Display over existing LAN

ScreenBeam 1100 can be connected to the existing wireless or wired network and supports wireless display for client devices on either network. This is a common setup to support client devices that needs access to network resources. Additional port and network configurations may be required for this mode to work seamlessly.



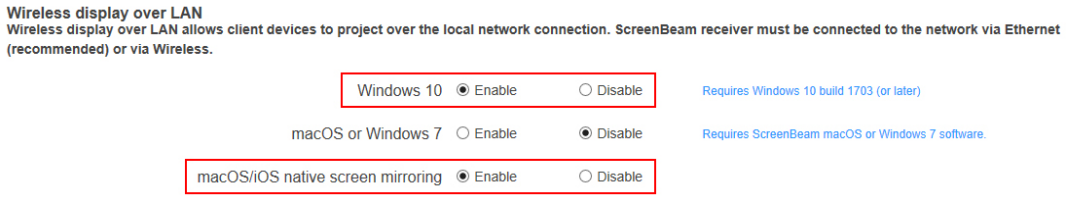
ScreenBeam 1100 can be connected to two different networks concurrently. This dual-network feature allows the flexibility of supporting wireless display for either staff (on internal

network) or visitors (on guest network). Refer to the deployment guide for more details.

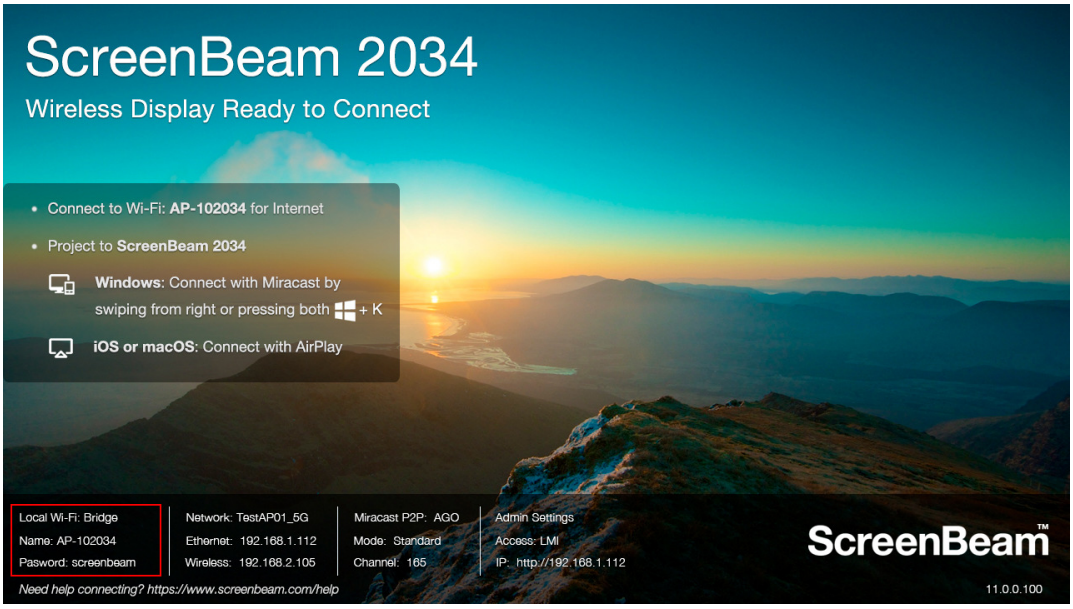
3.2 Connect using Local Wi-Fi

This section explains how to connect a client device to ScreenBeam 1100 using the local AP on ScreenBeam 1100.

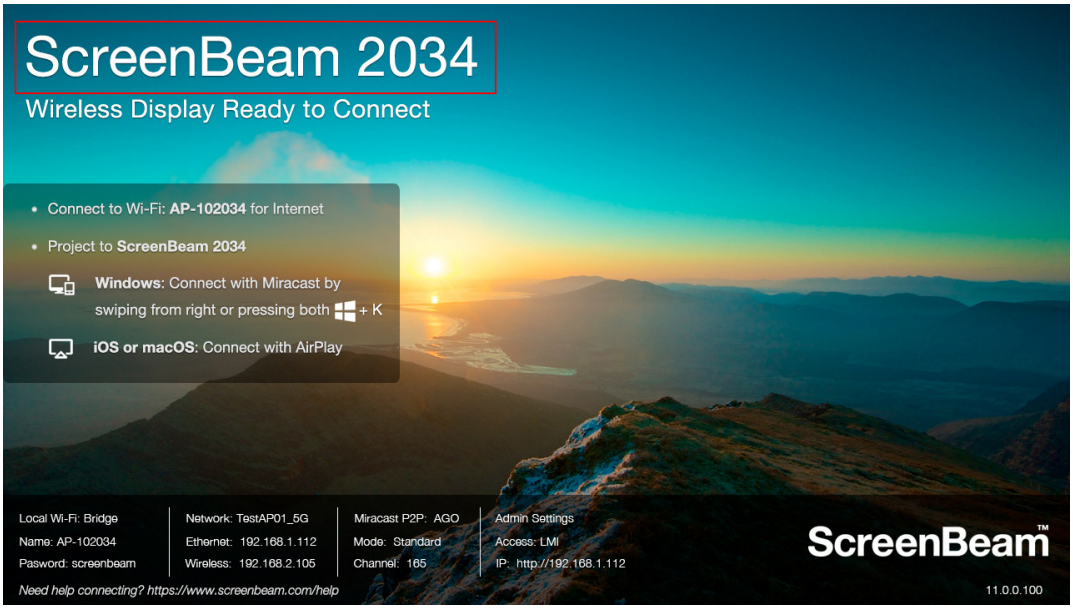
1. Make sure that the **Wireless display over LAN** feature is enabled for Windows 10 and/or macOS/iOS native screen mirroring. Refer to section Error! Reference source not found.Error! Reference source not found. for detail.
   Note: You can also configure your receiver with CMS.



2. Connect the client device's Wi-Fi to the wireless network (AP SSID) as shown on the TV display. And enter the password for the wireless network. By default, the password is **screenbeam** (case-sensitive).
   Note: For Windows 10/8.1 or Android devices with Miracast, you can skip to Section **3.3 Connect using Wi-Fi Miracast**.



3. Select the ScreenBeam receiver name as shown on the TV display.



- For Windows 10

  Select **Connect** from the Action Center by swiping from right or simultaneously pressing the Windows key and K.

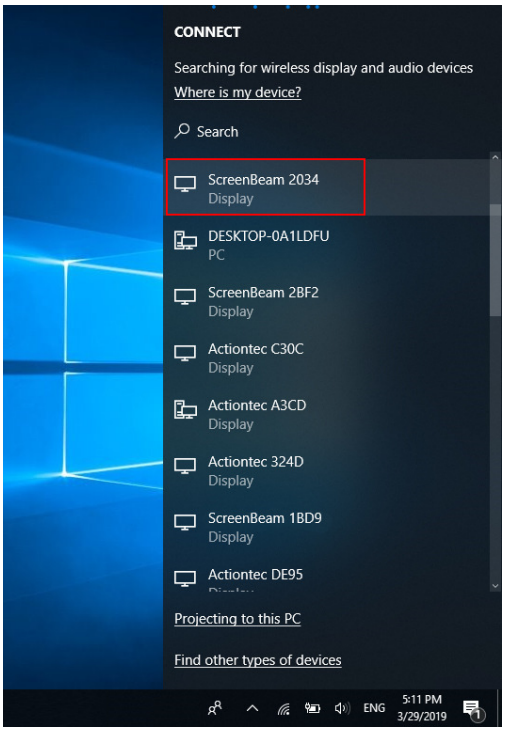


Figure: Selecting receiver on Windows 10 device

- For iOS or macOS

Connect with AirPlay from the menu bar or control center.
iOS

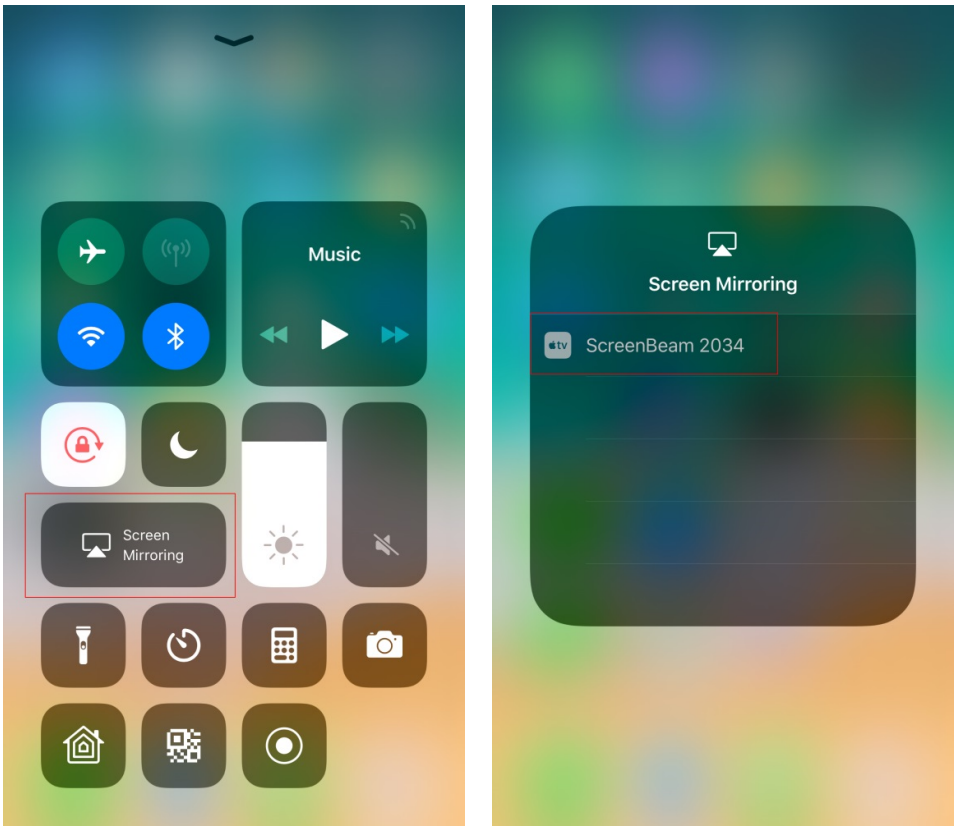


Figure: Selecting receiver on iOS device

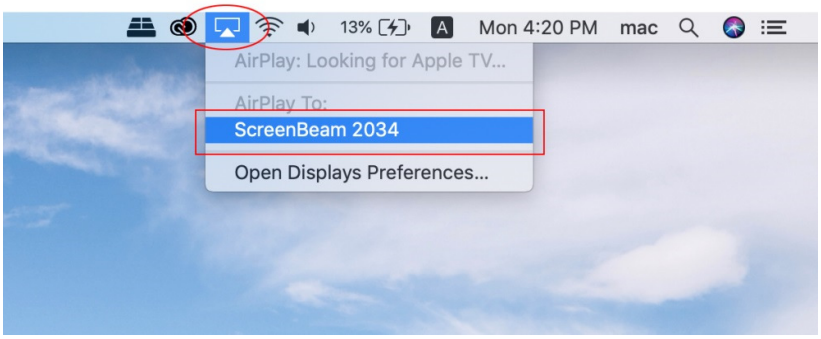
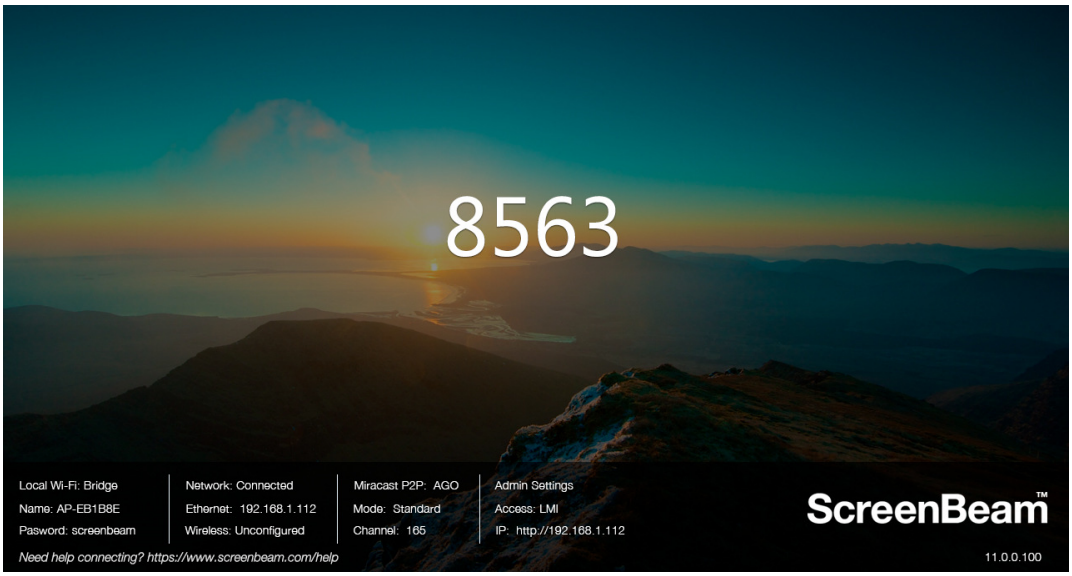
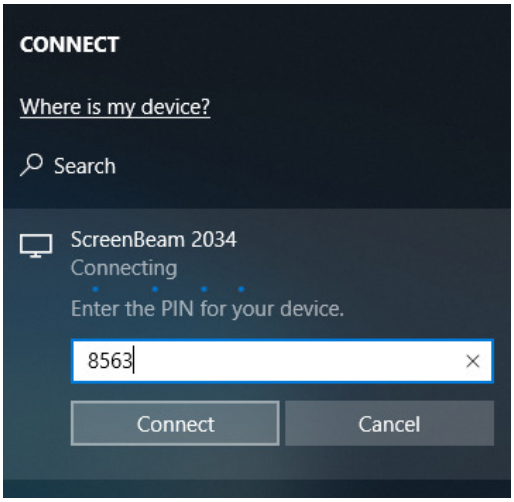


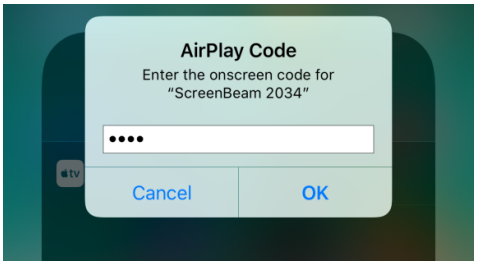
Figure: Selecting receiver on macOS device

4. Enter in the PIN if required. If the PIN code is not displayed, try the hidden PIN 1234 (default).
   Note: You should consult your network administrator if no PIN is displayed on the connected display device.





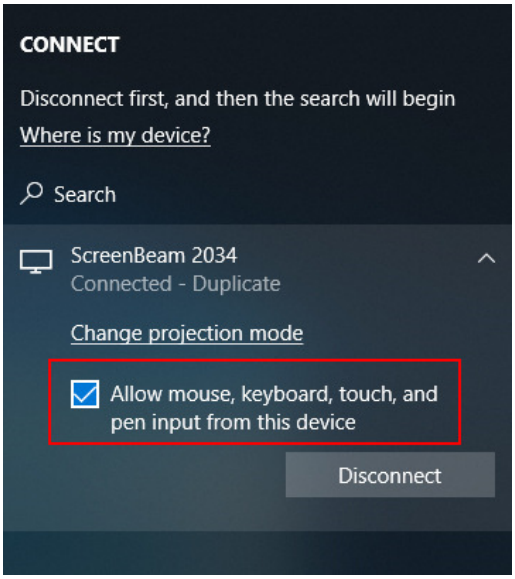
Windows 10



iOS

macOS

5. Select duplicate or extended screen mode if prompted.
6. If the display has touch functionality, Windows 10 devices can take advantage of the touch and inking feature by selecting **Allow mouse….** (Refer to section **4.2 USB over Network Control** for more details.)

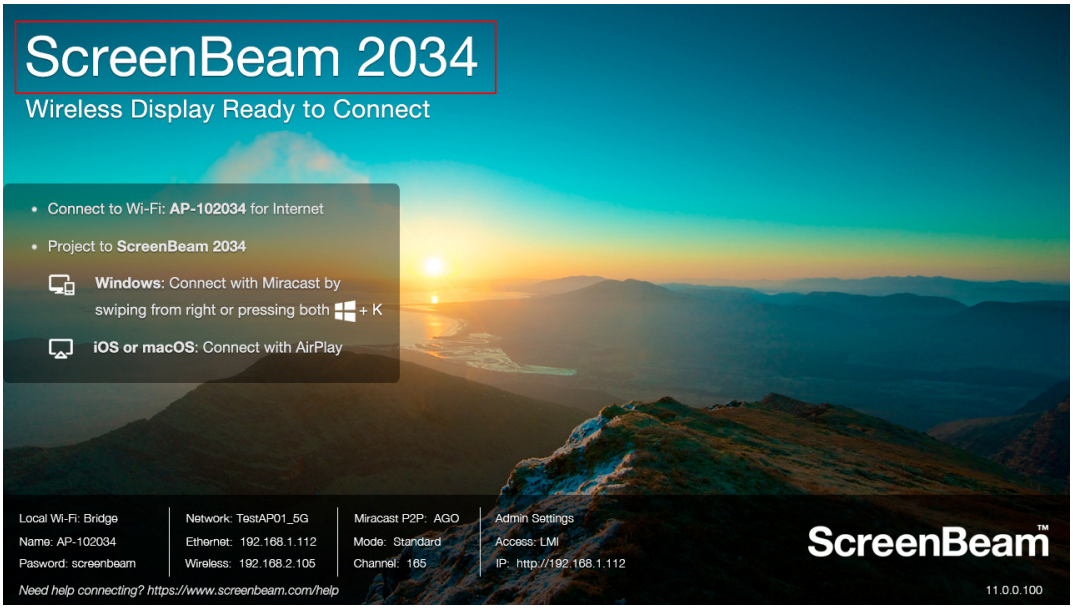


Note: To disconnect, follow instructions in step 3 to return to the screen mirroring menu and select mirroring off.

3.3 Connect using Wi-Fi Miracast

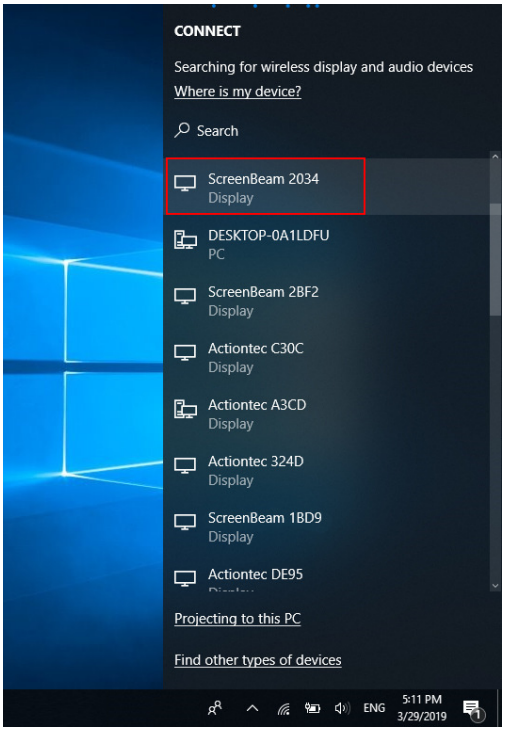
This section explains how to connect a client device to ScreenBeam 1100 using Wi-Fi Miracast.

1. Select the ScreenBeam receiver name as shown on the TV display.



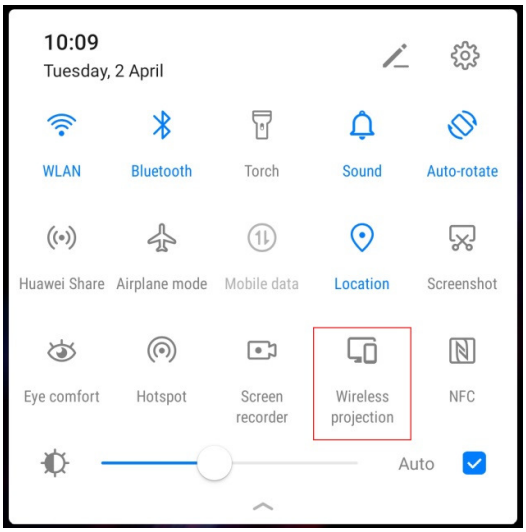
- For Windows 10

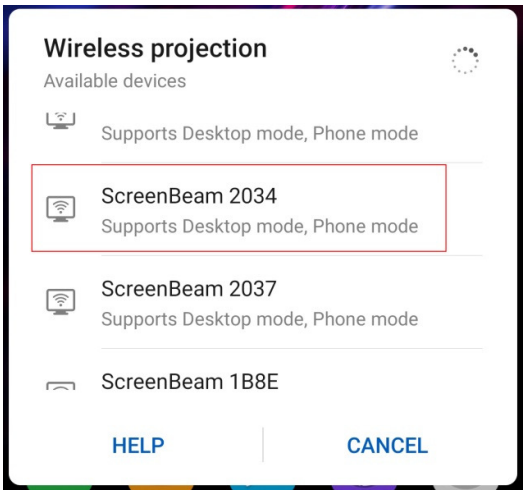
  Select **Connect** from the Action Center by swiping from right or simultaneously pressing the Windows key and K.



- For Android

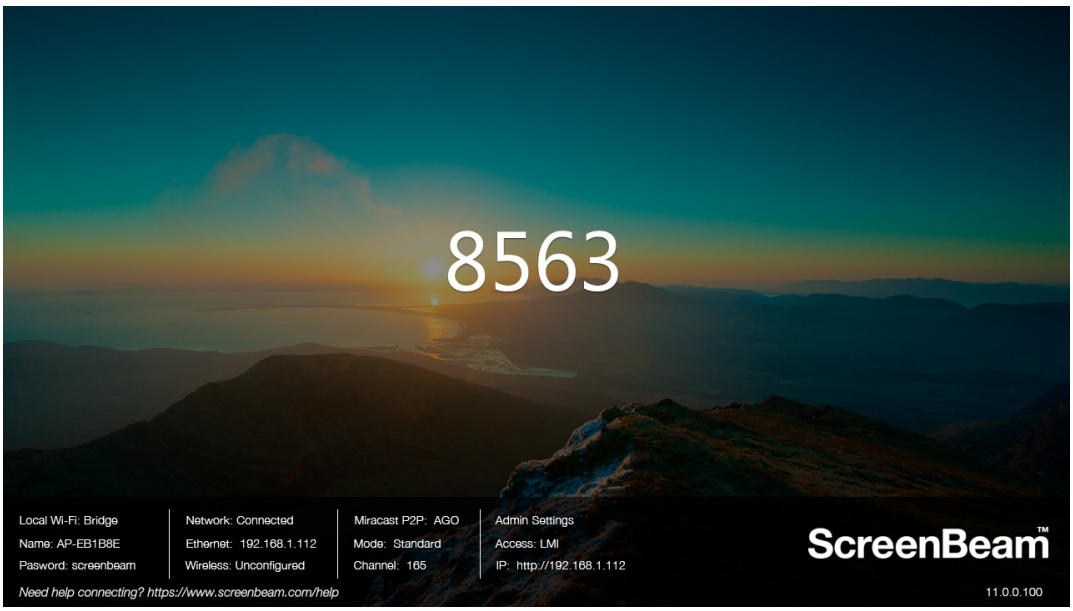
  Select the Screen Mirroring option from the quick access menu and follow the connection instructions.

