newline

SUPPORT
MESSAGE

Newline Cast+

User Guide

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1. About Newline Cast

Newline Cast is a full-featured multi-screen interactive software designed for casting, wireless display and remote control between mobile devices (such as phones, tablets, laptops, etc.) and large displays.

1.1. Key Features

Feature	Description
Mirroring	Mirror client device screens (supporting iPhone, iPad, Android, MacBook, Windows) to large display, and touch on the large display to control client devices without any cables.
File Casting	Share any files (such as audio, video, photo, office document, PDF, etc.) from mobile phones or tablets to large displays
Remote Control	Support wireless control via wireless mouse, air mouse, keyboard, touchpad and remote controller, etc.
Camera	Cast the camera or microphone to a large display in real-time.
Wireless Annotations	Wireless Annotations Apps in real-time.
TV Mirror	Mirror the large display to multiple client devices, and multi-touch to control the large display wirelessly from laptop/phone.
Multiple Screens	Cast multiple device screens to a large display simultaneously and the large display screen will be split automatically.
Display Group	Duplicate the main large display or the casting screen to all grouped displays.
Moderator Mode	The moderator can determine what client devices to do mirroring, TV Mirror, annotations, etc.
Airplay	Compatible with AirPlay feature of Apple devices.

DLNA	Supports any Apps compatible with DLNA protocol.
Miracast	Supports any Apps compatible with DLNA protocol.
Chromecast	Supports Google Chrome browser, ChromeOS devices, Youtube App and Android phones to cast screen
WebCast	With WebCast enabled, users can share screens through a web browser on the laptop without installing any Apps.

1.2. Device Requirements

Please ensure the sender/client devices meet the following requirements.

- Android 5.0 or later
- Mac OS 10.10 or later
- iOS 9.0 or later
- Windows 7/8/10/11

1.3. Network Requirements

1.3.1. Ports

This info can be useful for an advanced setups, enterprise networks, or troubleshooting. Newline Cast on your network use the following ports.

Port	Type	Service or Protocol	Used By
80/443	TCP	Hypertext Transfer Protocol (HTTP, HTTPS) Destination: casts.app gw.casts.app h1.ee-share.com	WebCast
1900	UDP	Simple Service Discovery Protocol (SSDP)	Bonjour
51010 – 51060	TCP	EShare Proprietary	EShare Apps, Airplay
8121, 57395, 8080, 52025, 8600	TCP	EShare Proprietary	EShare Apps
48689	UDP	Device Discovery	EShare Apps

5353	UDP	Multicast DNS (MDNS)	Bonjour, Airplay
10000 – 65535	UDP	DTLS Destination: DNS: *.casts.app IPV4: 3.124.195.37 54.169.2.51 64.64.232.232 119.28.92.194 106.55.235.101	Webcast
8008, 8009	TCP	GoogleCast Proprietary	Chromecast

1.3.2. Bandwidth Requirements

Mirroring (from Laptop or Phone to Large Display)
Maximum bitrate can be as high as 30Mbps, but average bitrates will be significantly lower. To get a reliable user experience, it is recommended to connect the large display using Ethernet and the laptop/phone using 5GHz Wi-Fi band.

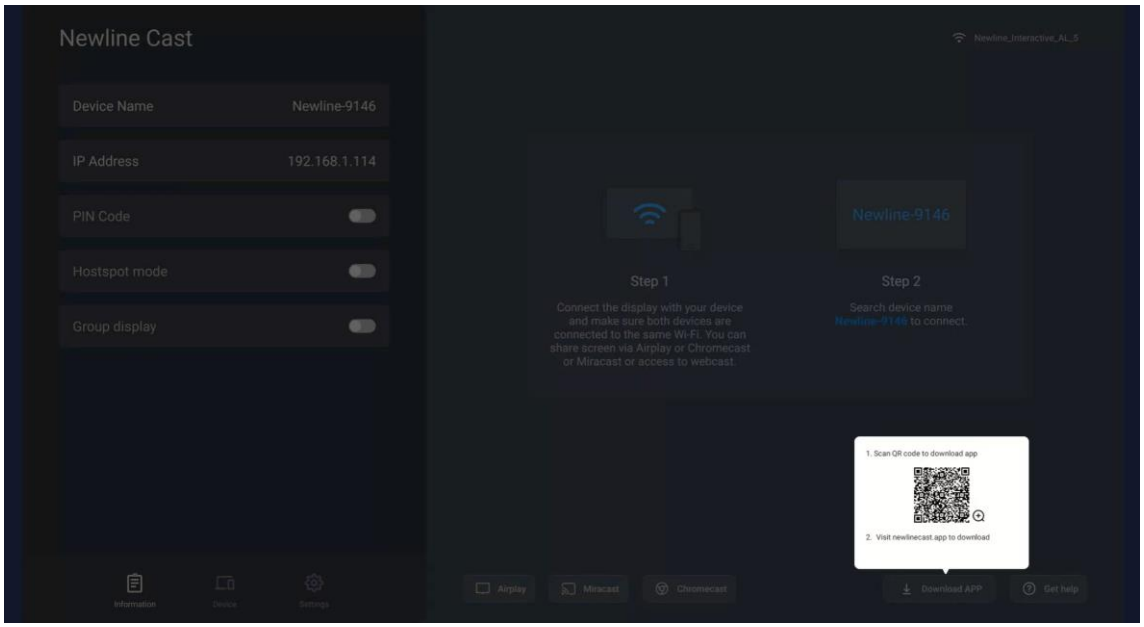
TV Mirror and Display Group
The average bitrates of each TV Mirror or Display Group connection are 4 Mbps, the bandwidth should be reserved accordingly. For example, in case there are 40 Pads or Laptops in the classroom using TV Mirror, it requires 40 * 4Mbps = 160Mbps local traffic bandwidth.

