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ScreenBeam

ScreenBeam 1100 Plus Wireless Display Receiver Multi Beam

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Introduction

ScreenBeam MultiBeam allows you to distribute a wireless display or an HDMI video from the Primary receiver to multiple Remote receivers, over the IP network or over Wi-Fi Direct network or a combination both, at 1080p resolution. ScreenBeam MultiBeam enables screen mirroring from a Primary ScreenBeam receiver to multiple Remote ScreenBeam receivers in the MultiBeam cluster (group), is an added feature to ScreenBeam 1100P Wireless Display Receiver. A MultiBeam cluster consists of one Primary receiver and multiple Remote receivers.

When the Primary receives video streaming from a source device, it simultaneously mirrors the video streaming to all Remote receivers in the cluster. A ScreenBeam 1100 Plus receiver is allowed to be configured as a primary receiver (Primary), a dedicated Remote receiver (Standalone), or full featured Remote receiver (Multi-function) The video traffic can be setup to communicate over ScreenBeam Wi-Fi Direct (WFD) network or over the Local Area Network (LAN).

Features

- Enables the ScreenBeam 1100P receiver to split and extend AV signal over IP.
- It is configurable; select any 1100P receiver as the primary receiver and up to 8 as remote receivers for a MultiBeam cluster.
- IP Multicast over the network; works via Ethernet or Wi-Fi Direct or a combination of both.
- Up to 4k30p resolution for 4 remote receivers or 1080p30 for up to 8 remote receivers.
- Manageable cluster via ScreenBeam Service Platform and Central Management Server (SPCMS).
- Primary receiver supports screen mirroring of Miracast, AirPlay, Chromecast λ
- The remote receiver can be configured as Dedicated or Multi-function.

Requirements

Ensure that the following requirements are met:

- Two or more ScreenBeam 1100 Plus Wireless Display Receiver (with firmware 11.1.15.0 or later) are available
- ScreenBeam CMS Enterprise (version 4.4.12.0 or later) is available
- Four consecutive communication ports (default: 24035-24038) is available
- Deployment of ScreenBeam 1100 Plus receivers is completed

Receiver Deployment

A MultiBeam cluster consists of one Primary receiver and multiple Remote receivers. The ScreenBeam receivers should be planned and deployed in advance.

- Primary receiver: It multicasts video streaming to the MultiBeam cluster when the Primary is connected to a wireless display source device.
- Remote receiver: It receives video streaming from the MultiBeam cluster.

There are two connection methods for connecting MultiBeam receivers to a MultiBeam cluster.

- Wired connection (Wired Ethernet): The remote receiver should connect to a network

(such as the corporate network) via Ethernet; and the Primary receiver should connect to the same network as the remote via Ethernet or wireless.

Note: The Primary receiver and Remote receivers must be deployed in the same subnet if Wired Ethernet is used. And the Primary should connect to that network via Ethernet OR wireless only.

- Wireless connection (Wifi Direct): A dedicated AP is created on the Primary receiver after the MultiBeam feature is enabled. Remote receivers will connect to this AP automatically if the Remote receiver's MultiBeam interface is set to Wifi Direct.

In a MultiBeam cluster, both wired and wireless connections are allowed. For example, one Remote receiver is set to use Wired Ethernet, and another is set to use Wifi Direct.

Related Documents

To better understand the management of ScreenBeam MultiBeam, we recommend you read the following documents:

- ScreenBeam 1100 Plus Wireless Display Receiver user guide
- ScreenBeam CMS Enterprise deployment guide

Note: ScreenBeam Central Management System (CMS) Enterprise is recommended for managing ScreenBeam MultiBeam. For more detail or support, go to the address below: https://www.screenbeam.com/products/screenbeam-cms/.

Setting up MultiBeam

The MultiBeam feature is managed on ScreenBeam CMS or the receiver's Local Management Interface (LMI). ScreenBeam CMS is a full featured tool for managing ScreenBeam receivers. LMI is a web-based tool for managing a single ScreenBeam receiver. Proper configurations are necessary to enable the MultiBeam feature.