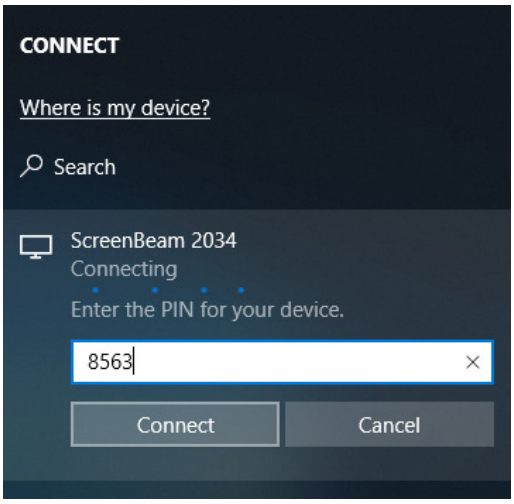




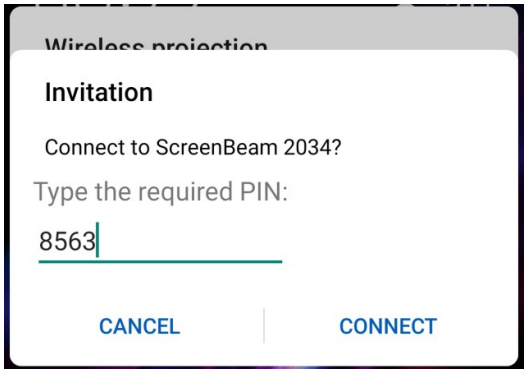
2. Enter in the PIN if required. If the PIN code is not displayed, try the hidden PIN 1234 (default).

   Note: You should consult your network administrator if no PIN is displayed on the connected display device.





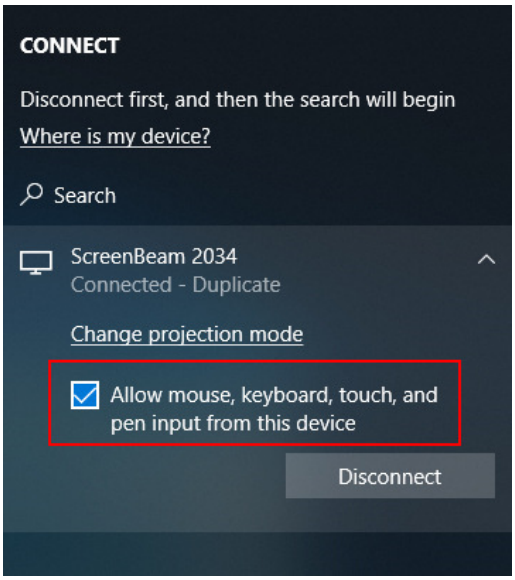
Windows 10



Android

3. Select duplicate or extended screen mode if prompted.
4. If the display has touch functionality, Windows 10 devices can take advantage of the

touch and inking feature by selecting **Allow mouse….** (Refer to section **4.2 USB over Network Control** for more details.)



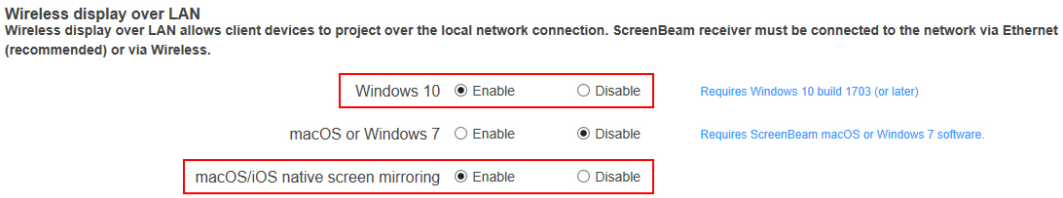
Note:

- To disconnect, follow instructions in step 1 to return to the screen mirroring menu and select mirroring off.
- Some Android devices do not support PIN and will fail to connect. Refer to section **5.3.4.1 Setting up PIN Pairing Method** below for instructions on how to configure ScreenBeam and disable PIN enforcement.

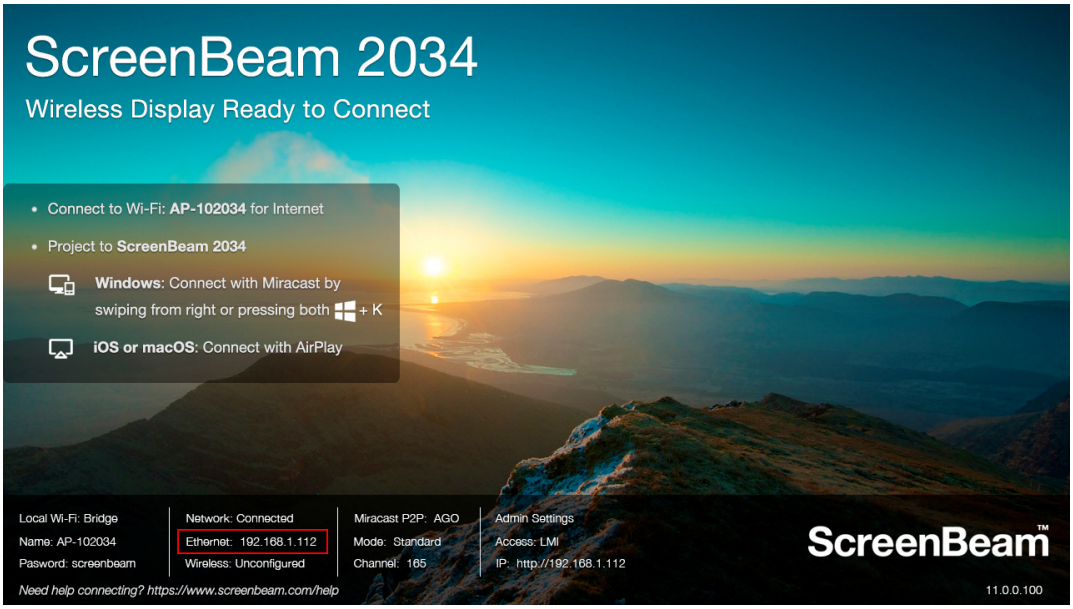
3.4 Connect using Existing Wireless Network or LAN

This section explains how to connect a client device to ScreenBeam 1100 using existing wireless network or LAN.

1. Make sure that the **Wireless display over LAN** feature is enabled for Windows 10 and/or macOS/iOS native screen mirroring. Refer to section Error! Reference source not found.Error! Reference source not found. for detail.
   Note: You can also configure your receiver with CMS.

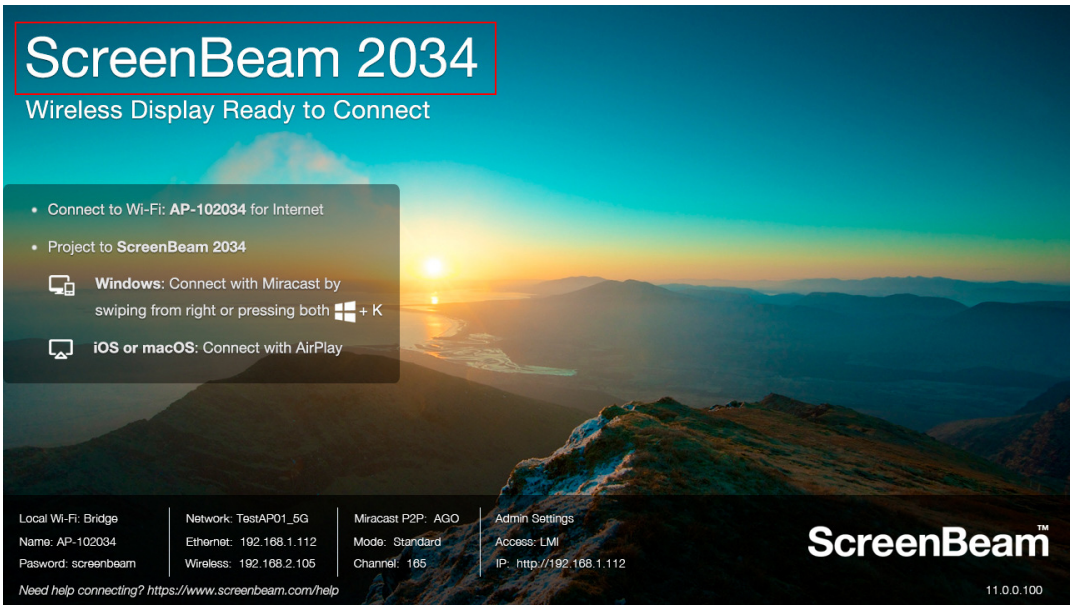


2. Connect the ScreenBeam receiver to a known network where your client device can communicate over Wi-Fi. Refer to Section **2.2 Connecting the Receiver to a Network** for detail.
3. Verify the receiver obtained an IP address (shown on the **Ready to Connect** screen).



4. Connect the client device to the same network as the ScreenBeam receiver.

5. Select the ScreenBeam receiver name as shown on the TV display.



- For Windows 10
  Select **Connect** from the Action Center by swiping from right or simultaneously pressing the Windows key and K.

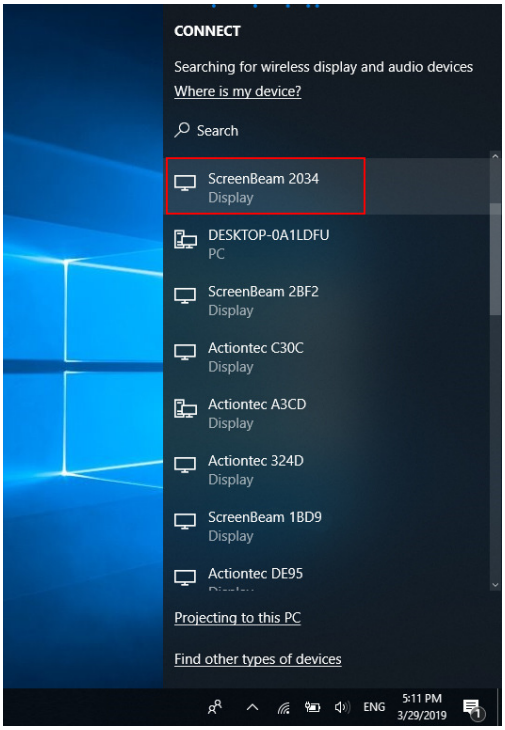


Figure: Selecting receiver on Windows 10 device

- For iOS or macOS
  Connect with AirPlay from the menu bar or control center.
  iOS

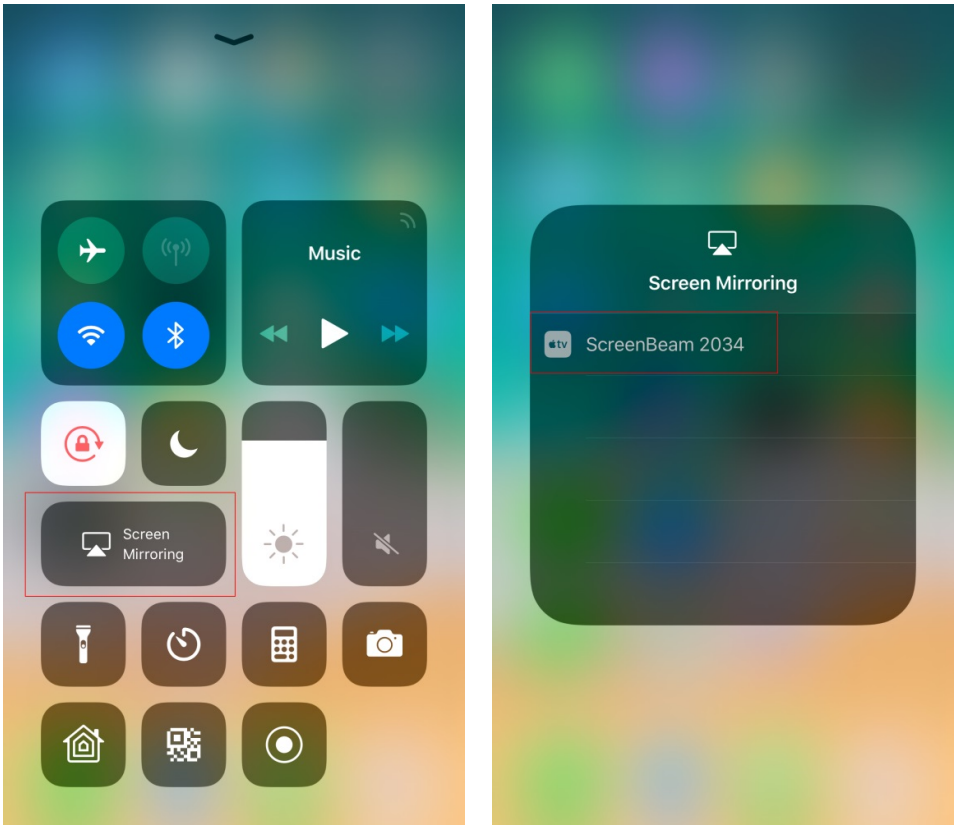


Figure: Selecting receiver on iOS device

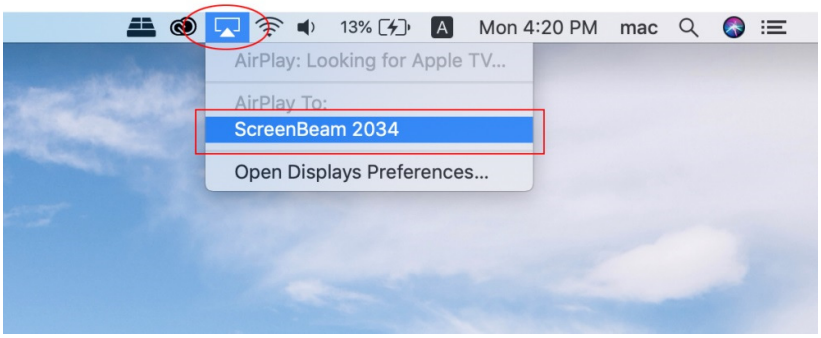
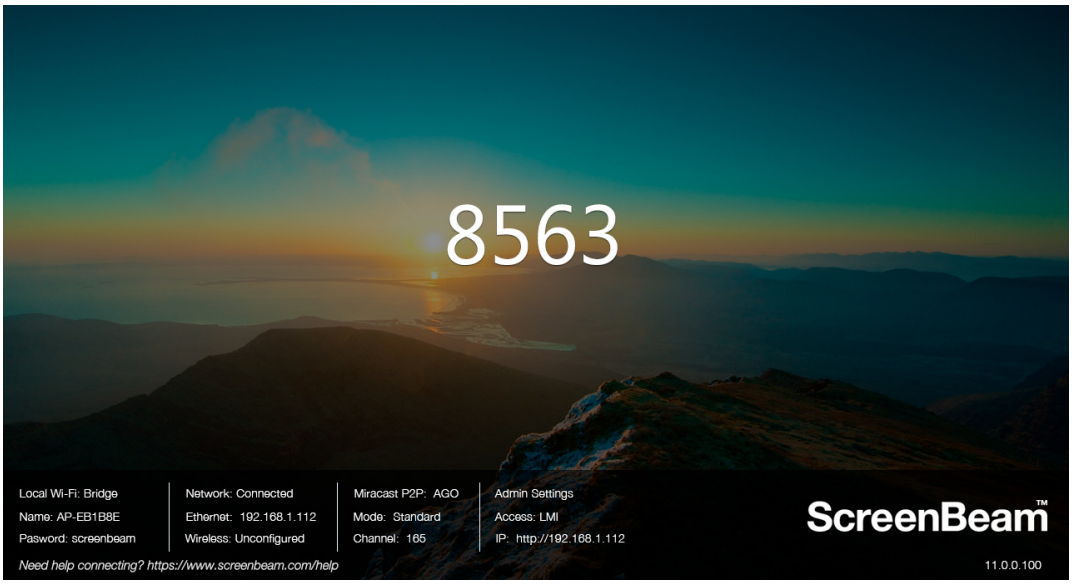
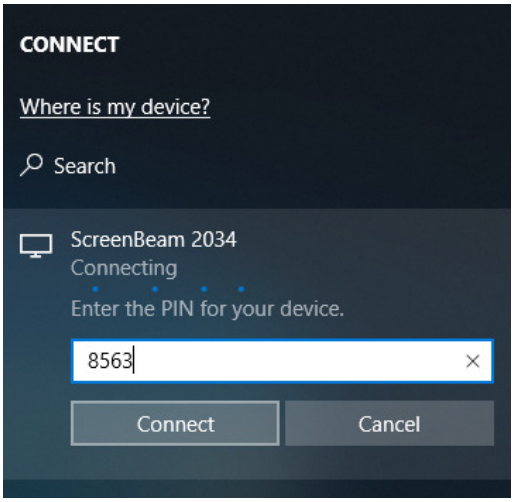


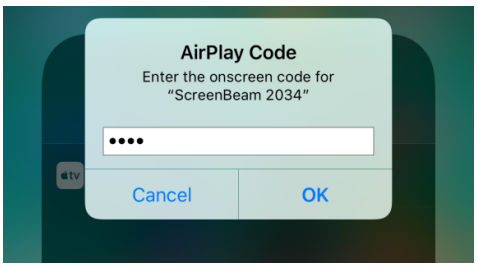
Figure: Selecting receiver on macOS device

6. Enter in the PIN if required. If the PIN code is not displayed, try the hidden PIN 1234 (default).
   Note: You should consult your network administrator if no PIN is displayed on the connected display device.

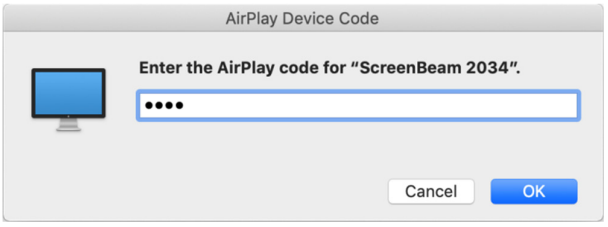




Windows 10

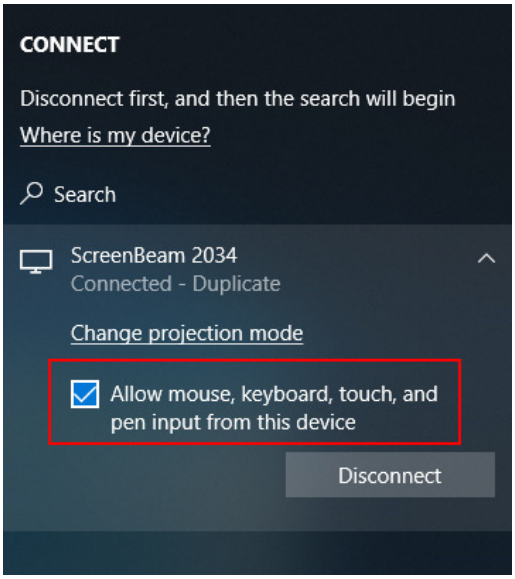


iOS



macOS

7. Select duplicate or extended screen mode if prompted.
8. If the display has touch functionality, Windows 10 devices can take advantage of the touch and inking feature by selecting **Allow mouse….** (Refer to section **4.2 USB over Network Control** for more details.)



Note: To disconnect, follow instructions in step 3 to return to the screen mirroring menu and select mirroring off.

Part IV Display and Control Options

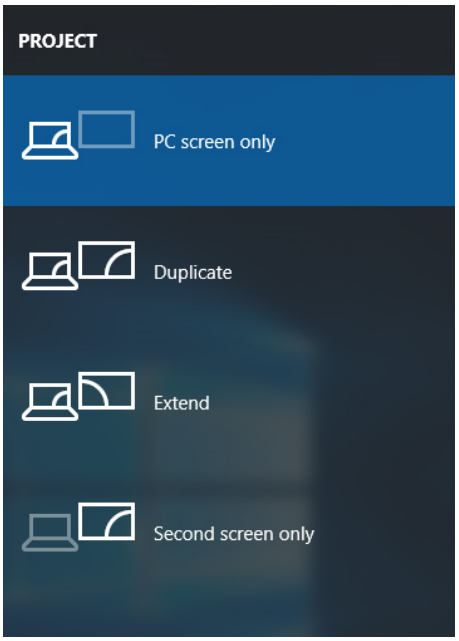
This chapter describes the display modes and control options that are supported by the receiver.

4.1 Display Mode

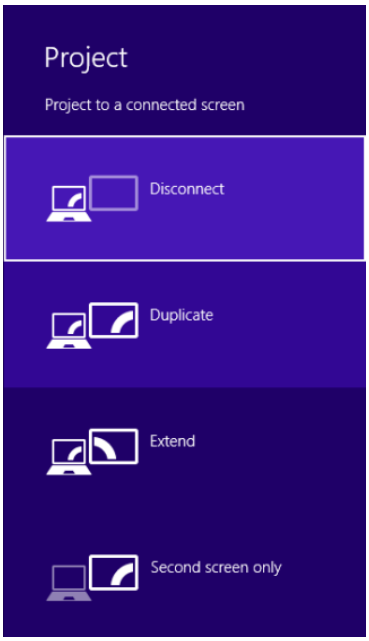
The receiver supports three display modes when connected with a compatible wireless display application.

On Windows, press the **Windows** logo + **P** keys simultaneously (+ **P**) to launch the display options and select a desired display mode from the options.

Windows 10

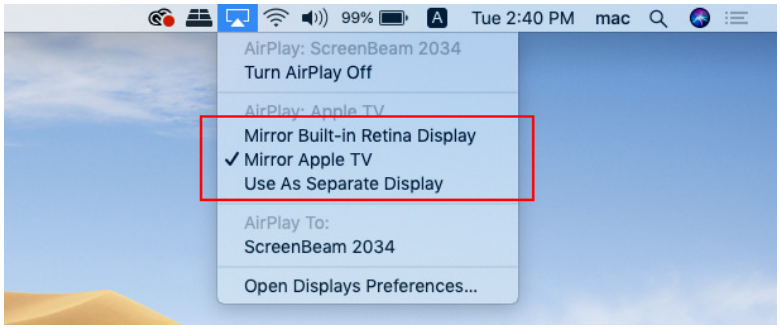


Windows 8.1



Windows 7

On macOS, click the AirPlay icon and select a desired projection mode from **Mirror Built-in Display**, **Mirror Apple TV**, and **Use As Separate Display**.



- **Duplicate (Mirror Built-in Display** or **Mirror Apple TV** on macOS)

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 (Use As Separate Display** on macOS)

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 USB over Network Control

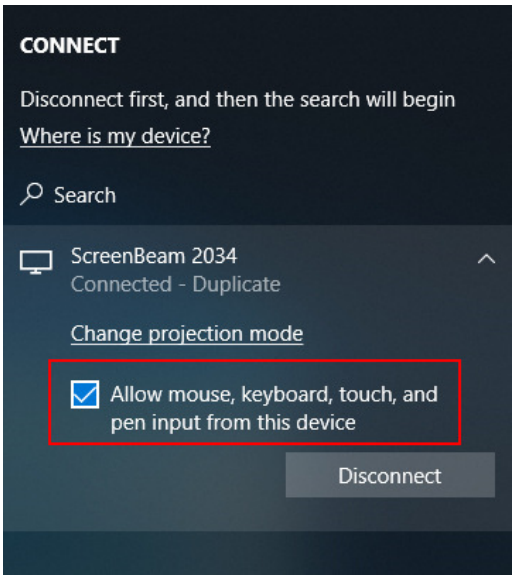
The ScreenBeam 1100 receiver supports User Input Back Channel (UIBC) also known as USB over network control. This feature allows the use of USB HID peripheral devices from the source device to control the client device via ScreenBeam connection.

The USB over network control is available on **Windows 10** devices* only. The minimum CPU requirement for a Windows 10 device to support UIBC is either:

- 4th Generation Intel Core i3 (Haswell or better) processor
- AMD A4-5000 (Kabini or better) processor

To connect a USB keyboard, mouse, or trackpad:

1. Plug the USB HID peripheral into the Receiver's USB port and wait for the device to be detected. This may take 10-15 seconds.
2. Connect your Windows 10 device to the receiver, and remember to check the "*Allow mouse, keyboard, touch, and pen input from this device*" box.



Note: Although the checkbox "*Allow mouse, keyboard, touch, and pen input from this device*" may be available upon the Miracast connection, the UIBC feature will not be supported if the Windows 10 device does not meet the minimum CPU requirement.

3. Use the USB keyboard, mouse, or trackpad to control the source device.

4.3 Using Interactive Touch Display

ScreenBeam 1100 supports wireless inking and touch with Windows 10 Miracast for collaboration using a touchscreen display. Users can project their preferred Windows 10 application and take notes on the touchscreen; the notes appear directly on the client device.

4.3.1 System Requirements

- OS: Windows 10 build version 1709 (or later)
- CPU: 5th Gen Intel Core i-Series 5xxx or AMD equivalent (or better)
- RAM: 4 GB or more

4.3.2 Setup Requirements

- Interactive touch display or projector
- USB Type-A to Type-B/A cable (depending on the touchscreen type)

4.3.3 Supported Features

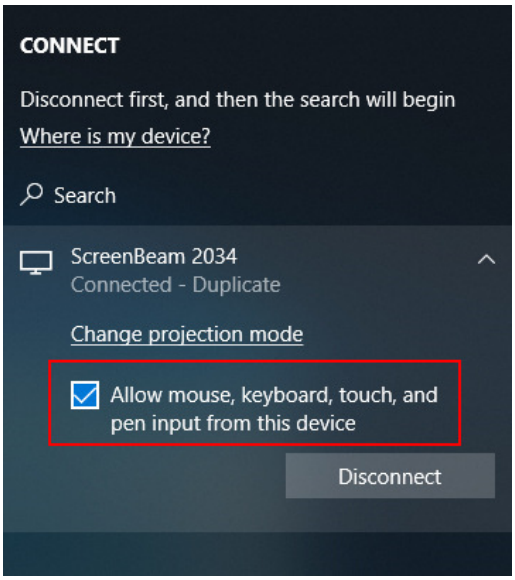
- Support USB HID display, projector, or whiteboard
- Up to 20-point touch
- Up to four simultaneous passive pens
- Up to two simultaneous active pens

Supported features may require compatible touchscreen and/or application. Works best with InGlass™ Technology enabled display. Refer to the online compatibility list at: https://support.screenbeam.com/touch/compatibility

4.3.4 Setup and Instructions

Follow the steps below to set up and use the interactive touch feature:

1. Prepare the touch display and the USB touch cable supplied with the touch display.
2. Connect the USB Type-A end to the ScreenBeam 1100 receiver's USB port.
3. Connect the USB Type-B/A end to the USB Touch input on the display or projector.
   Note: If the display provides more than one touch output, make sure the USB Type-B/A end is connected to the same touch output as the HDMI input.
4. Connect Windows 10 device to ScreenBeam 1100 (see instructions in **Part III Connecting Client Device**).
5. Make sure the "**Allow …**" option is checked.



6. Start using the display by touching the screen. Launch an app and draw using finger or pen.

Part V Device Management for IT Administrator

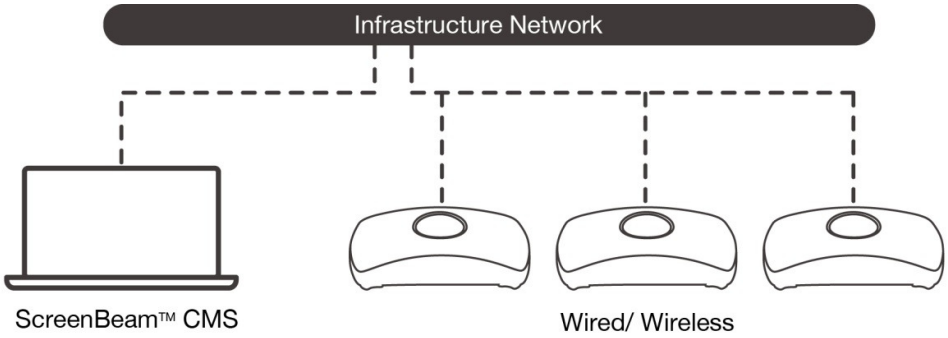
ScreenBeam 1100 can be configured by using the ScreenBeam CMS software or accessing the ScreenBeam's local management interface (LMI).

5.1 Using ScreenBeam CMS Software

ScreenBeam Central Management System (CMS) is a highly recommended complimentary tool for multi-unit deployment, configuration and administration.

1. To obtain CMS software and the CMS User Guide, go to: https://support.screenbeam.com/cms.
2. Refer to the CMS User Guide for setup instructions.

Note: Access to the LMI is prohibited by default if ScreenBeam 1100 is connected to ScreenBeam CMS for management. This option can be changed in the receiver's settings.



5.2 Using Local Management on ScreenBeam

The Local Management Interface can configure and update a single ScreenBeam at a time. There are three methods to access the LMI:

- Method 1: ScreenBeam Local Wi-Fi Network
- Method 2: Network Connection via DHCP
- Method 3: Wireless P2P Direct Connection

Note:

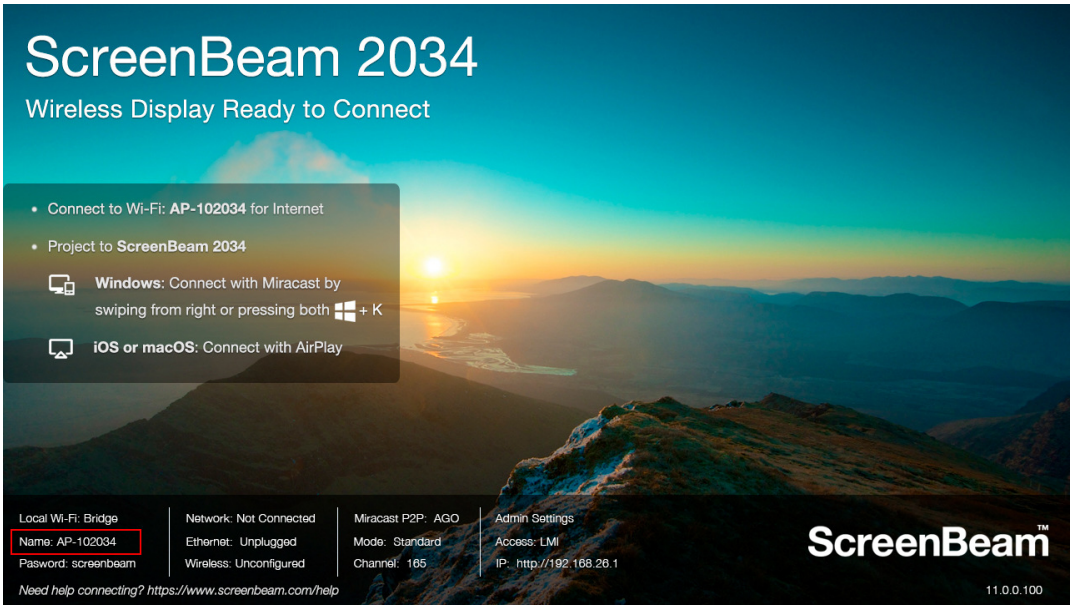
The Local Management Interface is allowed for access in one of the following situations:

- The receiver's **Local Management Interface Access** feature is set to **Auto** and the receiver is not connected to CMS;
- The receiver's **Local Management Interface Access** feature is set to **Enable**.

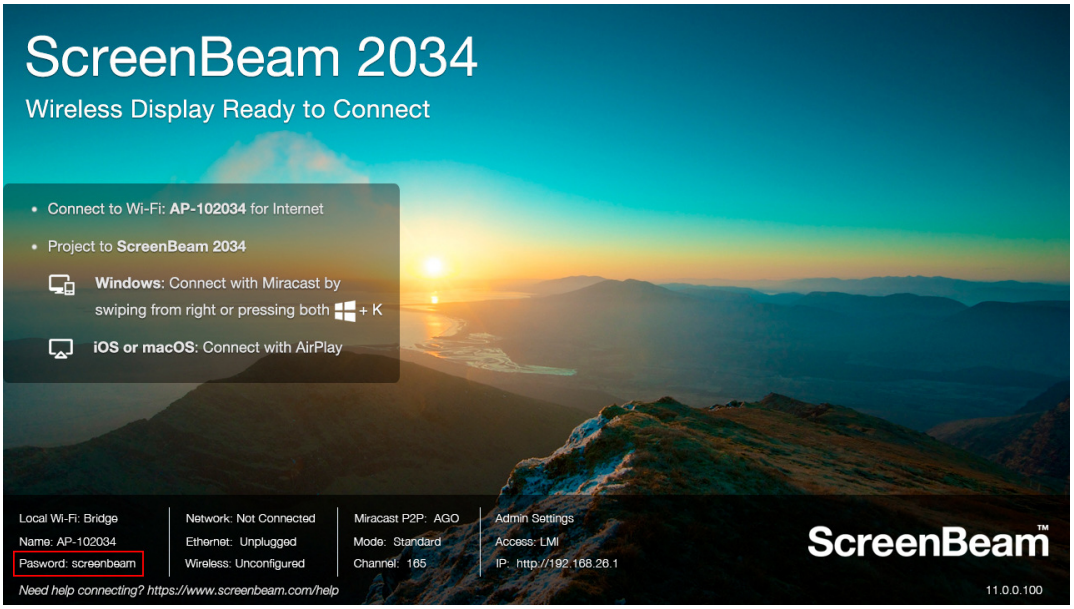
Refer to Section **5.3.8.3 Setting up Local Management Interface Access** for detail about Local Management Interface Access.

5.2.1 Method 1: ScreenBeam Local Wi-Fi Network

1. Connect the client device's Wi-Fi to the wireless network (AP SSID) as shown on the TV display.



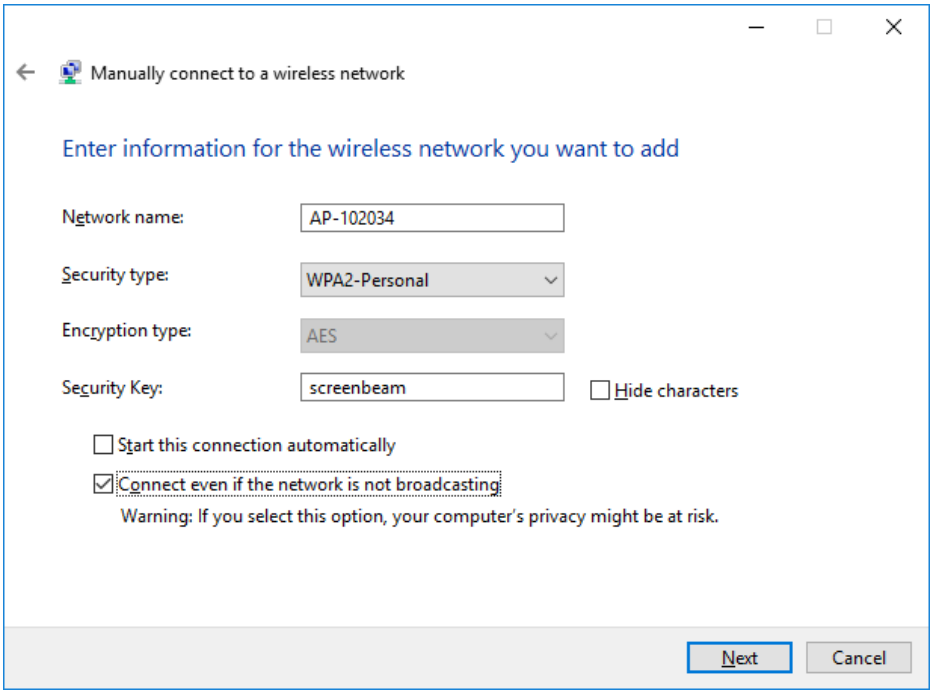
2. Enter the password for the wireless network. By default, the password is **screenbeam** (case-sensitive).



Note: If the network name of the receiver's local Wi-Fi is not broadcasted, you need to

manually connect your device to the Wi-Fi.

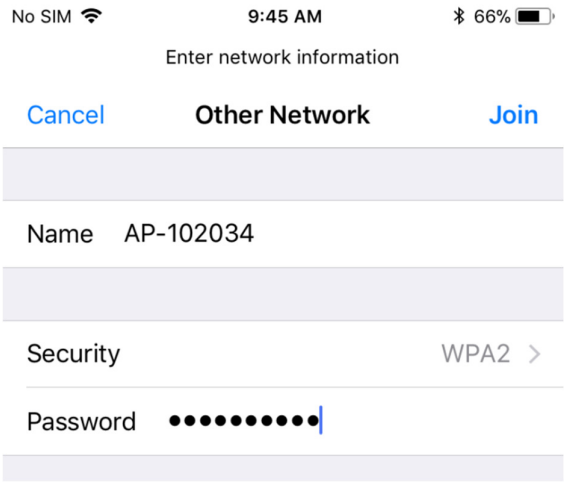
- On **Windows**, go to **Control Panel** > **Network and Internet** > **Network and Sharing Center** > **Set up a new connection or network** > **Manually connect to a wireless network**, and define connection information of the local Wi-Fi.



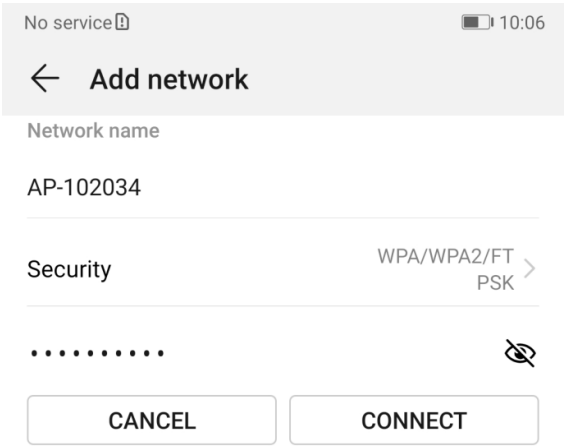
- On **macOS**, go to **Menu bar** > **Wi-Fi icon** and select **Join Other Network …**, and then define connection information of the local Wi-Fi.

- On **iOS**, go to **Settings** > **WLAN** > **Other...**, and then define connection information

of the local Wi-Fi.



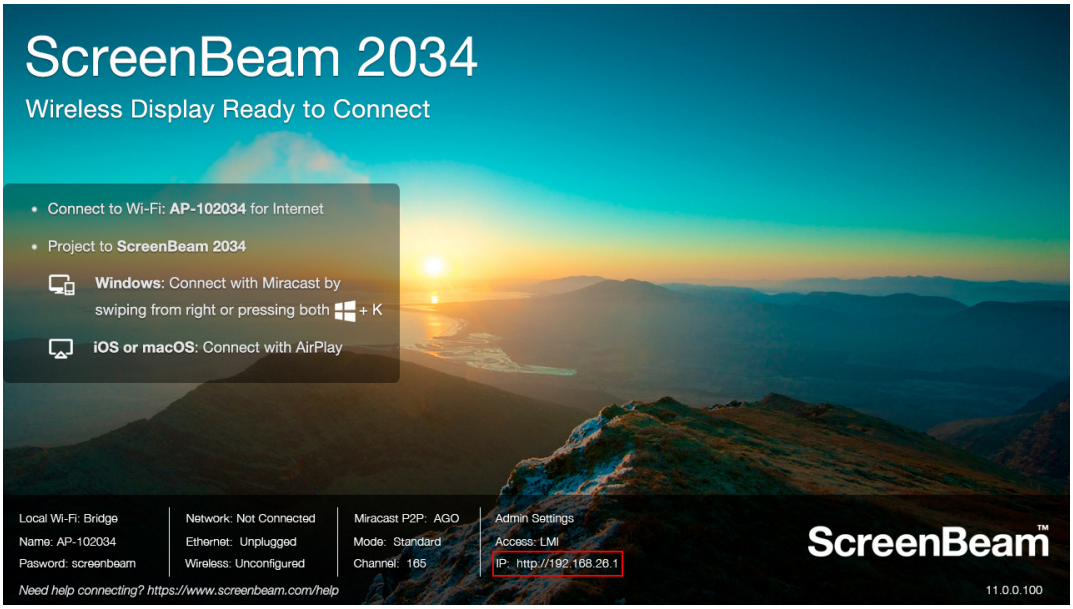
- On **Android**, go to **Settings** > **WLAN** > **Add Network**, and then define connection information of the local Wi-Fi.



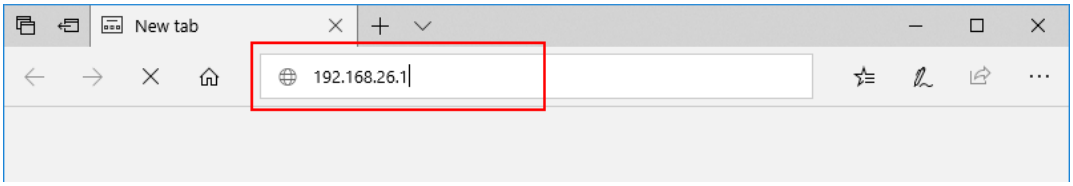
3. The **Ready to Connect** screen on the display will show the assigned IP address of the ScreenBeam.

   Note:

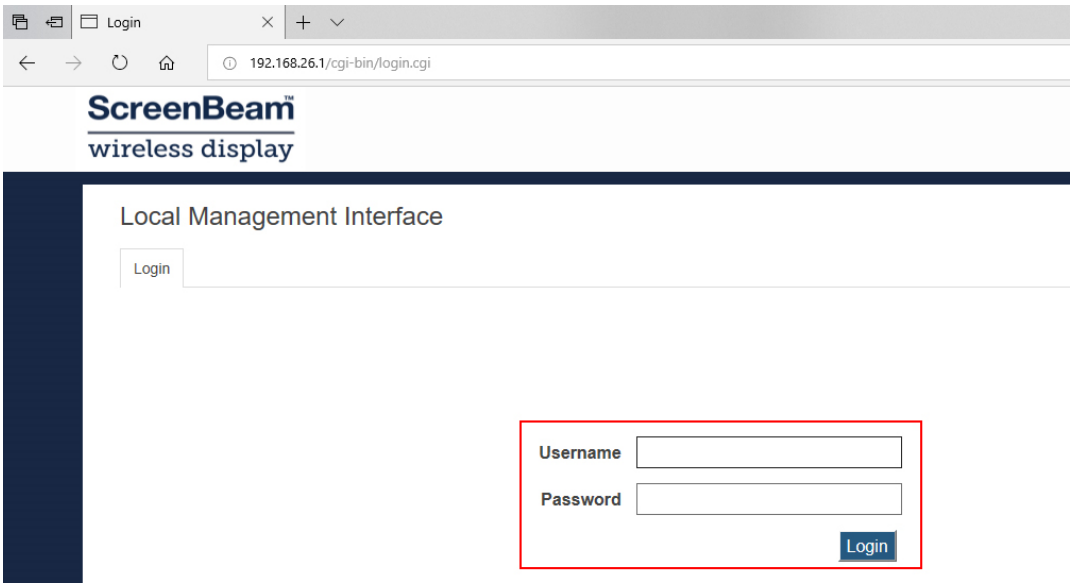
   - If the receiver is not connected to an existing wireless network or LAN, its IP address is **192.168.26.1**.
   - If the receiver is connected a network, the IP address can be identified on the **Ready to Connect** screen.



4. Enter the assigned IP address into the web browser of a PC or Apple device.

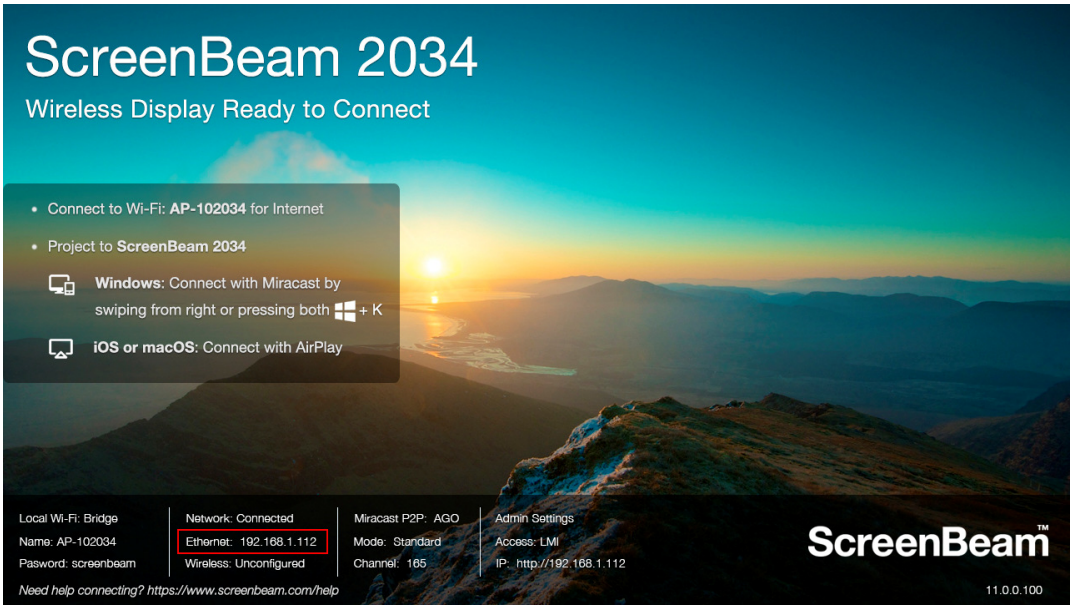


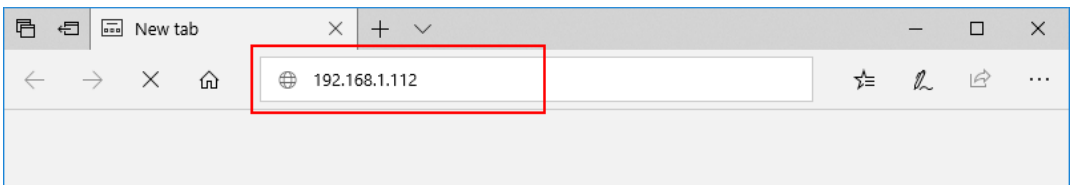
5. The browser may give an error stating “The connection or site is not secure or private.” Manually accept the connection as follows:
   - **Chrome** browser: click **Advanced**, and then click **Proceed**.
   - **Edge/IE** browser: click **Details**, and then **Go on to the webpage (not recommended)**.
   - **Firefox** browser: click **Advanced**, then click **Add Exception**, then click **Confirm Security Exception**.
6. When the ScreenBeam management page appears, enter the Username Administrator and Password Actiontec (both case-sensitive).
   By default, the Username is **Administrator**, and password is **Actiontec**.