Setting up MultiBeam on ScreenBeam CMS

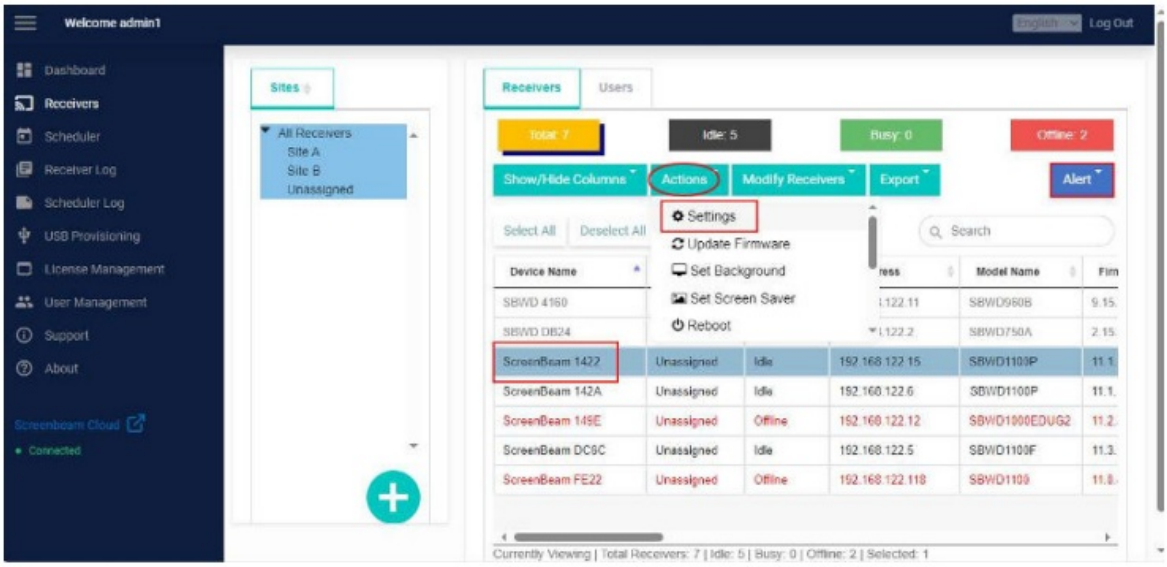
To configure MultiBeam on ScreenBeam CMS, follow this procedure:

1. Log into ScreenBeam CMS and then select Receivers on the left menu. Refer to the

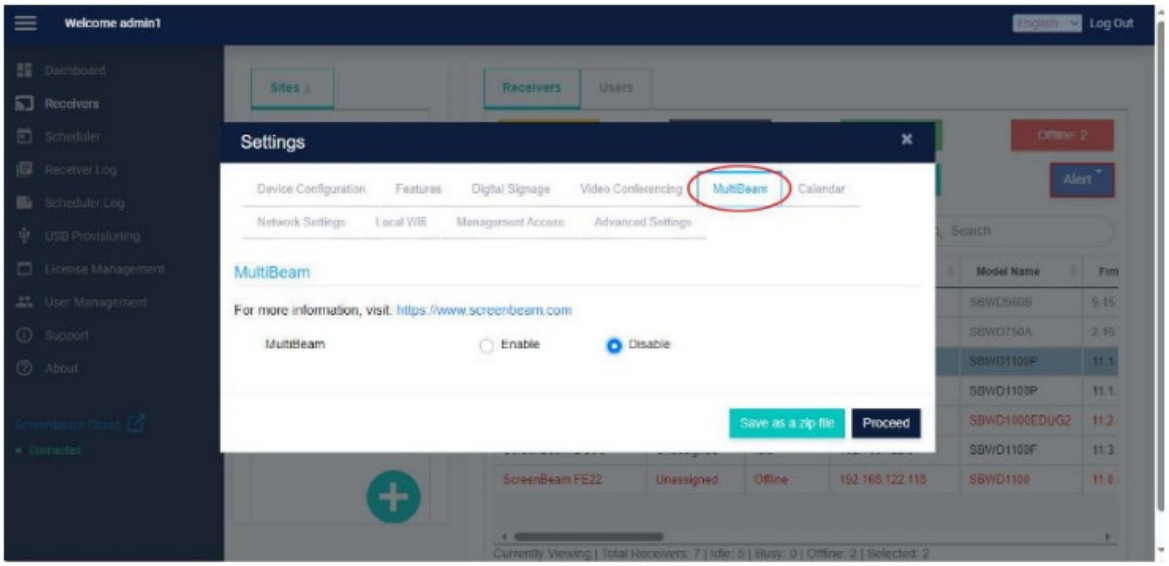
ScreenBeam CMS deployment guide for details on how to access ScreenBeam CMS.