5.2.2 Method 2: Network Connection via DHCP

1. Using a shielded RJ-45-terminated Cat5e or better Ethernet cable, connect the ScreenBeam Ethernet port to a DHCP enabled network.
2. The **Ready to Connect** screen on the display will show the assigned IP address of the ScreenBeam. Enter this address into the web browser of a PC or Apple device on the same network as the ScreenBeam.

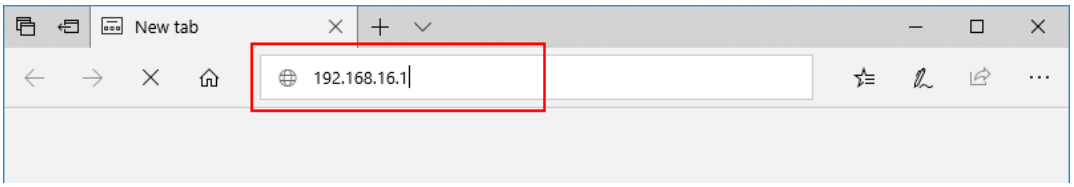




3. Follow the directions from Method 1 from Step 5 on.

5.2.3 Method 3: Wireless P2P Direct Connection

1. Using a Windows 10/8.1 device, connect the device to the ScreenBeam per section **3.3 Connect using Wi-Fi Miracast** above.
2. Once connected, use a web browser and enter **http://192.168.16.1** to access the LMI.



3. Follow the directions from Method 1 from Step 5 on.

5.3 Configuring ScreenBeam

After you have logged into the Local Management Interface, you can configure ScreenBeam 1100 on the Local Management Interface.

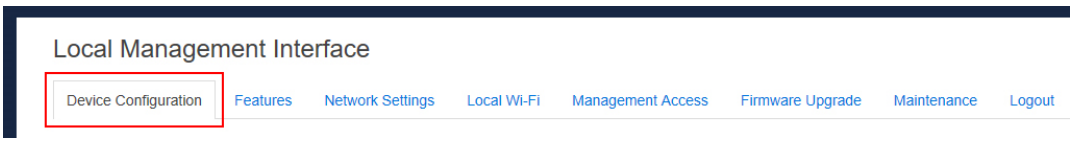
5.3.1 General Settings

This section introduces some general settings for the receiver.

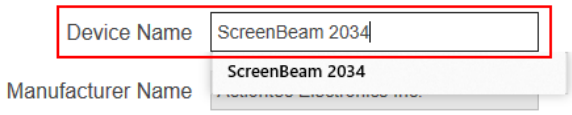
5.3.1.1 Renaming the Receiver

Follow the procedure below to rename your receiver:

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



2. Type a new name in the **Device Name** box.



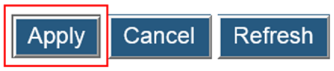
The receiver's **Device Name** supports the characters listed below:

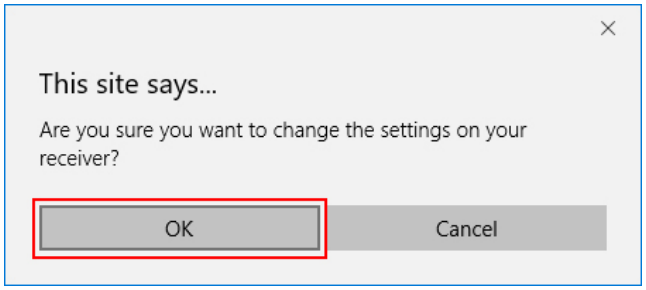
- A-Z
- a-z
- 0-9
- ~!@#$%^&*()_+{}|:?\-=[];',./
- Japanese characters with Unicode in the following range: **\u3040-\u30FF**, **\u31F0-**

\u31FF, and **\u4E00-\u9FBF**.

- Simplified and Traditional Chinese characters

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



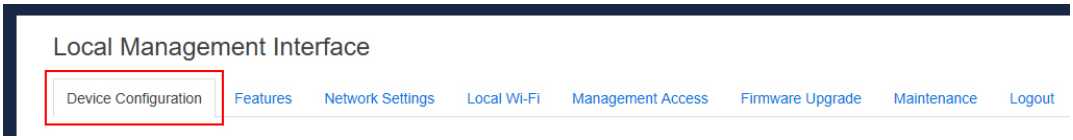


Note: New settings take effect immediately.

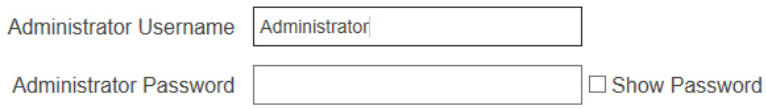
5.3.1.2 Setting up the Login Username and Password

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

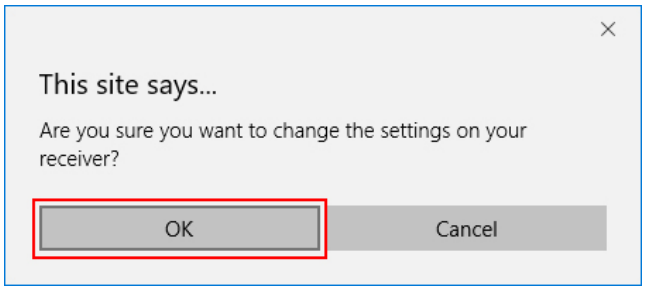
1. Go to the **Device Configuration** tab page by clicking the **Device Configuration** tab.



2. Go to the **Administrator Username** and **Administrator Password** lines, and type new username and password in the **Administrator Username** and **Administrator Password** boxes, respectively.



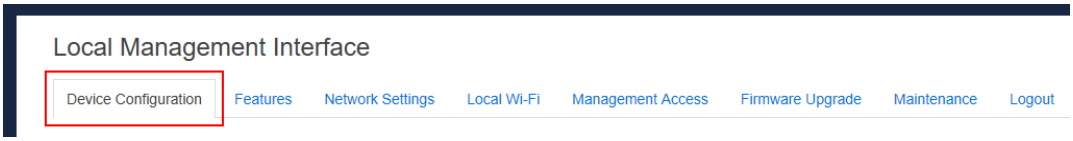
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



5.3.1.3 Setting up the Receiver's Display Language

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

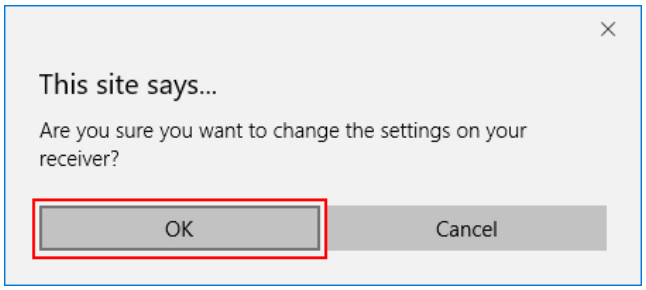
1. Go to the **Device Configuration** tab page by clicking the **Device Configuration** tab.



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, Italian, Japanese, Korean, Russian, and Spanish.

Note: This will change the language displayed on the TV screen, not the one on the configuration webpage.

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

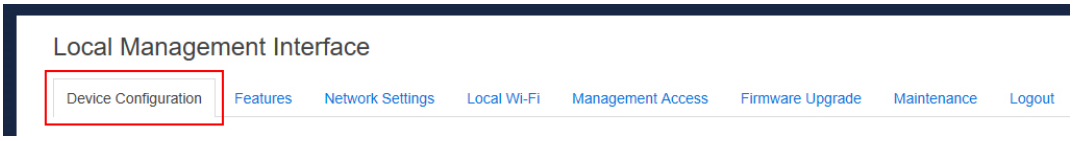


5.3.1.4 Modifying the Receiver's Host Name

The host name is used to identify the receiver in a network.

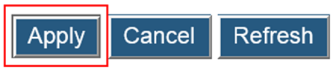
Follow the procedure below to modify your receiver's host name:

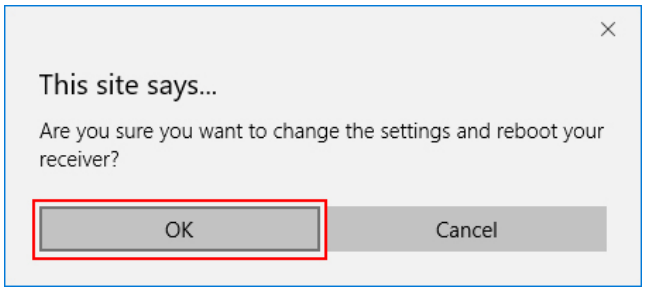
1. Go to the **Device Configuration** tab page by clicking the **Device Configuration** tab.



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.



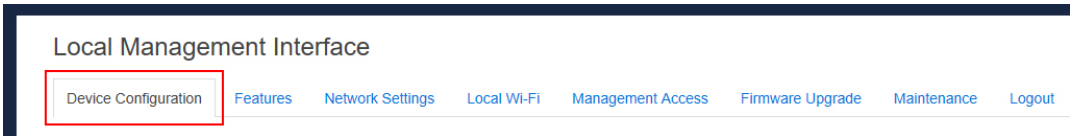


Note: The receiver's new host name takes effect after the reboot.

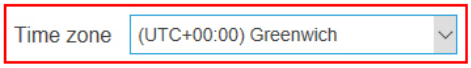
5.3.1.5 Setting up Time Zone

Follow the procedure below to select your time zone:

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

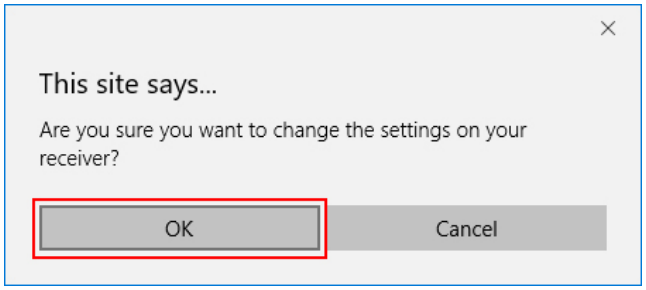


2. Go to the **Time zone** lines, and select your time zone in the drop-down box.



Note: The receiver will synchronize its time with the CMS server it connects to, or with an NTP server.

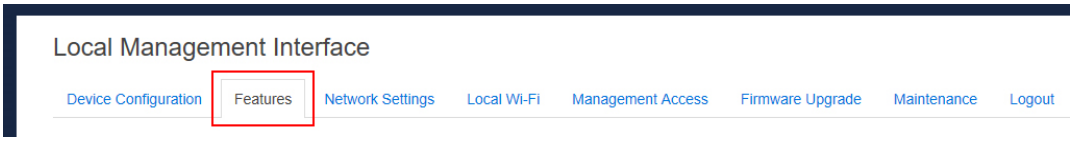
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



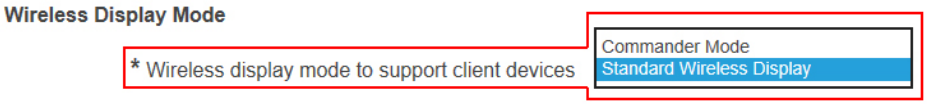
5.3.1.6 Setting up Wireless Display Mode

Follow the procedure below to select a wireless display mode for your receiver:

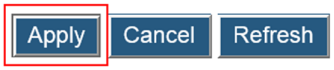
1. Go to the **Features** tab page by clicking the **Features** tab.

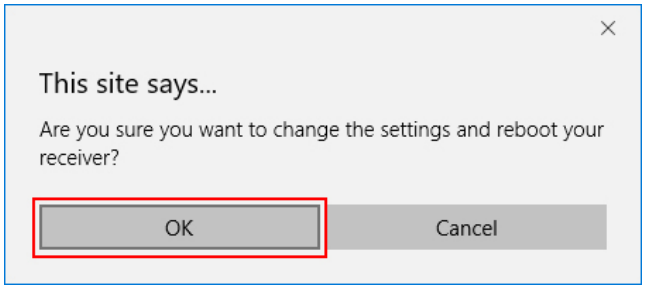


2. Go to the **Wireless Display Mode** section, and set **Wireless display mode to support client devices** to **Commander Mode** or **Standard Wireless Display**.
   - **Commander Mode**: The receiver works with ScreenBeam Classroom Commander software to achieve classroom orchestration. In this mode, the receiver can accept up to 51 client connections. Refer to the Classroom Commander User Guide for details.
   - **Standard Wireless Display**: This is a one by one wireless display mode. By default, this mode is selected. In this mode, the receiver can work with Windows and/or Android devices with Miracast support, and Apple device with AirPlay, without app.



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





5.3.2 Wireless Display over LAN

Wireless Display over LAN allows non-Miracast ready devices to project over the local network connection. ScreenBeam receiver must be connected to the same network with the source device via Ethernet (recommended) or via wireless.

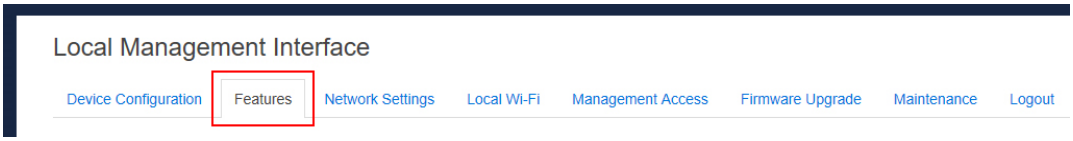
5.3.2.1 Setting up Wireless Display over LAN for Windows 10 Devices

If your Windows 10 device is not Miracast capable, you can still project your screen over LAN, as long as the following requirements are met:

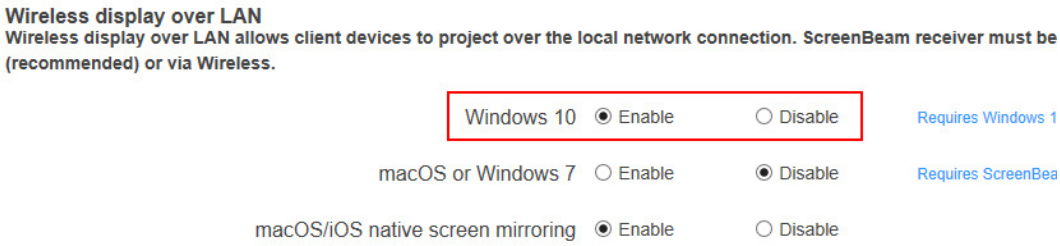
- Operating system: Windows 10, version 1703 or newer
- 100M/1000M Ethernet adapter (optional, but recommended) and WiFi adapter are available
- Stable local area network
- Windows 10 device and ScreenBeam 1100 receiver are connected to the same LAN
- Required ports: TCP 7250, TCP 7236

Follow the procedure below to set up wireless display over LAN for Windows 10 devices:

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

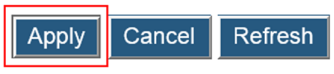


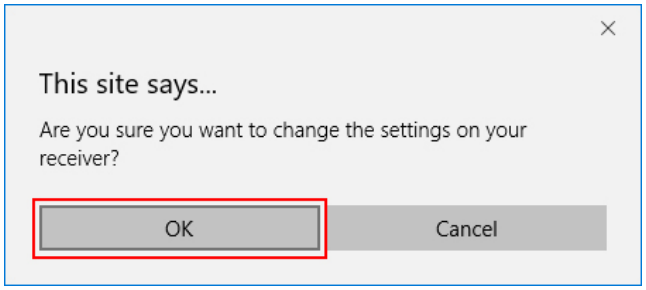
2. Go to the **Wireless display over LAN** section, and set **Windows 10** to **Enable** or **Disable**.



- **Enable**: Windows 10 devices are allowed to project over the local network. By default, this feature is enabled.
- **Disable**: Windows 10 devices are not allowed to project over the local network.

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





5.3.2.2 Setting up Native Screen Mirroring for macOS/iOS Devices

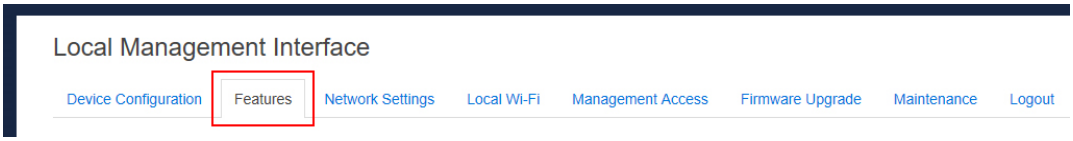
The Wireless Display over LAN feature allows macOS/iOS devices to project over the local network with native screen mirroring.

Make sure the following requirements are met:

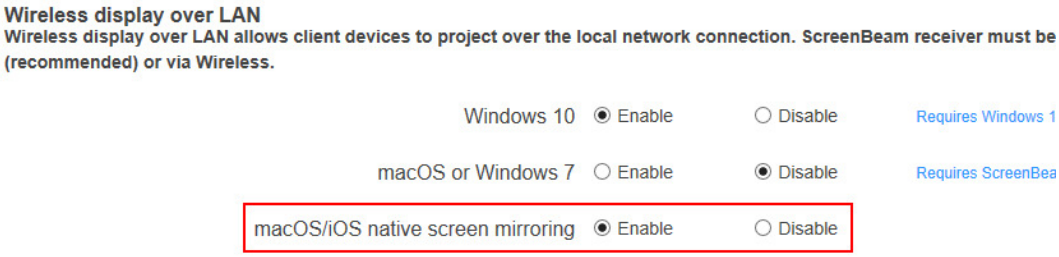
- Operating system: macOS or iOS
- 100M/1000M Ethernet adapter (optional, but recommended) and WiFi adapter are available
- Stable local area network
- MacOS/iOS device and ScreenBeam 1100 receiver are connected to the same LAN
- Required ports: UDP 5353, TCP 47000, TCP 7000, TCP 7100, TCP 18000-18009

Follow the procedure below to set up native screen mirroring for macOS/iOS devices:

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

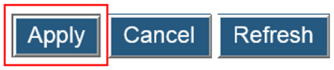


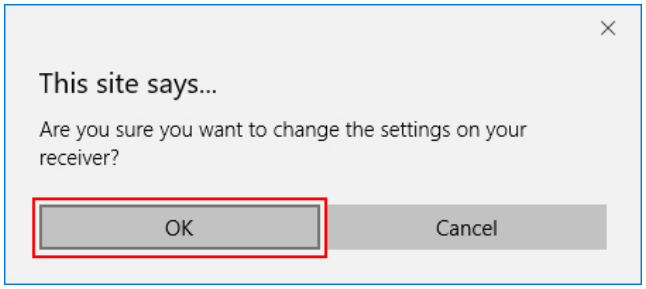
2. Go to the **Wireless display over LAN** section, and set **macOS/iOS native screen mirroring** to **Enable** or **Disable**.



- **Enable**: macOS/iOS devices are allowed to project over the local network with native screen mirroring. By default, this feature is enabled.
- **Disable**: macOS/iOS devices are not allowed to project over the local network with native screen mirroring.

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





5.3.3 P2P Wireless Settings

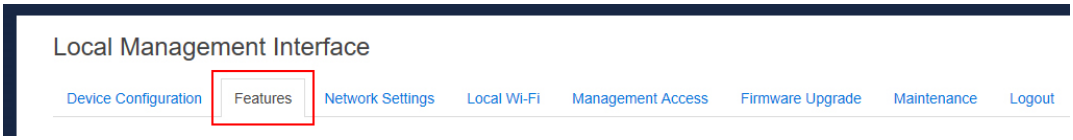
This section introduces the P2P operating channel, and transmit power.

5.3.3.1 Setting up P2P Operating Channel

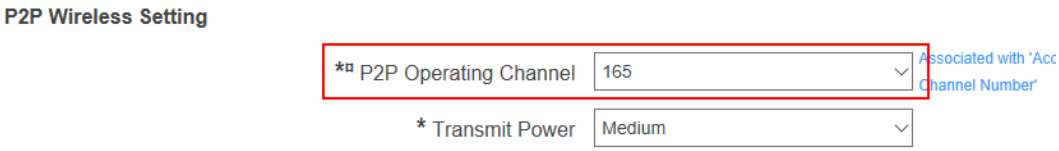
ScreenBeam 1100 allows you to define an operating channel for communication between the wireless display receiver and the source device.

Follow the procedure below to set up the receiver's operating channel:

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



2. Go to the **P2P Wireless Setting** section, and select a desired channel from the **P2P Operating Channel** drop-down box.



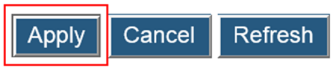
Channels from 1 to 13 belong to the 2.4 GHz band; and channels from 36 to 165 belong to the 5 GHz band. By default, channel 36 is used.

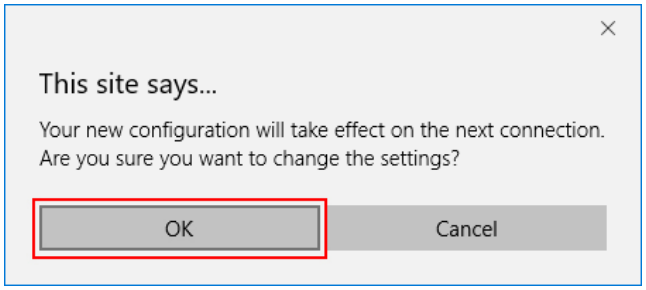
Availability of channels depends on the sales region (country code).

You should select a channel based on your network environment. Generally, cleaner channels (where less devices work) will provide better performance. You can use Wi-Fi Analyzer to help you identify a clean channel.

Note: ScreenBeam receivers do not support Dynamic Frequency Selection (DFS) channels, 50 through 144, because it's prohibited in a direct Wi-Fi usage model. You should disconnect your source device from the DFS-capable router (AP) or connect to a non-DFS AP if the WiFi adapter of your source device cannot work in dual bands.

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



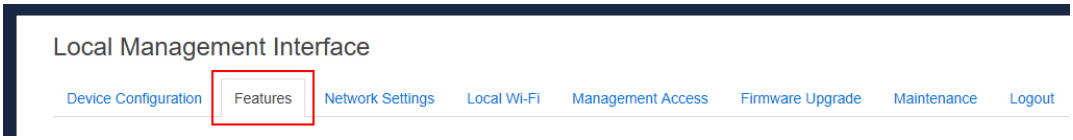


Note: New setting takes effect on the next connection.

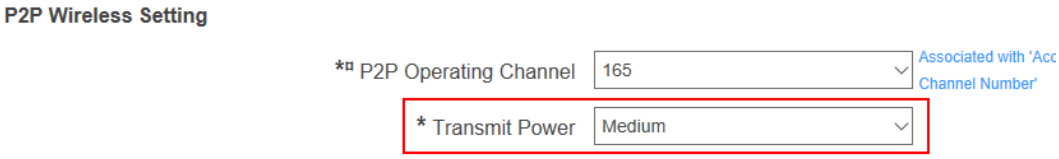
5.3.3.2 Setting up Transmit Power

Follow the procedure below to set up the receiver's transmission power:

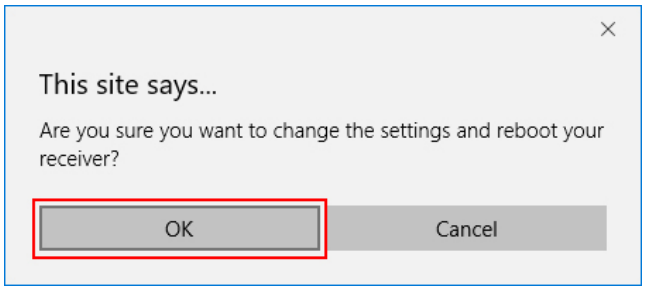
1. Go to the **Features** tab page by clicking the **Features** tab.



2. Go to the **P2P Wireless Setting** section, and select an option from the **Transmit Power** drop-down box.
   Lower transmit power can reduce interference to the nearby devices. Higher transmit power can ensure longer working distance.



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



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

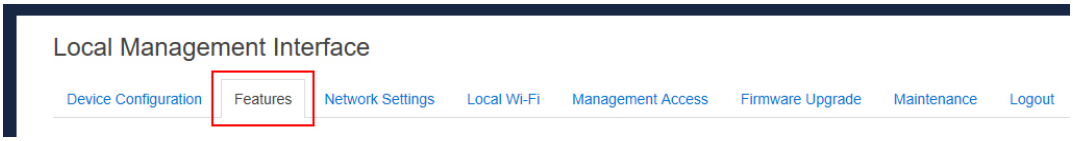
5.3.4 Security Settings

This section introduces the receiver's PIN pairing methods.

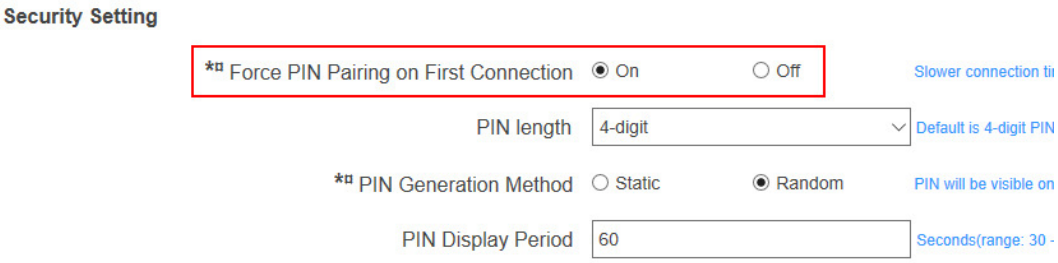
5.3.4.1 Setting up PIN Pairing Method

Follow the procedure below to set up PIN pairing method:

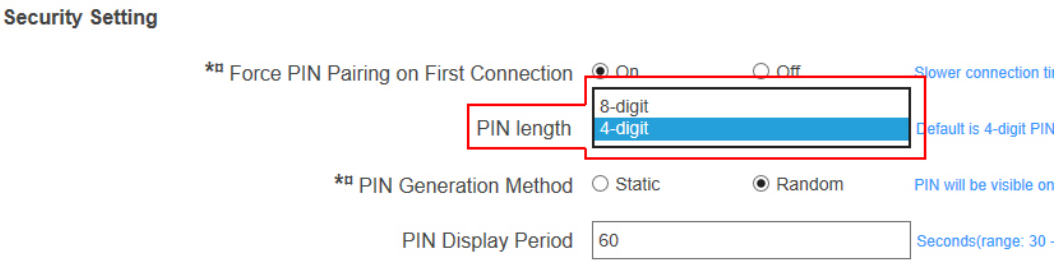
1. Go to the **Features** tab page by clicking the **Features** tab.



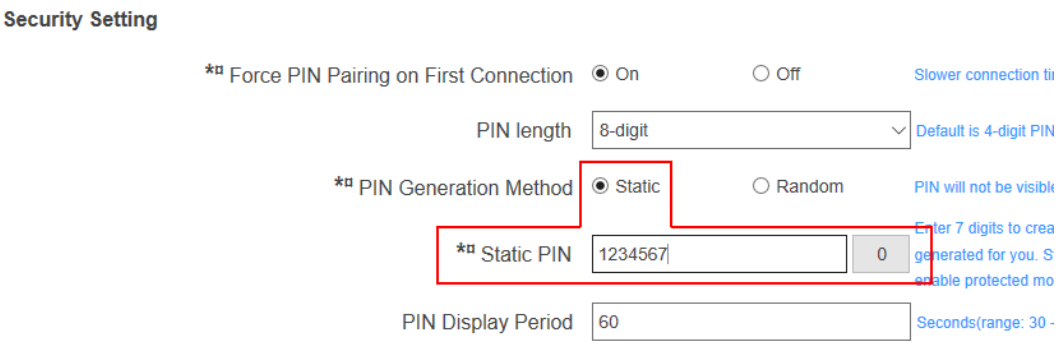
2. Go to the **Security Setting** section, and set the **Force PIN Pairing on First Connection** feature to **On** or **Off**.
   - Select "**Off**" to disable the PIN enforcement function. PIN or PBC pairing is used when connecting your device to the receiver for the first time.
   - Select "**On**" 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 length: 4-digit and 8-digit.
   - **4-digit**: The receiver will generate a 4-digit PIN. By default, the 4-digit PIN is used.
   - **8-digit**: The receiver will generate an 8-digit PIN.

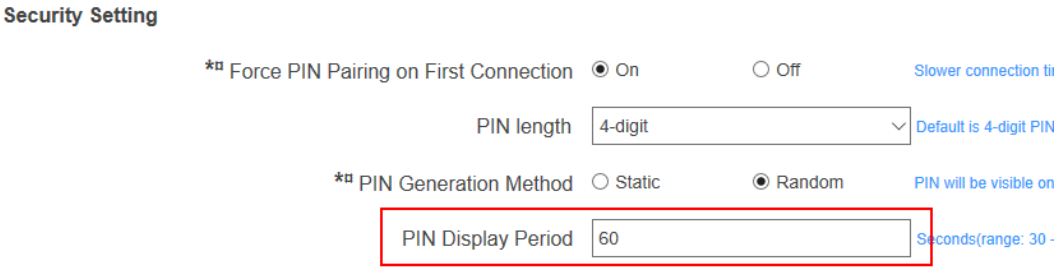


4. Select a PIN generation method.
   When the **Force PIN Pairing** feature is enabled, the system provides two PIN generation methods: **Static** and **Random**.
   - **Static**: When **Static** is selected, users can define a PIN flexibly.
     If **8-digit** is selected for the PIN length, users can define the first seven (7) digits, and then the system generates an 8-digit PIN with that seven digits included. 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.

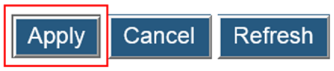


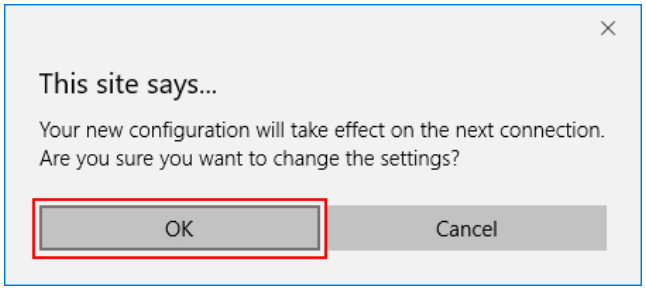
- **Random**: A PIN code is generated randomly by the system and displayed on the connected HDTV/projector.

5. Define the period for showing the PIN on the connected display. The PIN Display Period ranges from 30 to 120 seconds.



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





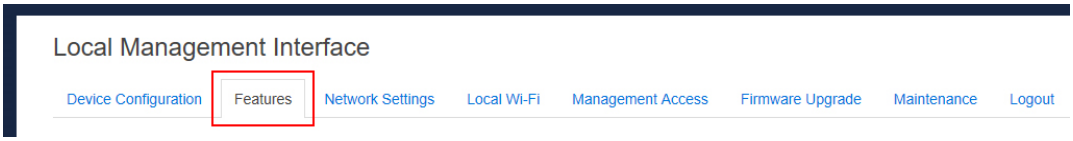
5.3.5 Display Settings

This section introduces display related features.

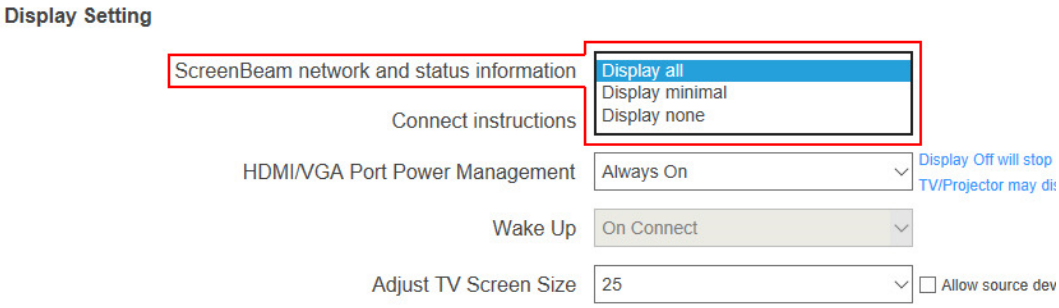
5.3.5.1 Setting up Network Information Display on TV Screen

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

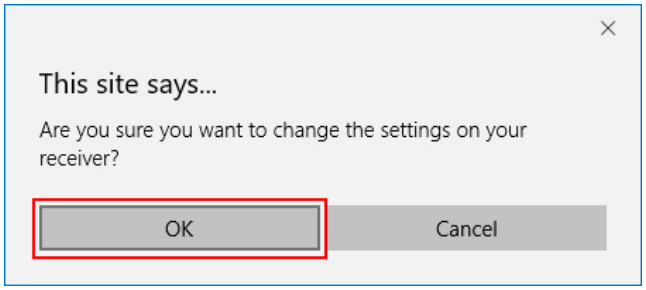
1. Go to the **Features** tab page by clicking the **Features** tab.



2. Go to the **Display Setting** section, and select a desired option from the **ScreenBeam network and status information** menu. Available options are: **Display all**, **Display minimal**, and **Display none**.
   - **Display all**: The receiver displays all network and status information on the connected display.
   - **Display minimal**: The receiver displays local Wi-Fi information on the connected display.
   - **Display none**: The receiver displays none of the network and status information on the connected display.



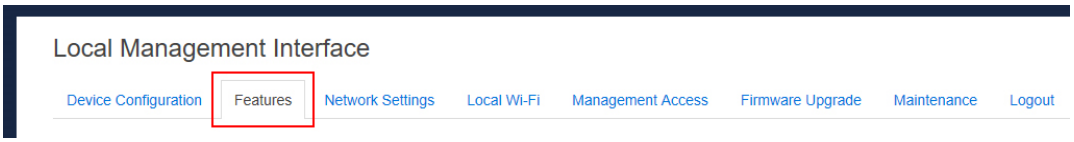
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



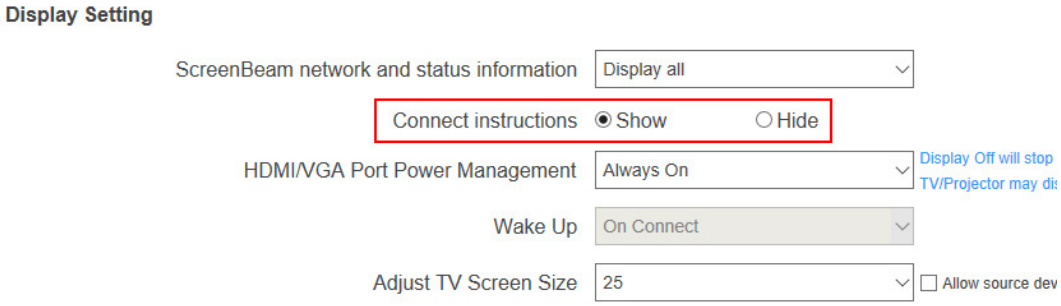
5.3.5.2 Hiding Connection Instrcutions

Follow the procedure below to show or hide the receiver's connection instructions:

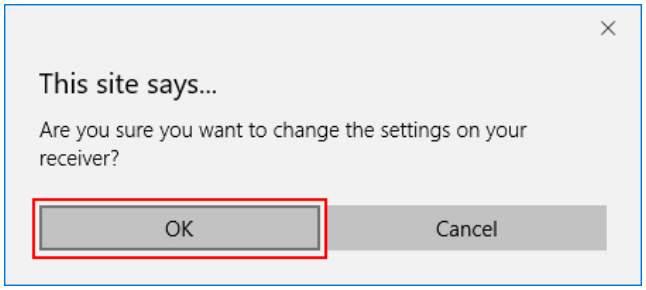
1. Go to the **Features** tab page by clicking the **Features** tab.



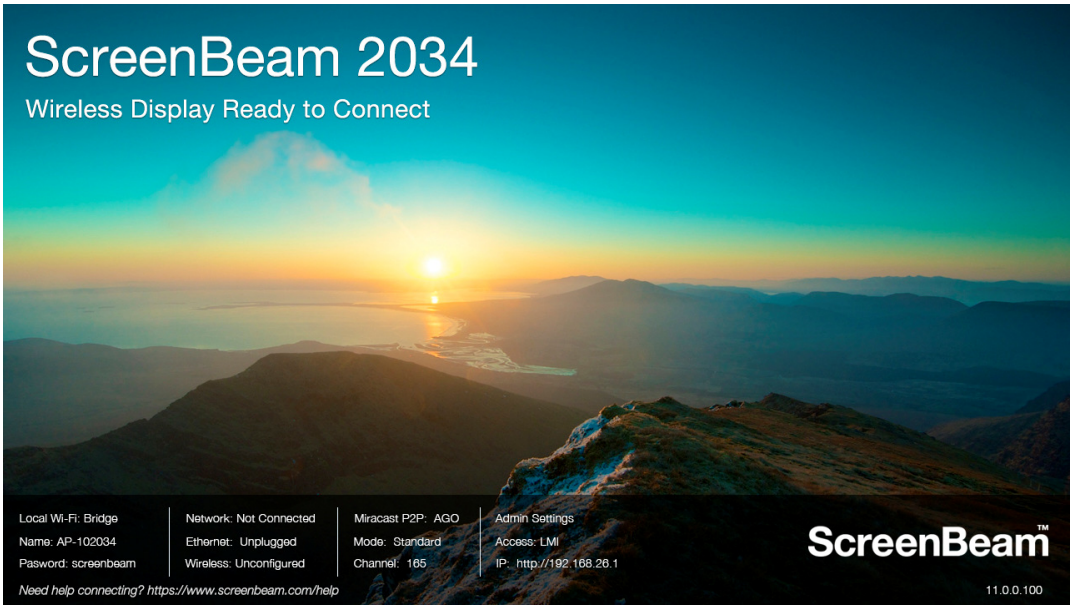
2. Set the **Connect instructions** feature to **Show** or **Hide**.
   - **Show**: Connection instructions are shown on the left side of the connected display.
   - **Hide**: Connection instructions are hidden.



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



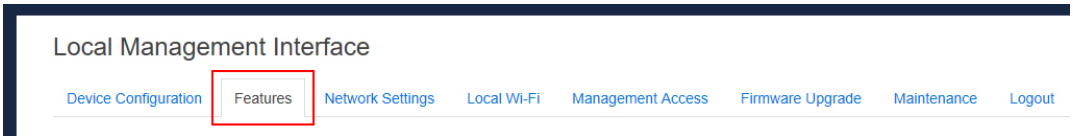
4. The connection instructions are not displayed after this feature is set to **Hide**.



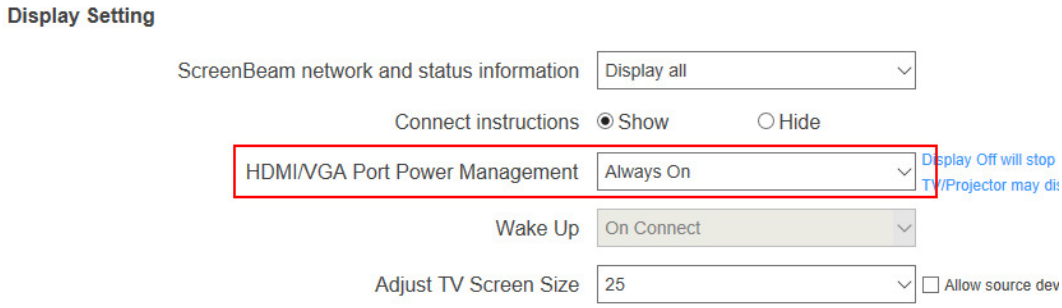
5.3.5.3 Managing HDMI/VGA Port Output

Follow the procedure below to set up HDMI/VGA port output:

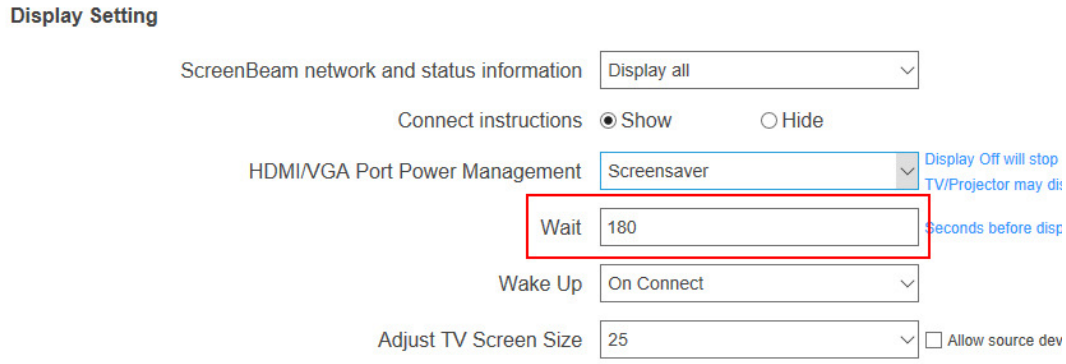
1. Go to the **Features** tab page by clicking the **Features** tab.



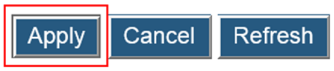
2. Go to the **Display Setting** section, and select a desired option in the **HDMI/VGA Port Power management** drop-down box. Available options are: **Always On**, and **Screensaver**.

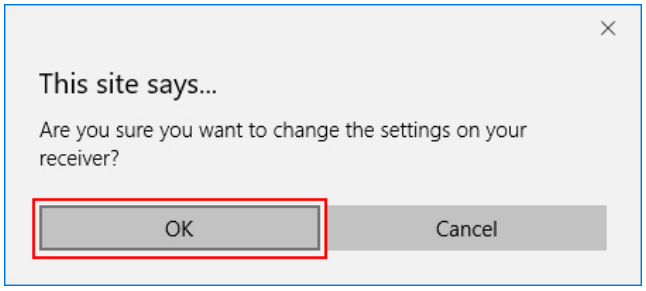


- **Always On**: Selecting this option, the HDMI output is always on.
- **Screensaver**: Selecting this option, the system will run the screen saver after the defined idle time expires. Users can define the idle time (5-9999 seconds) in the **Wait** time box.



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





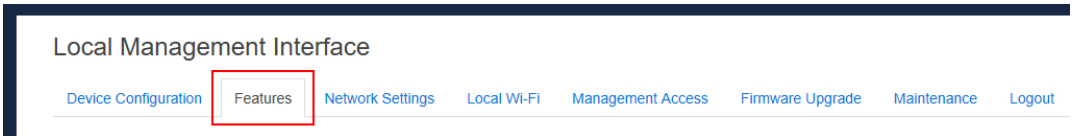
5.3.5.4 Waking up the Receiver

When the receiver runs screen saver, it can be waked up by any one of two events: scanning and connecting.

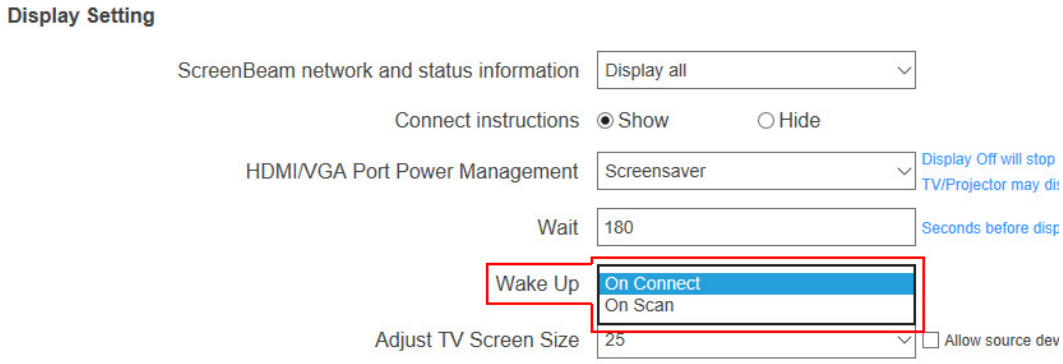
Note: The **Wake Up** feature is available for setup when **HDMI/VGA Port Power management** is set to **Screensaver**.

Follow the procedure below to set up the receiver's wakeup feature:

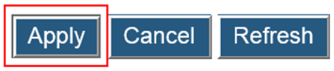
1. Go to the **Features** tab page by clicking the **Features** tab.

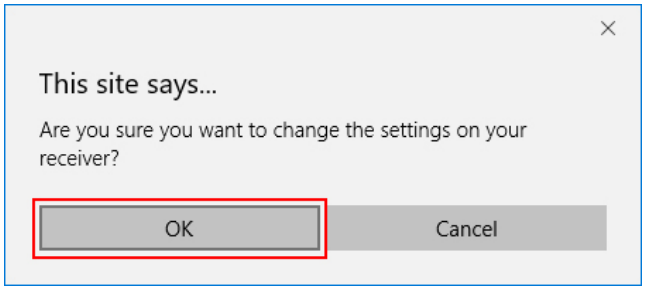


2. Go to the **Display Setting** section, and set the **Wake Up** feature to **On Scan** or **On Connect**.
   - **On Scan**: The receiver will wake up from sleep or screen saver when it detects that a source device is scanning.
   - **On Connect**: The receiver will wake up from sleep or screen saver only when a source device is connecting.