2. Select your receiver(s) on the Receivers pane, and then select Actions > Settings.

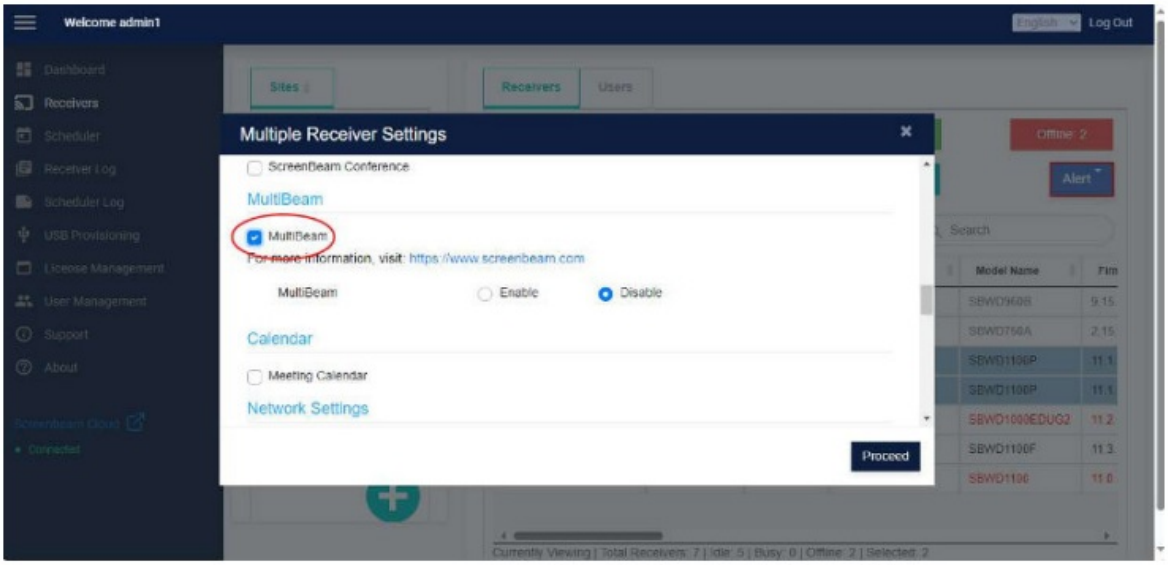
   Note: ScreenBeam 1100 Plus receivers that are deployed as Primary receivers must have the MultiBeam feature configured one by one, as a Primary receiver must have a unique Cluster Name and a unique Multicast IP address. ScreenBeam Plus receivers that are deployed as Remote receivers can have the MultiBeam feature enabled by batch if these remote receivers connect to the same Primary (the same cluster name).



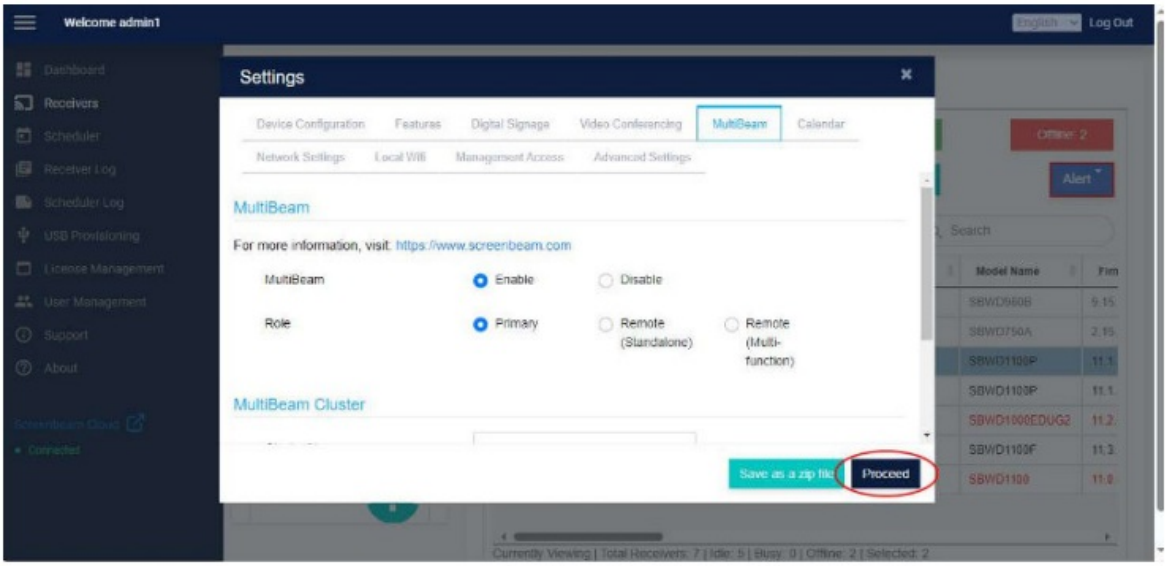
3. On the Settings window, select the MultiBeam tab page.



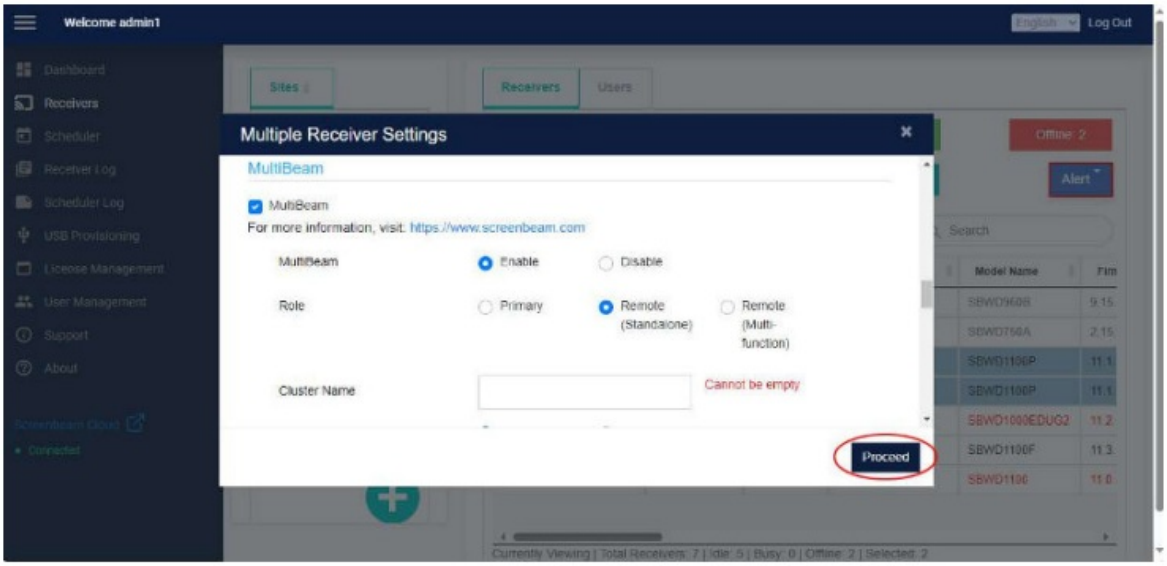
If multiple receivers are selected, select MultiBeam on the Multiple Receiver Settings window.