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

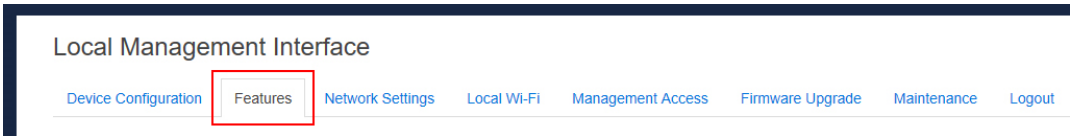




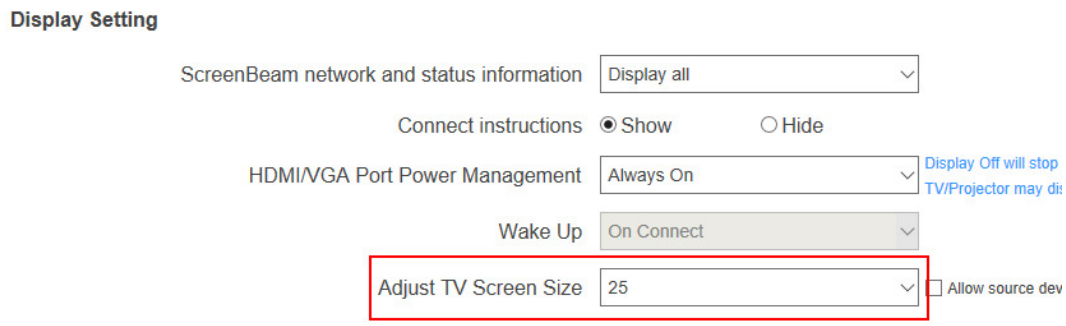
5.3.5.5 Adjusting TV Screen Size

Follow the procedure below to adjust the size of your TV screen:

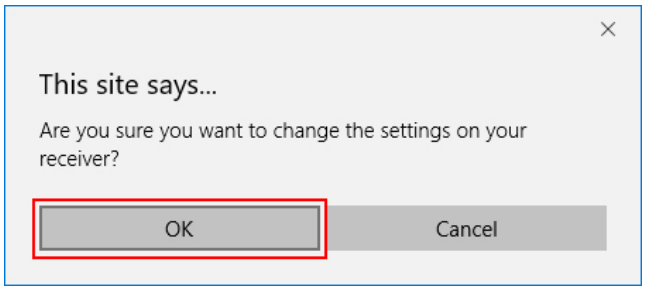
1. Go to the **Features** tab page by clicking the **Features** tab.



2. Go to the **Display Setting** section, and select a desired option in the **Adjust TV Screen Size** 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.



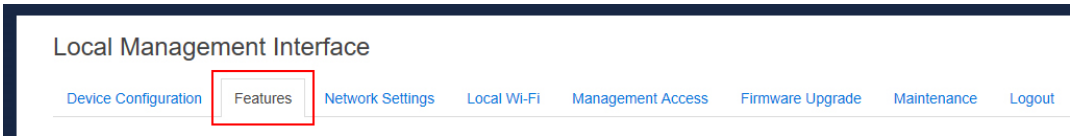
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



5.3.5.6 Updating the Receiver's Background Image

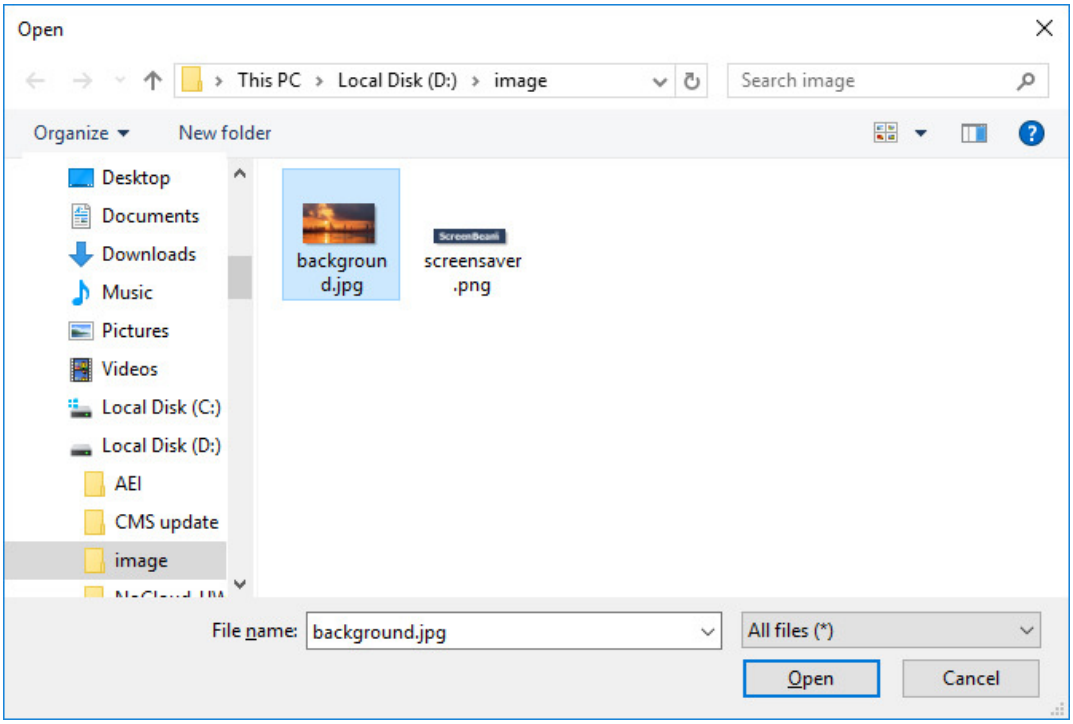
Follow the procedure below to update the receiver's background:

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



2. Go to the **Display Setting** section, 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.

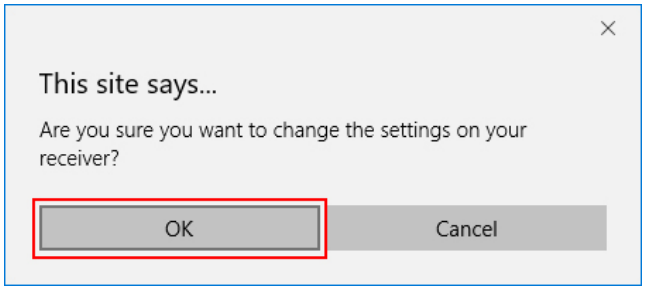


Note:

- 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.

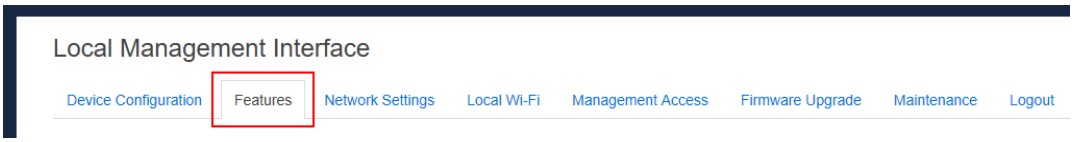


6. After a while, the background image will be updated. You can check it on the connected display.

5.3.5.7 Updating the Receiver's Screen Saver Image

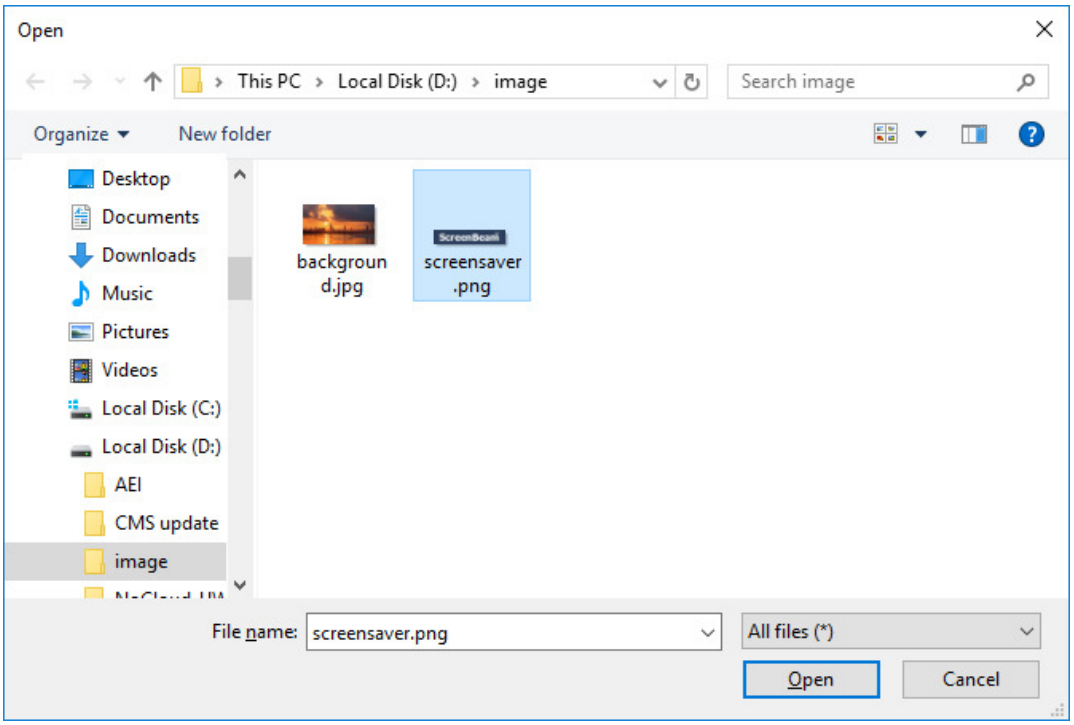
Follow the procedure below to update the receiver's screen saver:

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



2. Go to the **Display Setting** section, and click the **Browse** button next to the **Screen Saver Image** box.

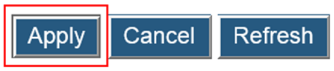
3. The **Choose File to Upload** window appears. Select an image for the screen saver and click the **Open** button to confirm.



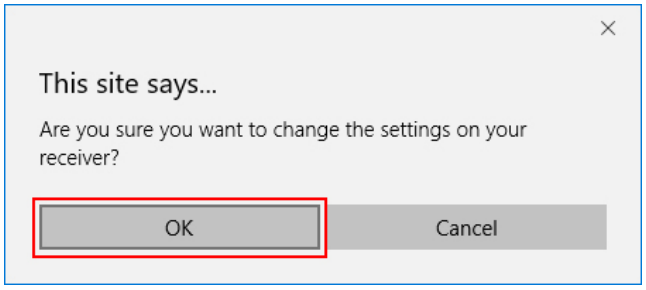
Note:

- 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 screen saver image to the receiver.



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



6. After a while, the screen saver image will be updated. You can check it on the connected display when the screen saver is running.

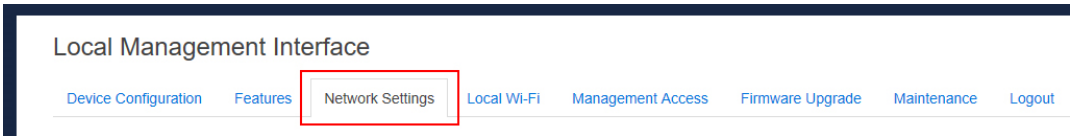
5.3.6 Network Settings

This section introduces settings about network connection, such as CMS interface, Internet bridge interface, TCP/IP settings for Ethernet/Wireless interface, wireless connection, etc.

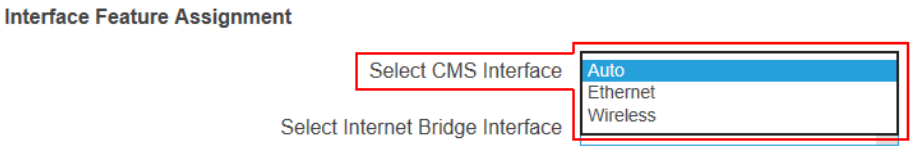
5.3.6.1 Setting up an Interface for CMS Connection

The receiver provides both wired and wireless interfaces for connecting to a network. User can define an interface for connection to CMS with this setting.

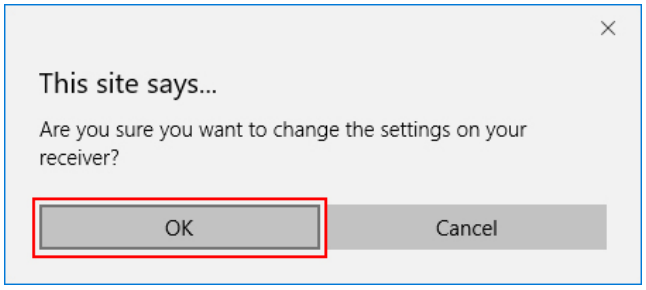
1. Go to the **Network Settings** tab page by clicking the **Network Settings** tab.



2. Go to the **Interface Feature Assignment** section, and select an option from the **Select CMS Interface** box. There are three options available: **Auto**, **Ethernet**, and **Wireless**.
   - **Auto**: The receiver connects to ScreenBeam CMS via Ethernet or wireless interface. If both Ethernet and wireless connections are present, the receiver will prioritize to use the Ethernet connection. By default, this option is selected.
   - **Ethernet**: The receiver connects to ScreenBeam CMS via the Ethernet interface.
   - **Wireless**: The receiver connects to ScreenBeam CMS via the wireless interface.



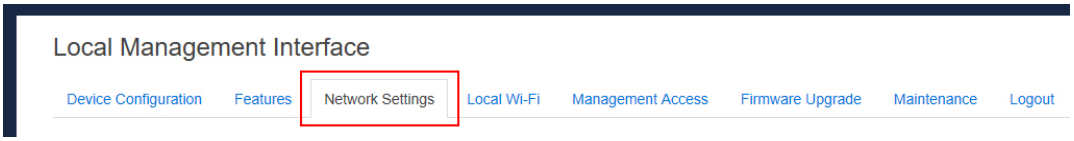
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



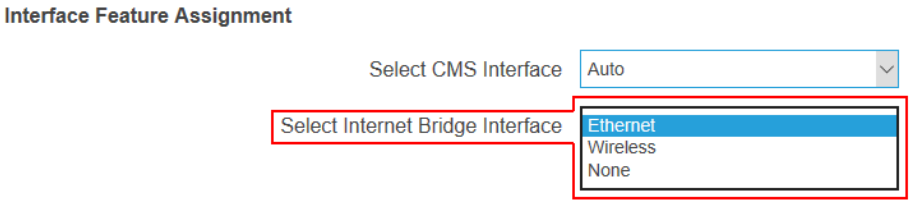
5.3.6.2 Setting up an Interface for Internet Bridge

The receiver can bridge its local Wi-Fi to the receiver's wired or wireless interface for Internet access. User can define an interface for Internet bridge with this setting.

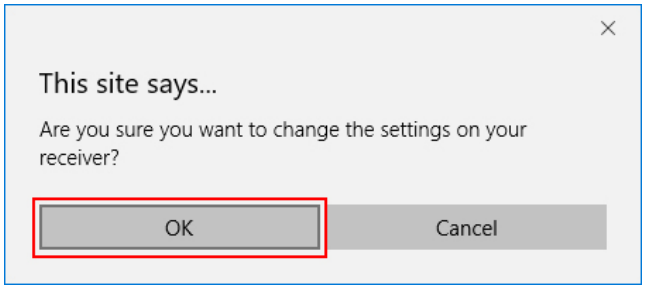
1. Go to the **Network Settings** tab page by clicking the **Network Settings** tab.



2. Go to the **Interface Feature Assignment** section, and select an option from the **Select Internet Bridge Interface** box. There are three options available: **Ethernet**, **Wireless**, and **None**.
   - **Ethernet**: The receiver bridges its local Wi-Fi to the Ethernet interface for Internet access.
   - **Wireless**: The receiver bridges its local Wi-Fi to the wireless interface for Internet access
   - **None**: The receiver does not bridge its local Wi-Fi to the Ethernet or wireless interface. In this case, the device that connects to the receiver local Wi-Fi have no access to the Internet.



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

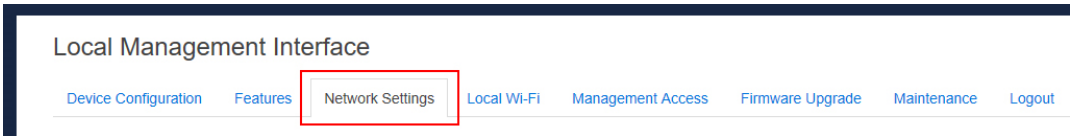


5.3.6.3 Setting up the Receiver's IP Address

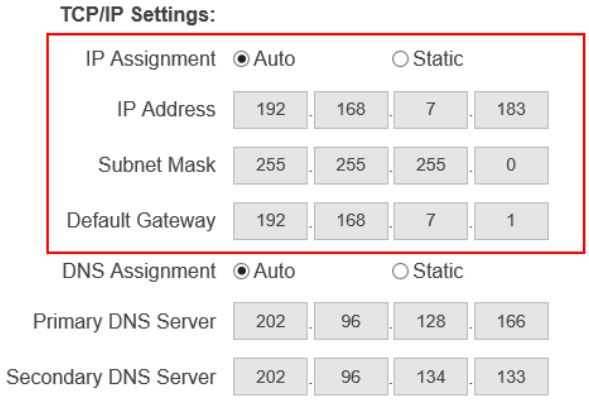
The receiver provides both Ethernet and wireless interfaces for connecting to a network. Separate IP configuration is required for these interfaces. By default, the receiver is set to obtain an IP address automatically. Make sure a DHCP server is available on your network. IP configuration procedures for the Ethernet and the wireless interfaces are the same.

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

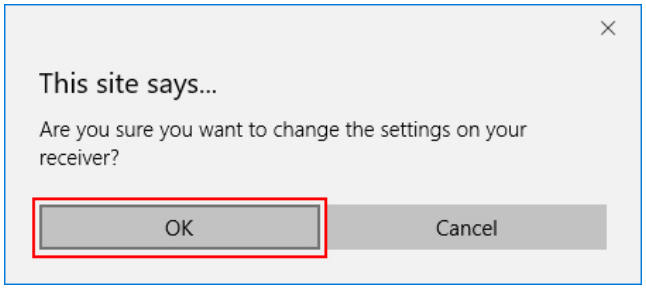
1. Go to the **Remote Management** tab page by clicking the **Remote Management** tab.



2. Go to the **TCP/IP Setting** section, and set **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.

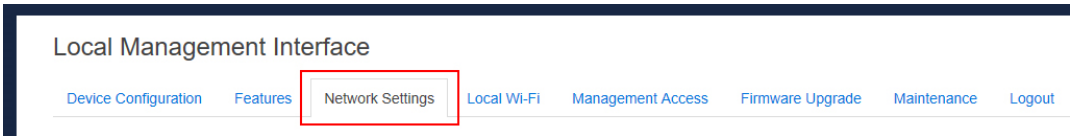


5.3.6.4 Specifying a DNS Server for the Receiver

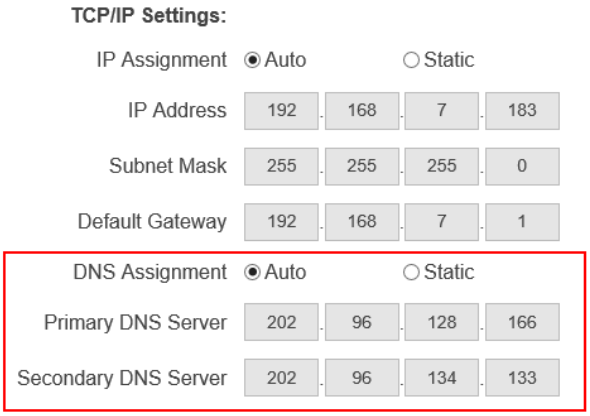
The receiver provides both Ethernet and wireless interfaces for connecting to a network. Separate DNS configuration is required for these interfaces. By default, the receiver is set to obtain DNS configuration automatically.
DNS configuration procedures for the Ethernet and the wireless interfaces are the same.

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

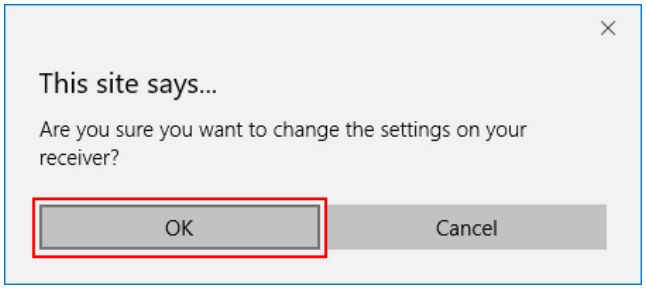
1. Go to the **Remote Management** tab page by clicking the **Remote Management** tab.



2. Go to the **TCP/IP Setting** section, and set **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.

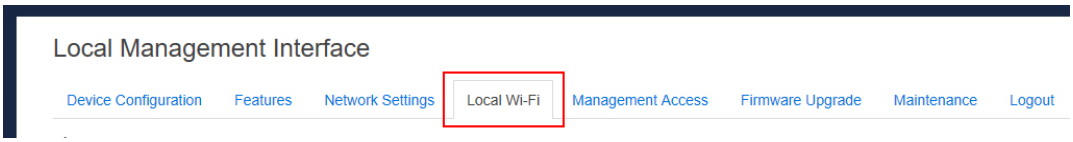


3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

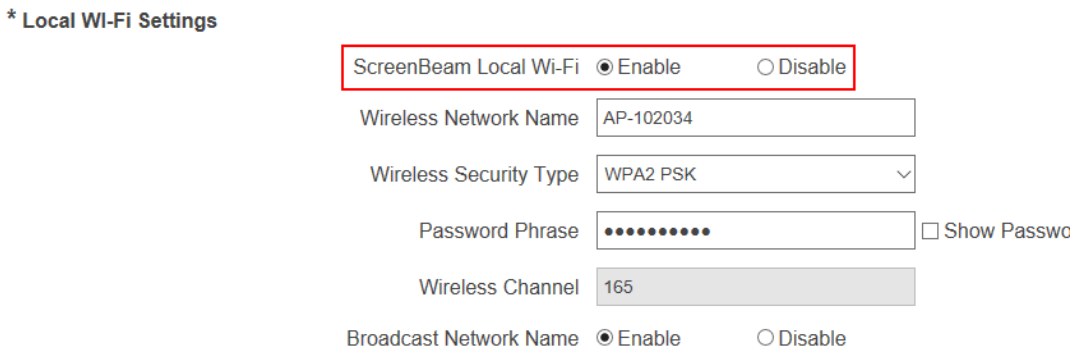


5.3.7 Local Wi-Fi Settings

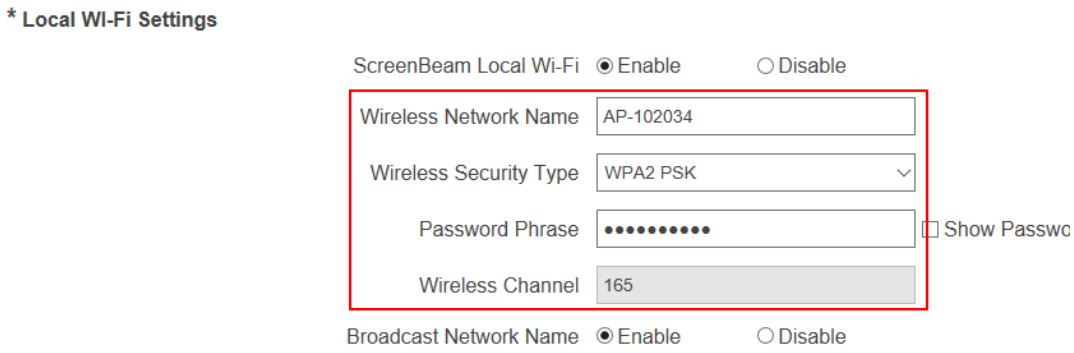
1. Go to the **Local Wi-Fi** tab page by clicking the **Local Wi-Fi** tab.