4. Configure MultiBeam settings on the Settings window.
    - Configuring MultiBeam for a single receiver:



    - Configuring MultiBeam for multiple receivers:



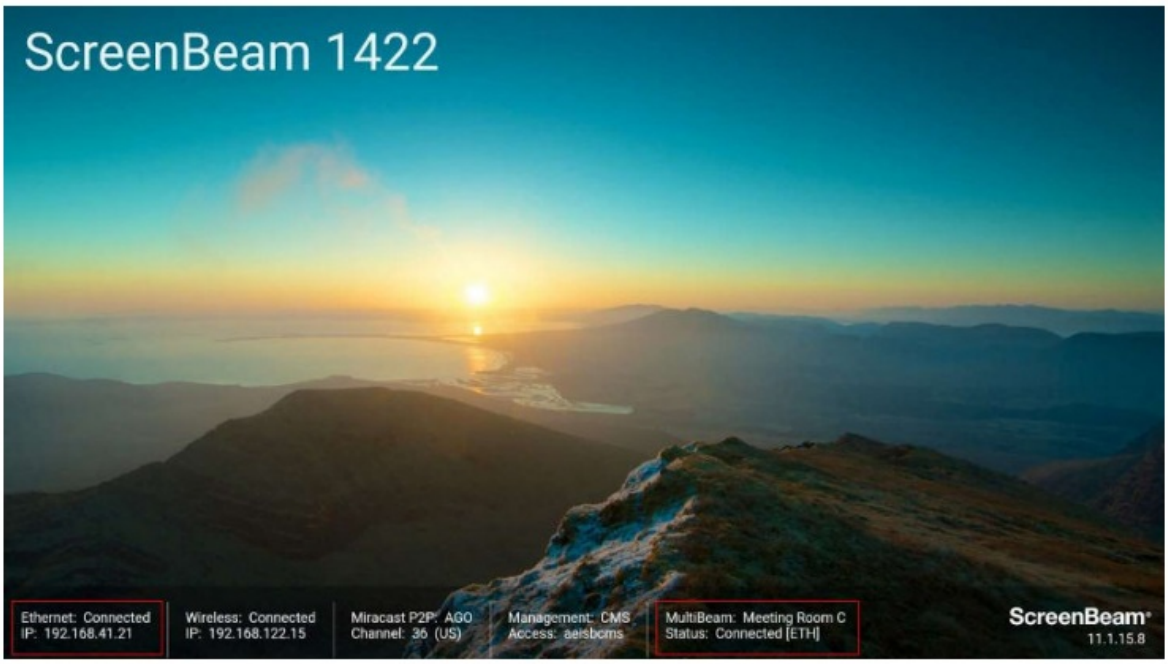
    - **MultiBeam:** Select Enable to enable the MultiBeam feature; or select Disable to disable the MultiBeam feature.
    - **Role:** A Primary receiver will actively stream the wireless display source device's

video feed to the MultiBeam cluster; a Remote (Standalone) receiver can join the MultiBeam cluster and receive video streaming in the cluster only and has all other features disabled; a Remote (Multi-Function) receiver is a MultiBeam Remote receiver and also has full featured functionalities when it is not in a MultiBeam session. In a MultiBeam cluster, there is one Primary receiver and multiple Remote receivers.

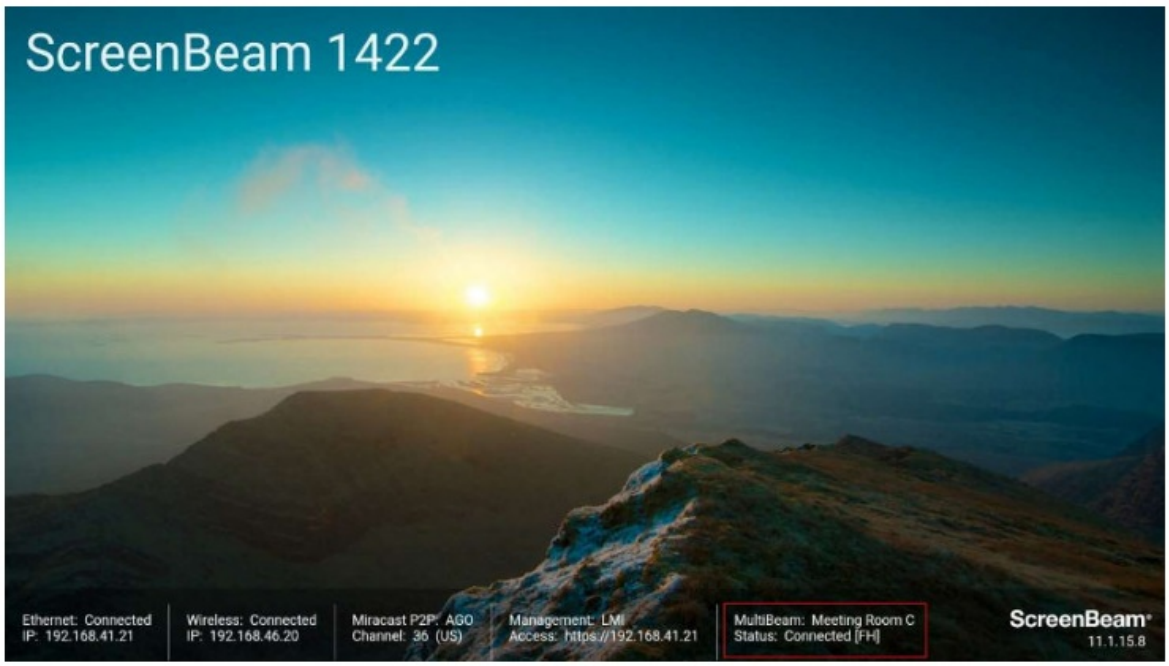
Note: Standard wireless display features will be disabled after ScreenBeam 1100 Plus receivers are set to Remote (Standalone) while these features are still available when the receivers are set to Remote (Multi-Function).

- **Cluster Name**: It is the name of a MultiBeam cluster (group). The Remote receivers will join the MultiBeam cluster through this cluster name. Generally, a MultiBeam cluster consists of one Primary receiver and multiple Remote receivers. The Cluster Name must be unique on your network.

5. **Multicast IP**: This is the IP address of the MultiBeam cluster. The Primary will stream video to the MultiBeam cluster using this IP. The Multicast IP must be unique on your network.
6. **Port (Base):** Four consecutive ports are required for Multibeam communication between the Primary and Remote receivers. This is the starting port. The default starting port is 24035. Port range is 5000 to 65530.
7. **Interface**: This is the interface on which the Remote receiver connects to the MultiBeam cluster.
8. **Wired Ethernet**: It refers to the Ethernet connection through which the Remote receiver connects to a network. The Primary receiver must connect to the same network with the Remote receiver via its Ethernet or wireless connection when a Remote receiver’s MultiBeam Interface is set to Wired Ethernet.



Wifi Direct: After the MultiBeam feature is enabled, a dedicated AP is created on the Primary receiver, and the Remote receiver will connect to this AP by wireless when MultiBeam Interface is set to Wifi Direct.



If your Infrastructure network is robust and stable, it is highly recommended to use the Wired Ethernet connection. Compared to the Wifi Direct method, the Wired Ethernet method can support more Remote receivers.

Note:

The remote receiver’s wireless network connection will be interrupted if the MultiBeam Interface is set to WiFi Direct. If only wireless connection is available on the Remote receiver and Wifi Direct is used to connect to the MultiBeam cluster, the Remote receiver

will bridge its network connection to the Primary's network connection. And the remote can connect to CMS when Primary's Local Wi-Fi network mode is set to Bridge. If you want to modify the name of the MultiBeam cluster, you should configure the cluster name for the Remote receivers first, then the Primary. Otherwise, the remotes will lose connection to network.

1. Click Proceed after the MultiBeam configuration is done. The MultiBeam settings will be configured successfully, and configuration status will be displayed in the Feedback column.

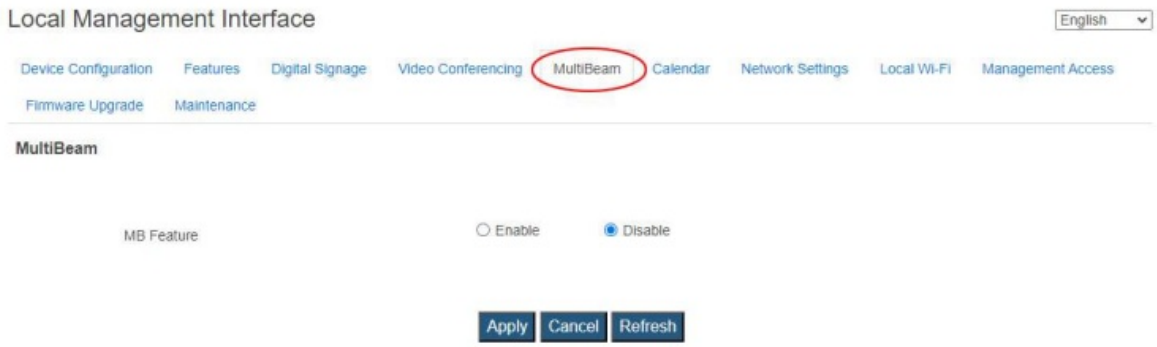
Note

Be sure to switch the Remote (Multi-Function) receiver's Display Sharing Mode to Single if you experience video/audio streaming issues on those remote receivers.