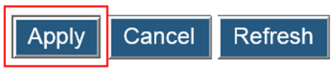
2. Go to the **Local Wi-Fi Settings** section, and set **ScreenBeam Local Wi-Fi** to **Enable** or **Disable**.
   - **Enable**: The receiver's local Wi-Fi is turned on.
   - **Disable**: The receiver's local Wi-Fi is turned off.

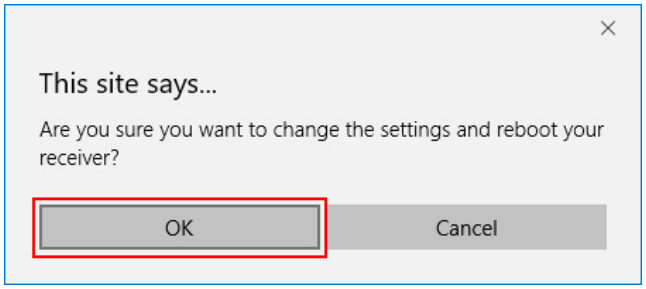


3. When the receiver's local Wi-Fi feature is enabled, configure the Wireless Network Name, Wireless Security Type, Password Phrase, and Wireless Channel.
   - **Wireless Network Name**: It is the network name of the receiver's local Wi-Fi. You can scan and find this name on a Wi-Fi (5 GHz) enabled device if the network name broadcast is also enabled.
   - **Wireless Security Type**: It is the security verification method for connection to the Wi-Fi.
   - **Password Phrase**: It is the password for connecting to the Wi-Fi. The default password is **screenbeam**.
   - **Wireless Channel**: It is the wireless channel used for the Wi-Fi connection. This channel is associated with the P2P operating channel. Refer to Section **5.3.3.1 Setting up P2P Operating Channel** for detail.



4. When the receiver's local Wi-Fi feature is enabled, you can set enable or disable the local Wi-Fi's network name broadcast.
   - **Enable**: The local Wi-Fi's is broadcasted.
   - **Disable**: The local Wi-Fi's is not broadcasted. In this case, you need to connect your device to the receiver's local Wi-Fi manually. Refer to Section **5.2.1 Method 1: ScreenBeam Local Wi-Fi Network** for detail.
5. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.





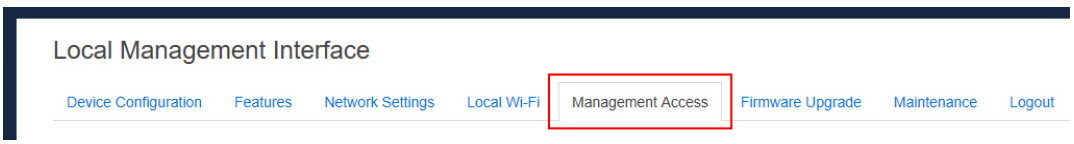
5.3.8 Receiver Management Access Settings

This section introduce settings for receiver management.

5.3.8.1 Specifying ScreenBeam CMS for the Receiver

Follow the procedure below to specify a CMS for the receiver:

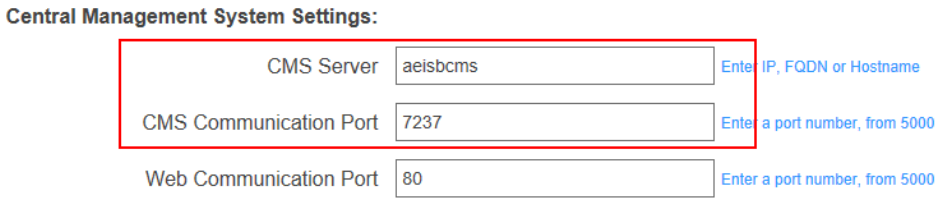
1. Go to the **Management Access** tab page by clicking the **Management Access** tab.



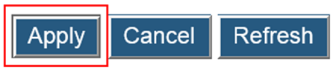
2. Go to the **Central Management System Settings** section, and define the **CMS Server**

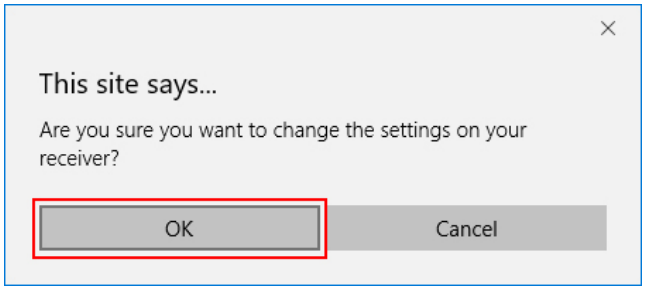
and the **CMS Communication Port**.

- **CMS Server**: 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 Communication Port**: It is the communication port of the ScreenBeam CMS. The port range is from 5000 to 65535. By default, 7237 is used.



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

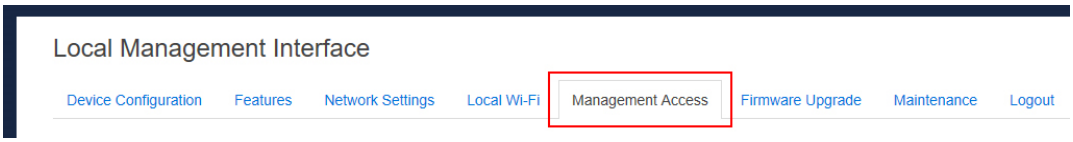




5.3.8.2 Specifying a Port for the Receiver's LMI

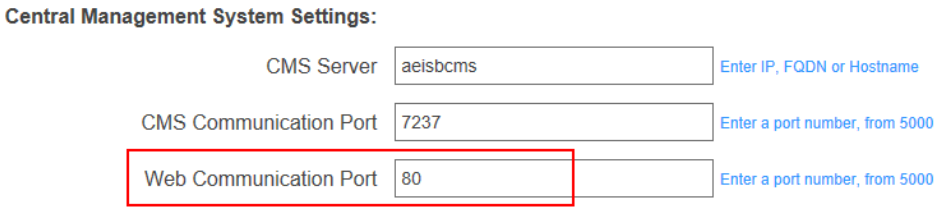
Follow the procedure below to specify a communication port for the receiver's local management interface:

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

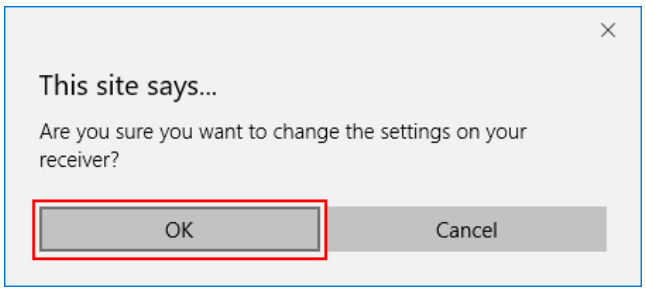


2. Go to the **Central Management System Settings** section, and define a port for **Web Communication Port**.

- **Web Communication Port**: It is the communication port for the receiver's Local Management Interface. The port range is from 5000 to 65535. By default, 80 is used.



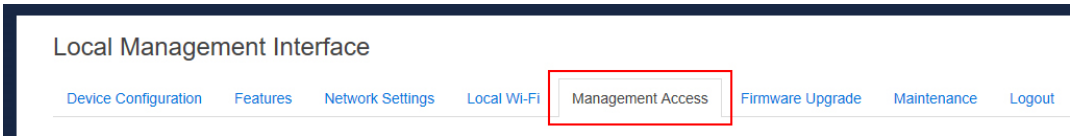
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



5.3.8.3 Setting up Local Management Interface Access

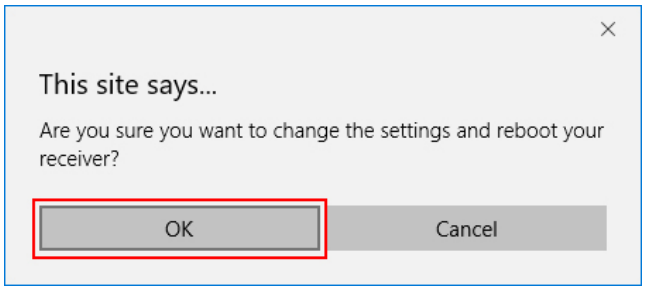
The receiver's Local Management Interface (LMI) is used to manage the receiver locally. Follow the procedure below to set up the receiver's LMI access:

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



2. Go to the **Local Management Interface Access Settings** section, and select an option from the **Local Management Interface Access** box. There are three options available: **Auto**, **Enable**, and **Disable**.
   - **Auto**: The accessibility to the receiver's LMI depends on the availability of the CMS connection. When the receiver is connected to CMS, access to the receiver's LMI is disabled automatically; otherwise, access is enabled.
   - **Enable**: Access to the receiver's LMI is enabled no matter the receiver is connected to CMS or not.
   - **Disable**: Access to the receiver's LMI is not allowed.

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



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

Part VI Updating Firmware for the Receiver

ScreenBeam 1100 allows updating its firmware wirelessly through the LMI or locally through a USB flash drive.

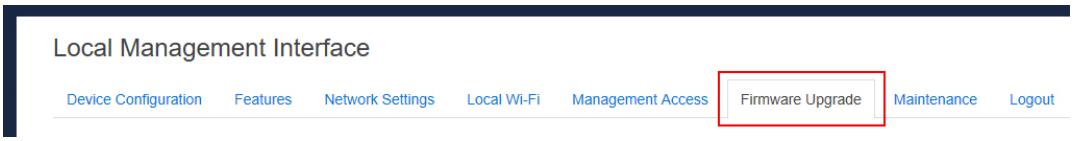
6.1 Firmware Update via LMI

There are two ways to update the receiver's firmware via LMI: from a local PC or from web server.

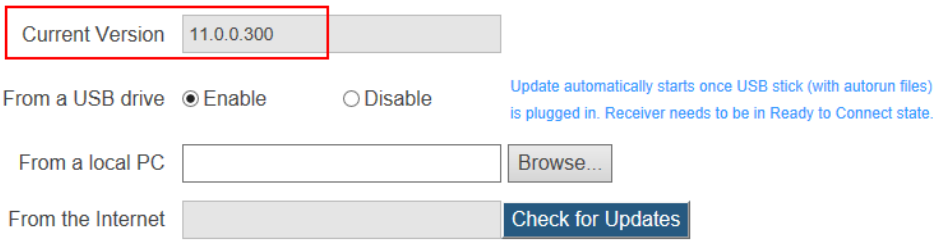
6.1.1 Updating Firmware from a Local PC

Users can wirelessly update the receiver's firmware by transferring the firmware update file from a local PC. Follow the procedure below to upgrade your receiver:

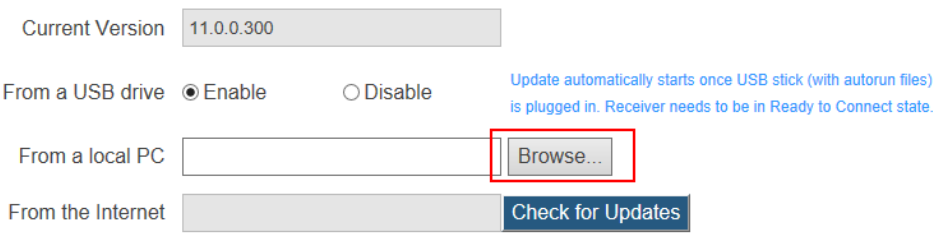
1. Download the latest firmware from Actiontec's website: http://screenbeam.zendesk.com/.
2. Log into ScreenBeam 1100's Local Management Interface, and go to the **Firmware Upgrade** tab page by clicking the **Firmware Upgrade** tab.



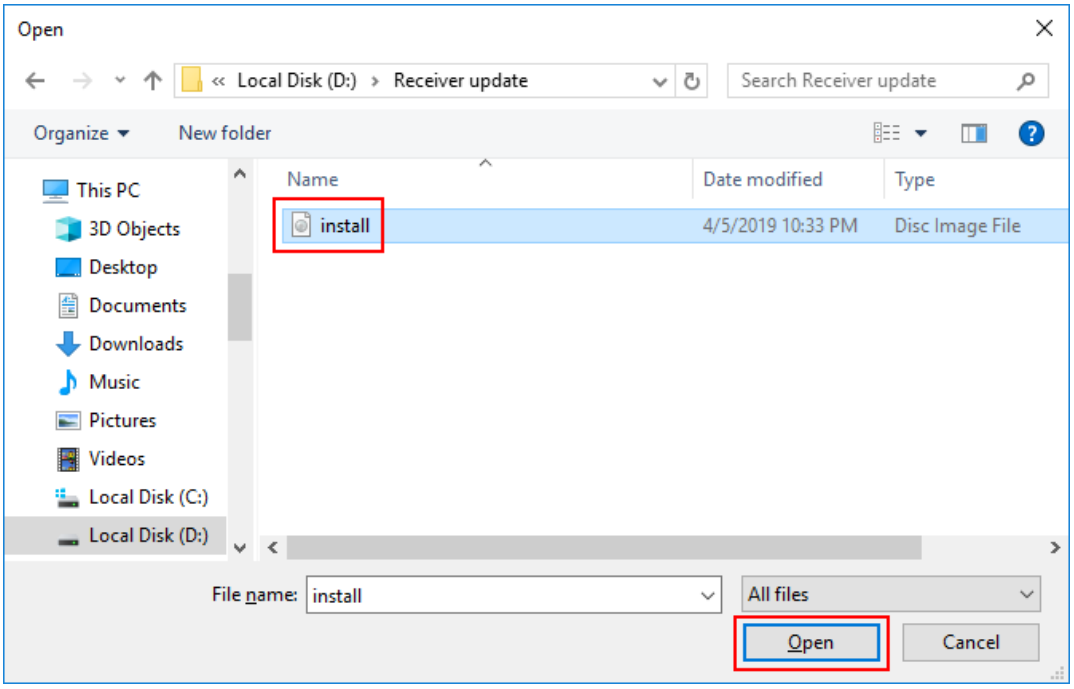
On the **Firmware Upgrade** tab page, you can check the current firmware version in the **Firmware Version** section.



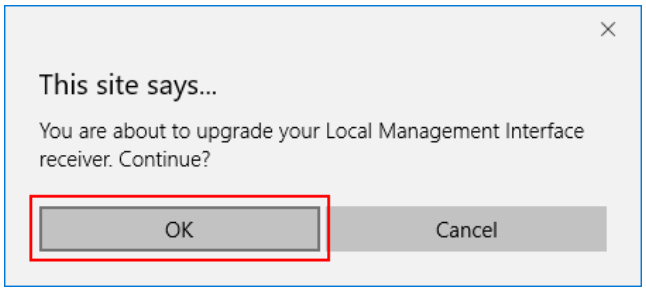
3. Select the **Browse** button next to the **From a local PC** box.



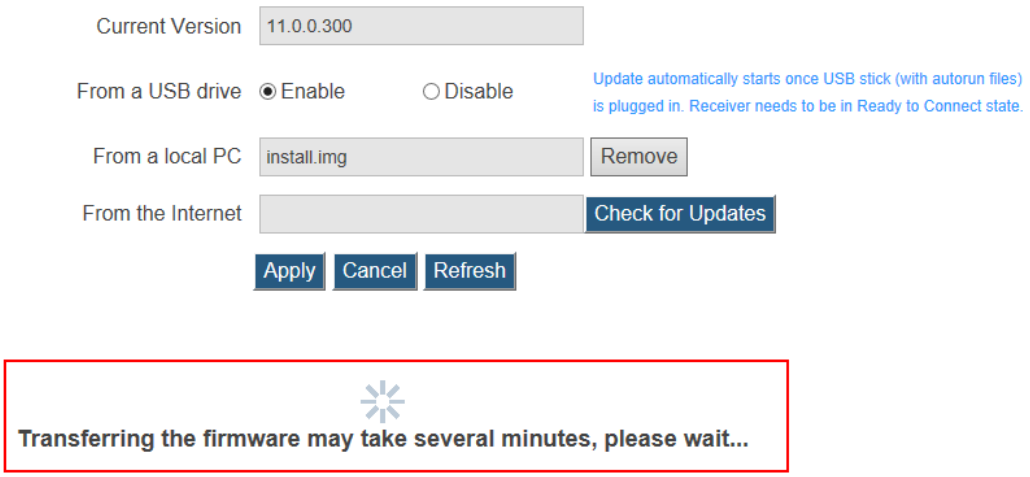
4. The Open window appears. Navigate to the extracted firmware file folder. Select the firmware file ("**install.img**") and click the "**Open**" button to continue.



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.



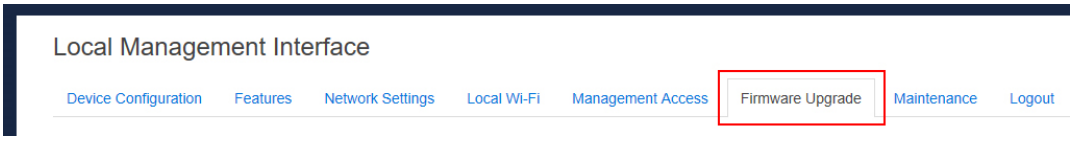
7. The receiver reboots and upgrades itself after the file is uploaded successfully. Firmware upgrade status is displayed on the connected display.
8. When the receiver returns to the **Wireless Display Ready to Connect** Screen, your receiver has been upgraded.

Warning! Do NOT power off your receiver during the upgrade process. The upgrade will take some time. Please be patient.

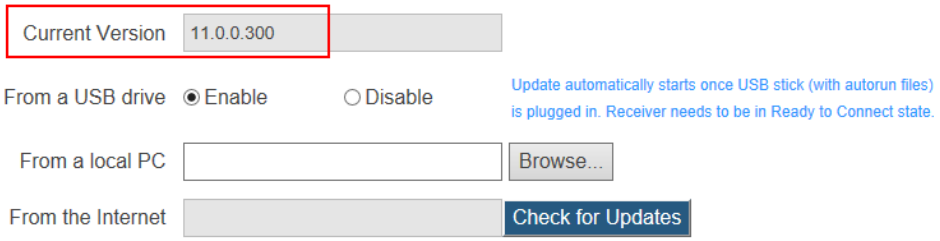
6.1.2 Updating Firmware from the Internet

Users can wirelessly update the receiver's firmware with the online update server. Follow the procedure below to upgrade your receiver:

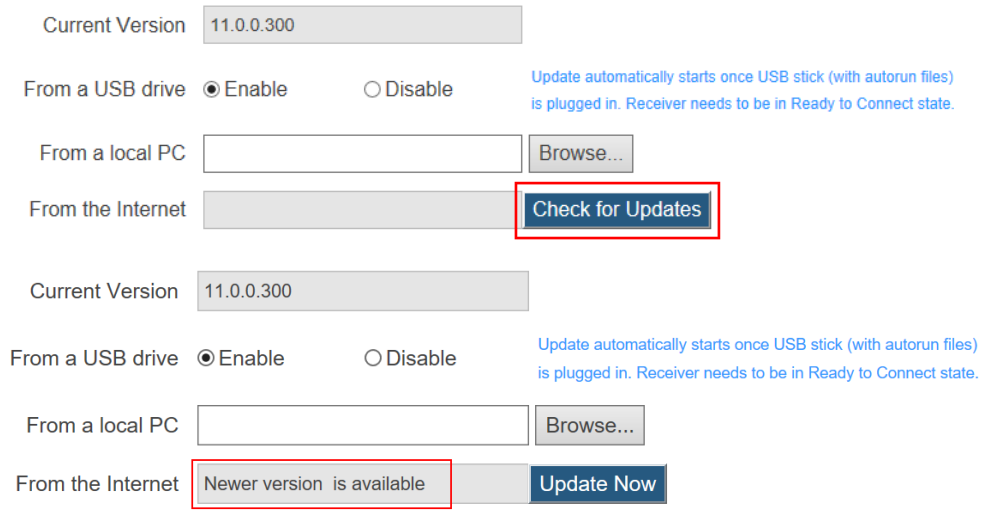
1. Log into ScreenBeam 1100's Local Management Interface, and go to the **Firmware Upgrade** tab page by clicking the **Firmware Upgrade** tab.



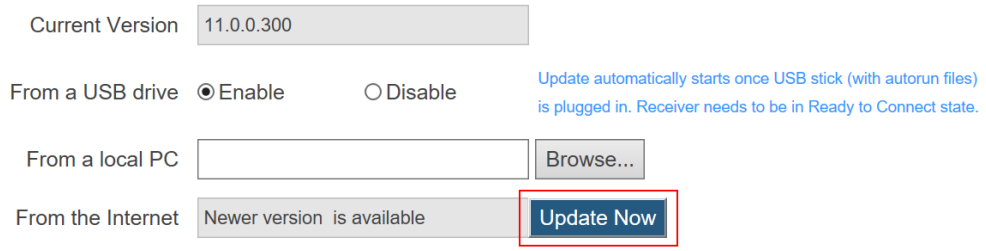
On the **Firmware Upgrade** tab page, you can check the current firmware version in the **Firmware Version** section.



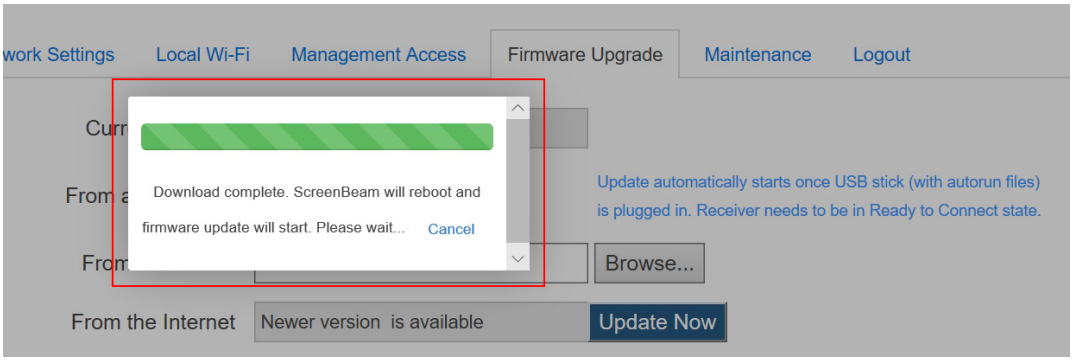
2. Click the **Check for Updates** button next to the **From the Internet** box. If there is new firmware update available, a message will show in the **From the Internet** box as "Newer version is available".