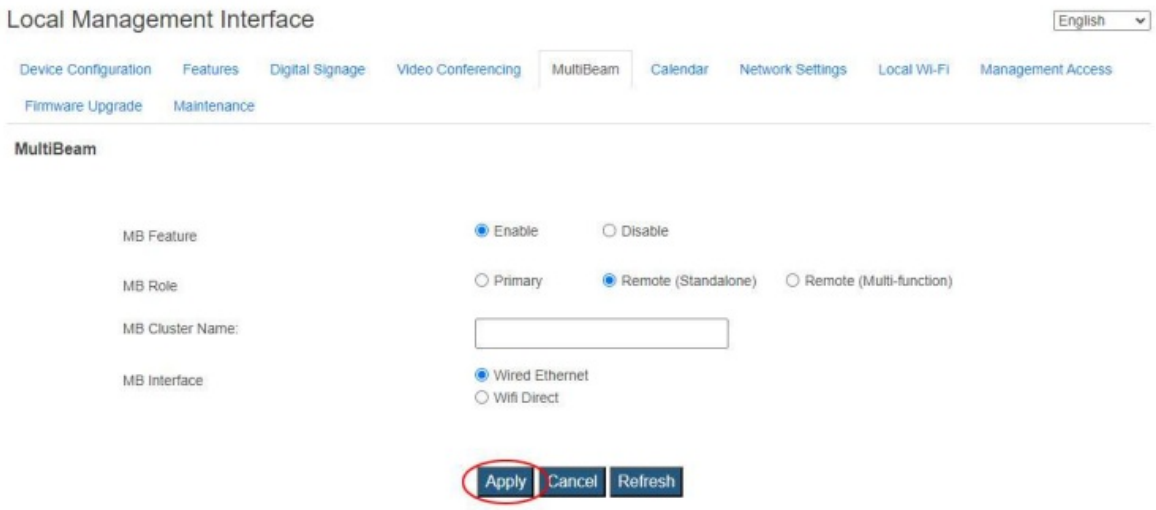
Setting up MultiBeam on LMI

To configure MultiBeam on LMI, follow this procedure:

1. Log into the receiver's LMI and go to the MultiBeam tab page. Refer to the receiver's user guide for details on how to access the receiver's LMI.



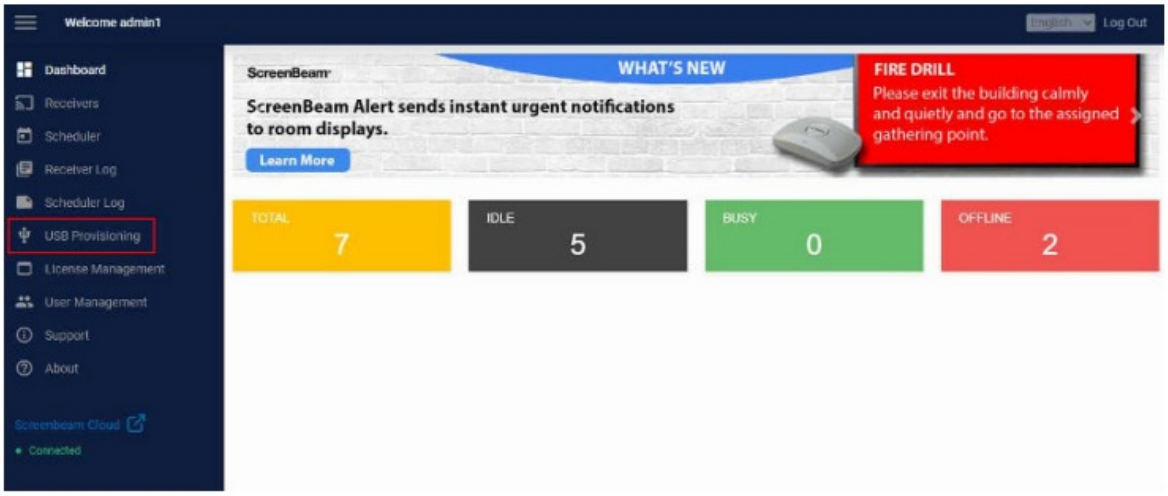
2. Follow step 4 in Section 2.1 Setting up MultiBeam on ScreenBeam CMS to set up MultiBeam settings. Click Apply to confirm after MultiBeam settings are set up.



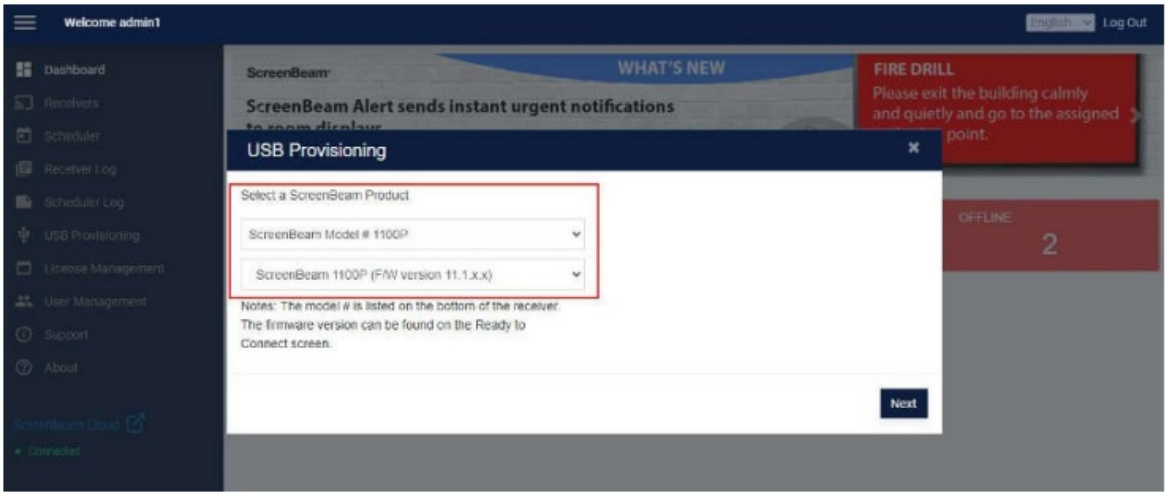
Setting up MultiBeam using a USB Flash Drive

To configure MultiBeam using a USB flash drive, follow this procedure:

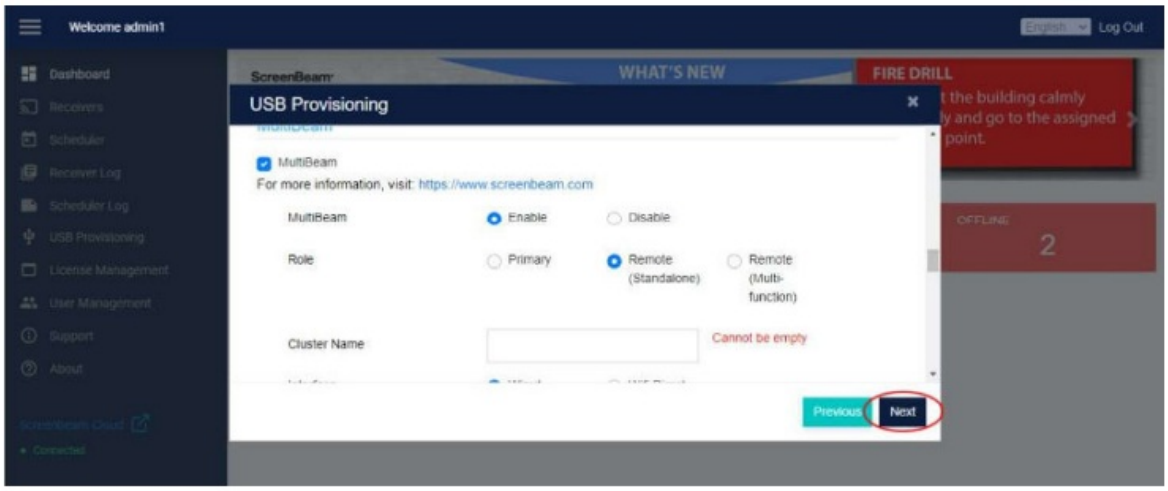
1. Log into ScreenBeam CMS and then select USB Provisioning on the left menu. Refer to the ScreenBeam CMS deployment guide for details on how to access ScreenBeam CMS.



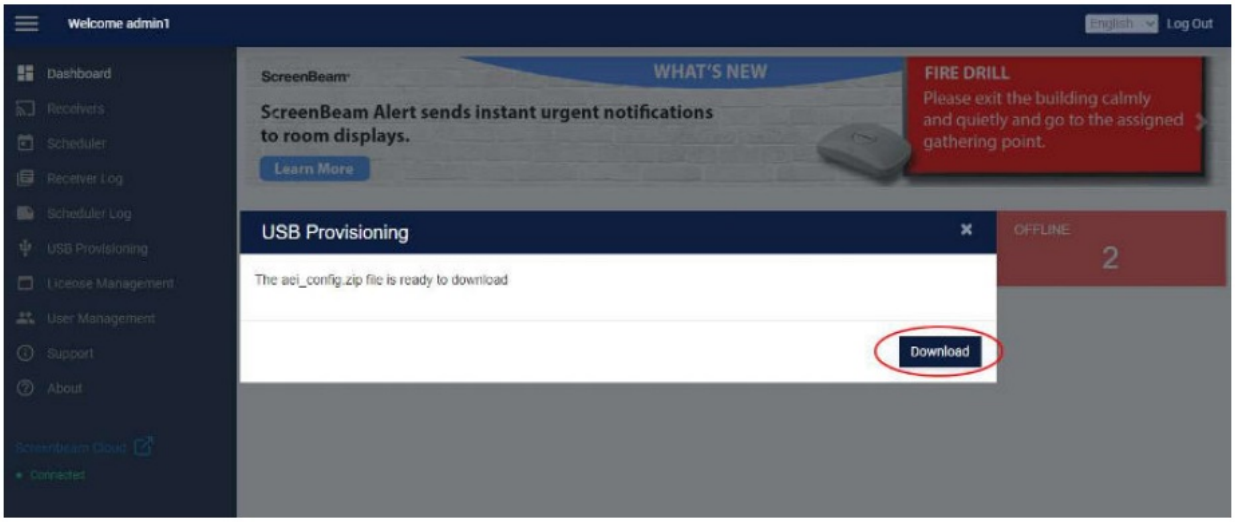
2. The USB Provisioning window appears. Select a ScreenBeam product that supports MultiBeam (such as ScreenBeam Model #1100P) and its firmware. Click Next.