3. Click the **Update Now** button to start firmware update for the receiver.



4. The receiver downloads firmware from the Internet update server.



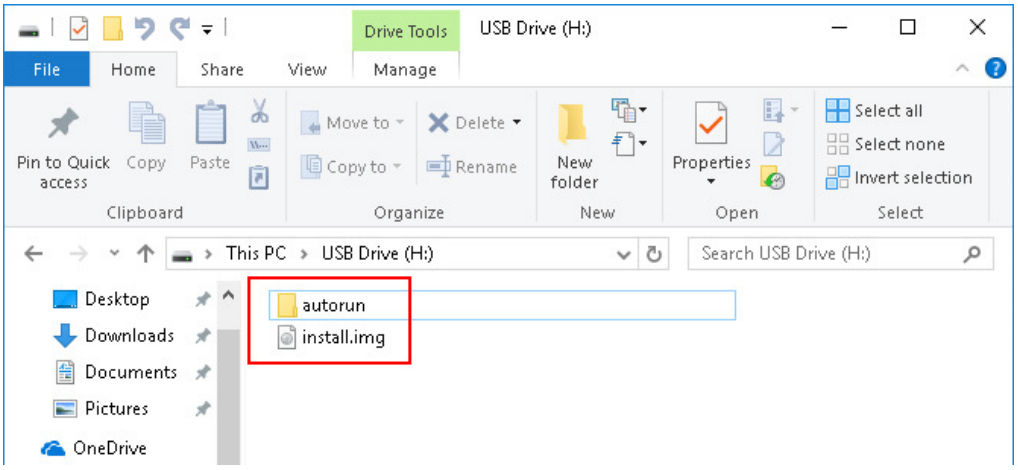
5. The receiver reboots and upgrades itself after the file is downloaded successfully. Firmware upgrade status is displayed on the connected display.
6. When the receiver returns to the **Wireless Display Ready to Connect** Screen, your receiver has been upgraded.

Warning! Do NOT power off your receiver during the upgrade process. The upgrade will take some time. Please be patient.

6.2 Firmware Update using a USB Drive

Follow the procedure below to update the receiver's firmware with a USB flash drive:

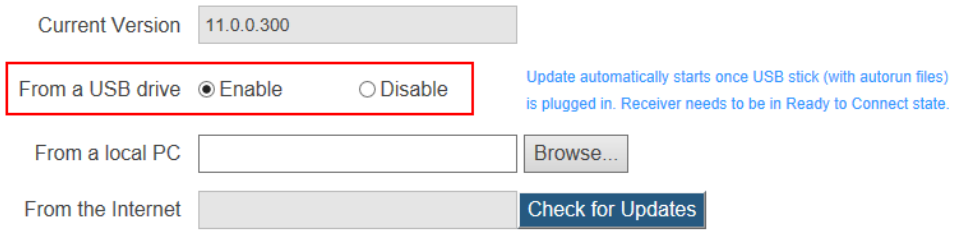
1. Download the latest firmware from Actiontec's website: http://screenbeam.zendesk.com/.
2. Extract the downloaded file and copy the "**install.img**" file and the "**autorun**" file folder to the root directory of a USB flash drive.



Note:

- Do not use a portable hard drive. You should use a FAT/FAT32 formatted USB flash drive only.
- Do not make any change to the extracted files.

3. Make sure the "**Wireless Display Ready To connect**" screen appears on your TV.
   Note: You must disconnect your device (laptop, ultrabook, smartphone or tablet) from the receiver before upgrading your receiver.
4. Log into the receiver's LMI. Go to the **Firmware Upgrade** page, and make sure **From a USB Drive** is set to **Enable**.



5. Plug the USB flash drive into the USB port on the receiver.
6. The receiver starts to update its firmware automatically. Firmware upgrade status messages appear on your TV.
   Warning! Do not power off the receiver or remove the USB flash drive while the upgrade is in progress. Otherwise, firmware upgrade fails.
7. The receiver reboots after firmware update completes.
8. You may now remove the USB flash drive when you see the "**Wireless Display Ready to connect**" screen again.

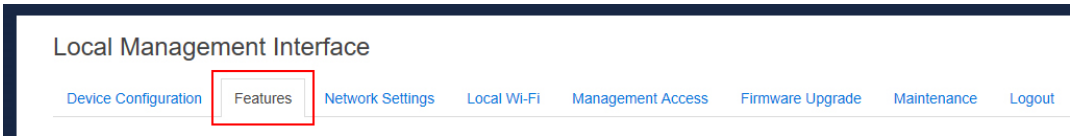
Part VII Receiver Maintenance

This section introduces setups for receiver maintenance.

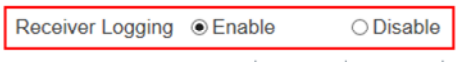
7.1 Setting up Receiver Logging

ScreenBeam receiver can save events in logs, and these logs can be retrieved by the receiver's LMI or ScreenBeam CMS. Refer to the ScreenBeam CMS user guide for detail.
Follow the procedure below to set up the receiver's logging:

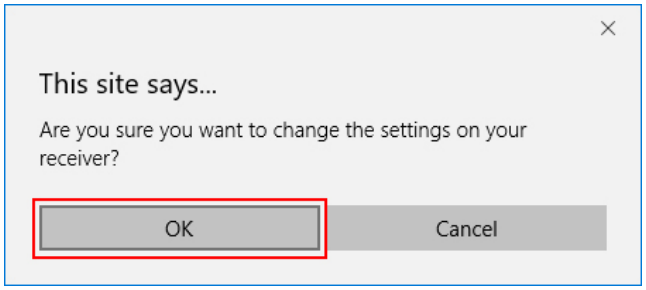
1. Log into the receiver's LMI, and go to the **Features** tab page.



2. Go to the **Display Setting** section, and set **Receiver Logging** to **Enable** or **Disable**.
   - **Enable**: The receiver will record logs when there are events happen.
   - **Disable**: The receiver will NOT record any events.



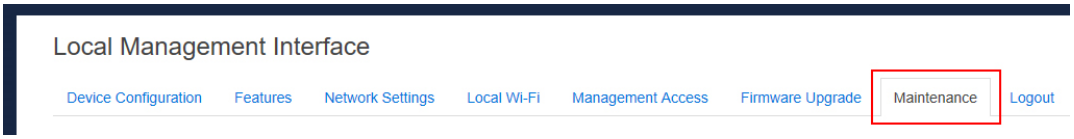
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



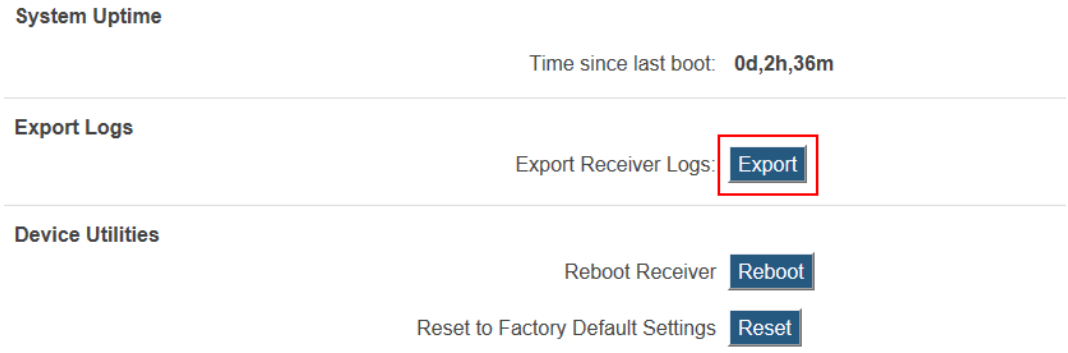
7.2 Exporting Receiver Log with LMI

Follow the procedure below to export logs from the receiver:

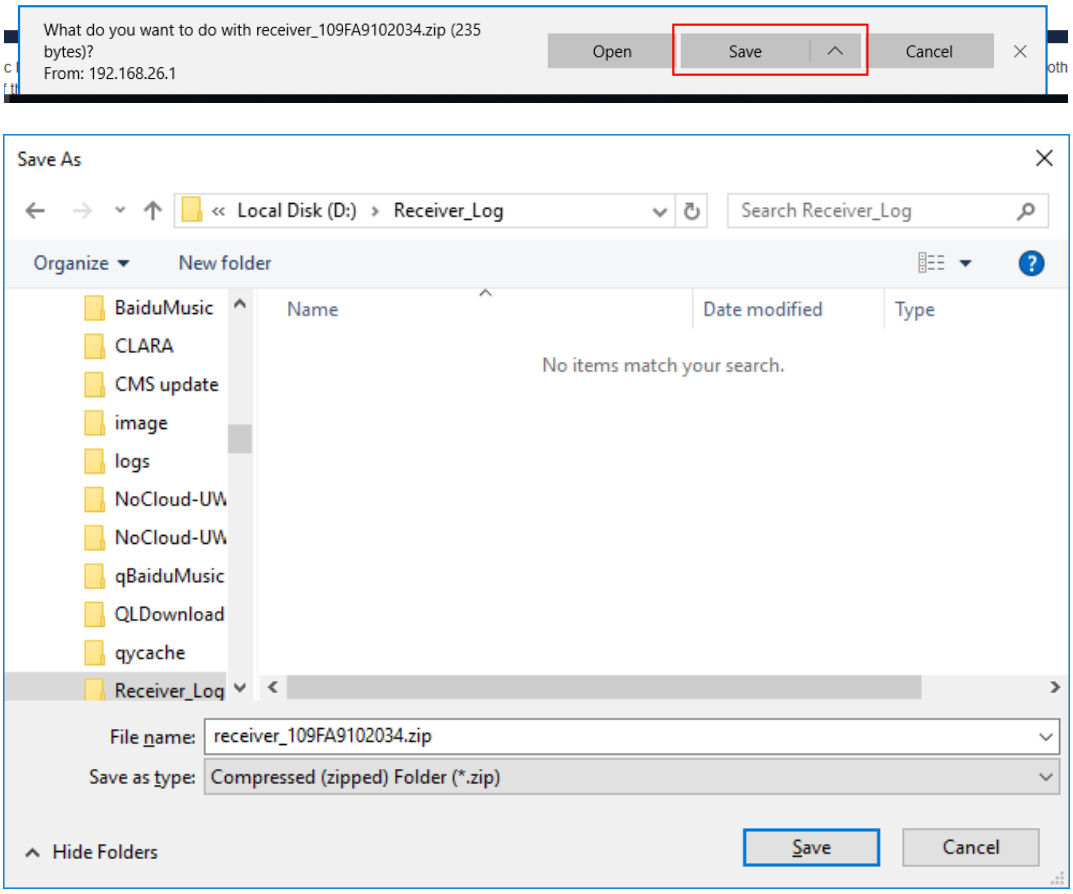
1. Log into the receiver's LMI, and go to the **Maintenance** tab page.



2. Go to the **Export Logs** section, and click the **Export** button.



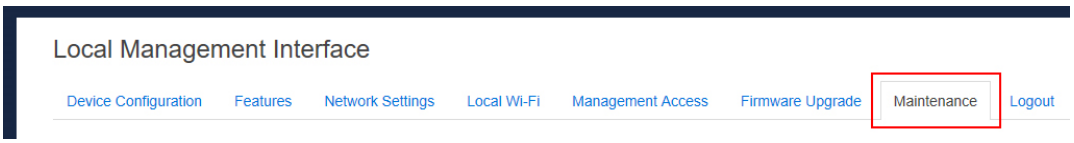
3. The file download dialog box appears. Click **Save** or **Save as** to save the receiver log.



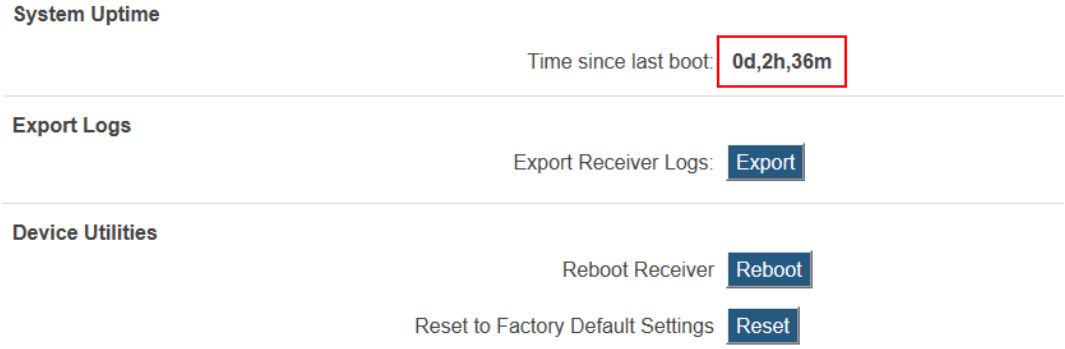
7.3 Viewing System Uptime

Follow the procedure below to view the receiver's system uptime:

1. Log into the receiver's LMI and go to the **Maintenance** tab page.



2. Go to the **System Uptime** section, and check the time period displayed on the **Time since last boot** line.

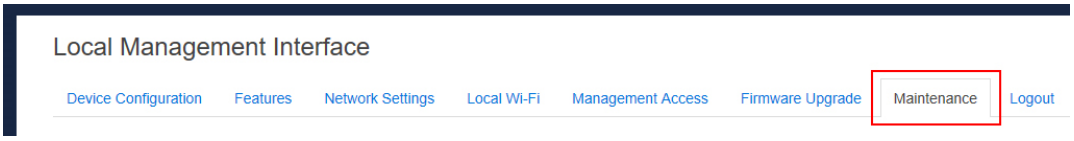


7.4 Rebooting the Receiver

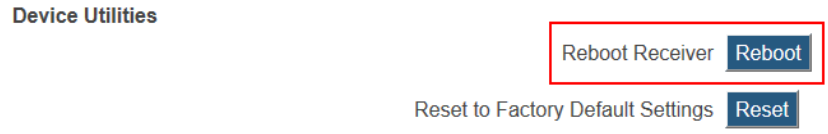
To reboot your receiver, unplug the power adapter from the power outlet, wait 5 seconds and then plug it in.

If you can't access the receiver locally, you can reboot the receiver through the receiver's LMI. Follow the procedure below to reboot the receiver:

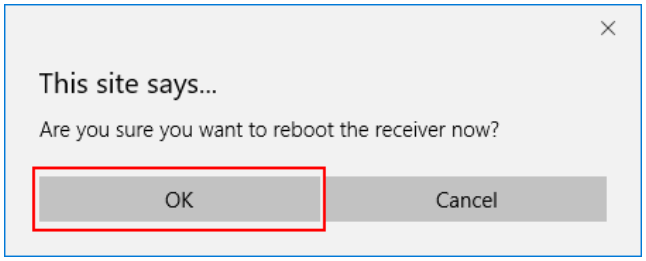
1. Log into the receiver's LMI and go to the **Maintenance** tab page.



2. Go to the **Device Utilities** section and click the **Reboot** button next to "**Reboot Receiver**".



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



7.5 Resetting the Receiver to Default

Follow the procedure below to reset the receiver to default settings:

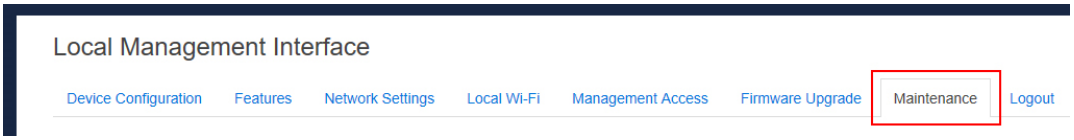
1. Power on the receiver and wait until the "**Wireless Display Ready to Connect**" screen appears.
2. Press and hold the receiver's "**Reset**" button.
3. When the "**Resetting to factory defaults**" screen appears on the HDTV, release the "**Reset**" button.

The receiver reboots, and it will be running with its default settings.

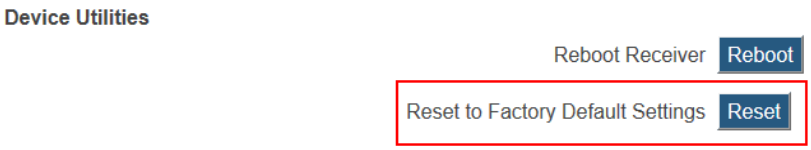
Note: This method will reset all settings to defaults.

If you can't access the receiver locally, you can reset the receiver through the receiver's LMI. Follow the procedure below:

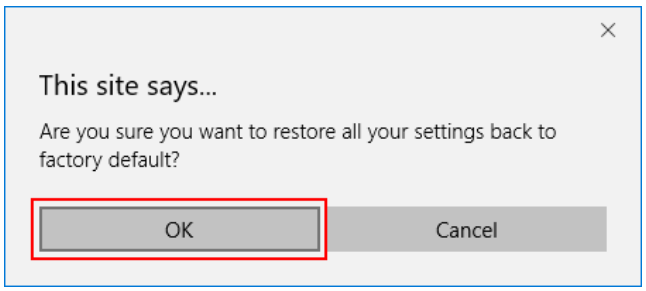
1. Log into the receiver's LMI, and go to the **Maintenance** tab page.



2. Go to the **Device Utilities** section and click the **Reset** button next to "**Reset Factory Default Settings**".



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.

When you reset your receiver through the LMI, the following settings will be retained:

● CMS Server IP address ● CMS communication port ● Receiver IP setting (DHCP or Static IP) ● Receiver IP address ● Receiver Subnet Mask ● Receiver Gateway ● Receiver DNS setting (Dynamic or Static)	● Primary DNS ● Secondary DNS ● Host Name ● Wireless connection settings ● Timezone

7.6 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 metal shelf, electric fans, items with motors, microwave ovens, cordless phones, and 2.4 GHz Non-WiFi radio devices.

Appendix I Troubleshooting and FAQs

This chapter describes some problems you may encounter using ScreenBeam 1100, and possible solutions to those problems. Also included are frequently asked questions (FAQs), and answers to those questions.

Troubleshooting

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.

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 10/8.1 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.

I encounter connection failure with ScreenBeam 1100 and my device can't connect to it any more.

- Reboot the ScreenBeam 1100 and try connection again. Or, reboot your device (laptop/Ultrabook/tablet/smartphone) and try connection again.
- Reboot both the ScreenBeam 1100 and your device and try connection again.
- If you are using a Windows 10/8.1 operating system, go to **Change PC settings** > **PC and Devices** > **Devices** > **Projectors**, remove the profile of the ScreenBeam 1100 from your device (PC/laptop/Ultrabook), and try connection again.
- If you are using a Windows 10 operating system, go to **Settings** > **Devices** > **Connected Devices** > **Projectors**, remove the profile of the ScreenBeam 1100 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 1100 is not compatible with ScreenBeam Configuration Utility. To configure or upgrade the receiver, you should use the receiver's Local Management Interface or ScreenBeam Central Management System.

When I connect the source device to a wireless network (router/AP), why ScreenBeam 1100 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 1100. As a result, ScreenBeam 1100 disconnects from the source device.
The solution is that you should connect your device to the wireless network before connecting it to ScreenBeam 1100. In this way, ScreenBeam 1100 works on the same channel with the source device and the wireless network, and no connection interruption will occur.

FAQs

Can I view protected content if ScreenBeam 1100 receiver is connected a display through the VGA port?
No. The VGA port does not support playback of protected content such as blue-ray.

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.

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

Visit ScreenBeam 1100 compatibility page for the recommended Miracast devices.

Do I need to install drivers/apps to use the ScreenBeam 1100 Receiver?

- For **Windows 7/8**, you need to install ScreenBeam USB Transmitter and ScreenBeam wireless display software.
- For **Windows 8.1/10**, you only need to install the latest Windows updates.
- For **Android 4.2** or higher, no app is required.
- For **Apple** devices that support AirPlay, no app is required.

How can I improve my video/audio performance?

You can try the following methods to improve the ScreenBeam 1100'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 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.

For Apple devices that support AirPlay, you can connect to the receiver's local Wi-Fi, then start screen mirroring.

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 Interface or ScreenBeam Central Management System.

- Log into the receiver's Local Management Interface and adjust the display in the **Adjust TV Screen Size** 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.

How to set the ScreenBeam video output to fit a display with aspect ratio other than 16:9?

- ScreenBeam receiver's HDMI output supports 16:9 resolutions only.
- To output an aspect ratio other than 16:9, please use the receiver' VGA output.
- The display device must provide EDID information. Otherwise, ScreenBeam outputs the 1024*768 resolution when using the receiver' VGA output.
- The VGA cable must support I2S (has 3+6, or 3+9 lines).
- Set the resolution to the desired one on the source device. Make sure the resolution is supported by the source device, the adapter, and the display device. Otherwise, the display is stretched or has black edges.
- If you are using the receiver' VGA output, log into the receiver's local management console, go to Features > Display Setting > Default VGA Format, and properly set up the Default VGA Format feature.

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

Yes. After the connection to ScreenBeam 1100 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.

To extend your macOS desktop to an HDTV or a projector, select the AirPlay icon on the menu bar and select a desired projection mode from **Mirror Built-in Display**, **Mirror Apple TV**, and **Use As Separate Display**.

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 compatible 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 Miracast devices to the Receiver simultaneously?

This connection scenario is available in Classroom Commander mode. Refer to the Classroom Commander user guide for details.

Can I connect to multiple ScreenBeam 1100 Receivers simultaneously?

No. You can only connect to one ScreenBeam 1100 at a time.

My TV/Projector does not have an HDMI Input. Can I still use ScreenBeam 1100?

Yes. A VGA port is available for compatibility with legacy display devices.

Can ScreenBeam 1100 support UIBC?

Yes. ScreenBeam 1100 supports UIBC. The source device must install a Window 10 system and meet the following hardware requirements:

- 4th Gen Intel Core (Haswell or better) processor
- AMD A4-5000 (Kabini or better) processor

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?

Yes. ScreenBeam 1100 can works with Apple devices that support AirPlay screen mirroring.

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 work in the 5G band.

"Allow input from a keyboard or mouse connected to this display" is displayed even no USB device is connected to the ScreenBeam receiver. Would it have any impact on the Miracast connection if the option is checked while no USB device is present?

No. This is a standard behavior of Windows 10.

Appendix II 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.
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.

Technical Support

For FAQs, troubleshooting tips, documentation, firmware update and support, visit:
https://support.screenbeam.com
To open a ticket for support, visit:
https://support.screenbeam.com/ticket
Website: www.screenbeam.com