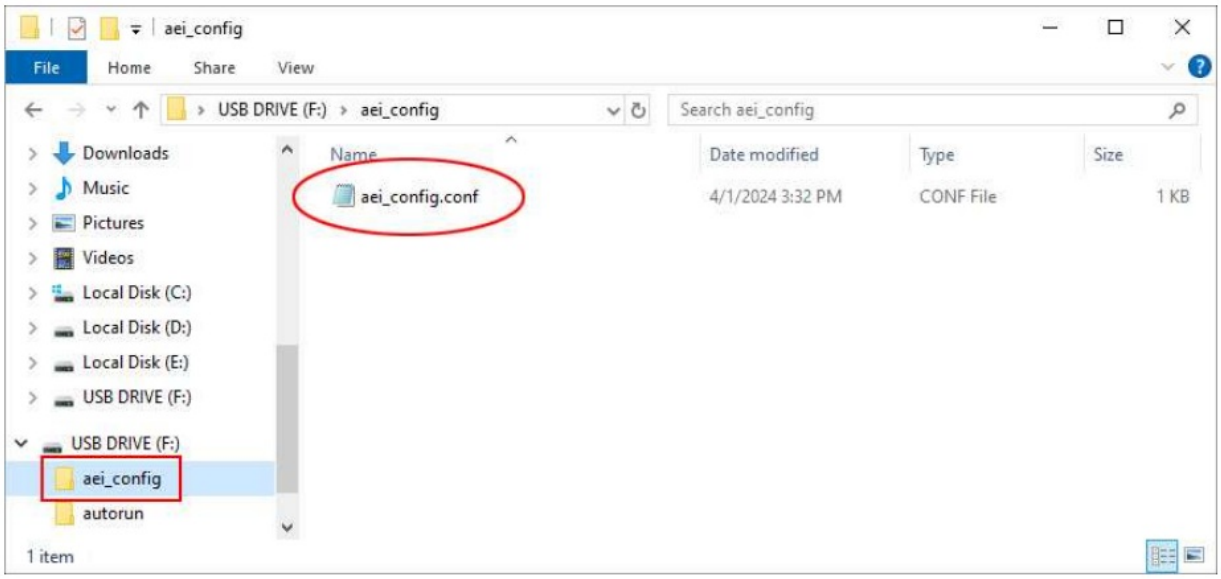
3. Select MultiBeam on the USB Provisioning window and follow step 4 in Section 2.1 Setting up MultiBeam on ScreenBeam CMS to set up MultiBeam settings. Click Next after MultiBeam configuration is done.



4. The download page appears. Click Download and save the receiver configuration file (aei_config.zip).



5. Unzip the downloaded receiver configuration file (aei_config.zip) and copy the “aei_config” folder to the root directory of a FAT32 formatted USB flash drive. Ensure that the receiver configuration file (aei_config.conf) is in the aei_config folder, and no modifications to the name or file contents is made.



6. Power on the ScreenBeam receiver. When the Ready to Connect screen appears, plug in the USB flash drive. After the receiver has rebooted, MultiBeam is configured successfully.

Frequently Asked Questions

Q: What are the requirements for setting up MultiBeam?

A: Ensure you have two or more ScreenBeam 1100 Plus Wireless Display Receivers, ScreenBeam CMS Enterprise, and four consecutive communication ports available.

Q: How do I deploy ScreenBeam receivers in a MultiBeam cluster?

A: Plan and deploy one primary receiver and multiple remote receivers. Connect the primary receiver to a wireless display source device and configure remote receivers to receive video streaming from the cluster.

Q: Where can I find additional support for managing ScreenBeam MultiBeam?

A: For further assistance and detailed information, visit https://www.screenbeam.com/products/screenbeam-cms/.

Documents / Resources

	ScreenBeam 1100 Plus Wireless Display Receiver Multi Beam [pdf] User Guide 1100P, 1100 Plus, 1100 Plus Wireless Display Receiver Multi Beam, Display Receiver Multi Beam, Receiver Multi Beam, Multi Beam

References

- User Manual

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1100 Plus, 1100 Plus Wireless Display Receiver Multi Beam, 1100P, Display Receiver Multi Beam, Multi Beam, Receiver Multi Beam, ScreenBeam

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