WebCast
The average bitrates of each WebCast connection are 4~5 Mbps. It's recommended to reserve a steady 5Mbps bandwidth for each WebCast Mirroring

2. Newline Cast App

2.1. Download Newline Cast App

Please ensure that your client device and the large display are connected to the same network, and then launch “Newline Cast”. Next, scan QR-code or visit “newlineapp.cast” to download the Newline Cast app.

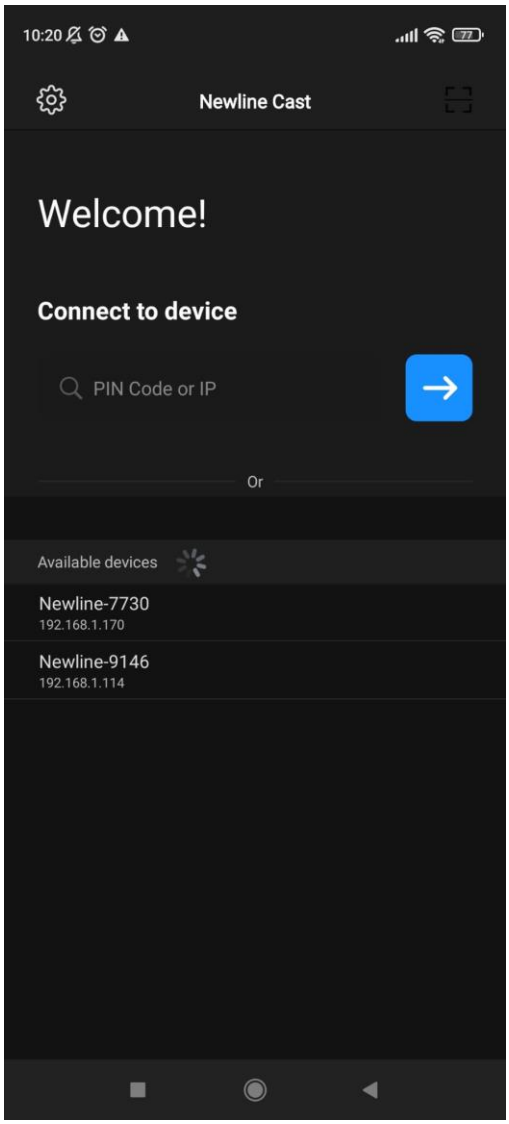


2.2. Guide for Android/iOS

2.2.1. Connect to the Large Display

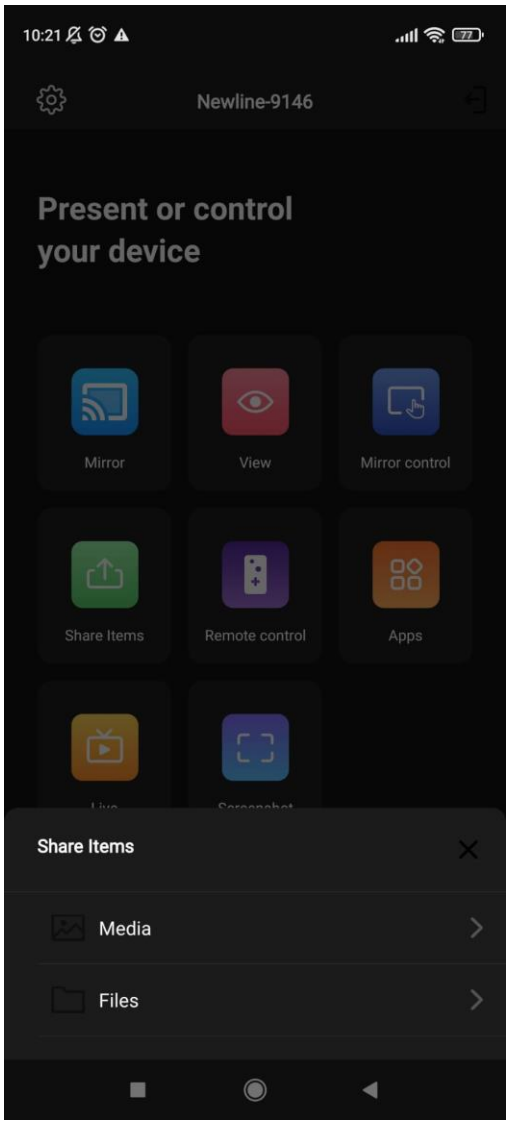
Please ensure that your client device and the large display are connected to the same network. There are four connection modes as follows.

- **Set "Device Name" as the connection mode (default setting):** launch the Newline Cast app, and Newline Cast will automatically discover the large display devices in the same network, and then select a device in the device list to connect to the large display.
- **Set "PIN Code (6 digits)/PIN code (8 characters)" as the connection mode:** launch the Newline Cast app and enter the PIN code to connect to the large display.
- **Enter IP to connect** enter the IP address of the receiver device to connect to the large display.
- **Scan QR-code to connect** launch Newline Cast and scan the QR code to connect to the large display.



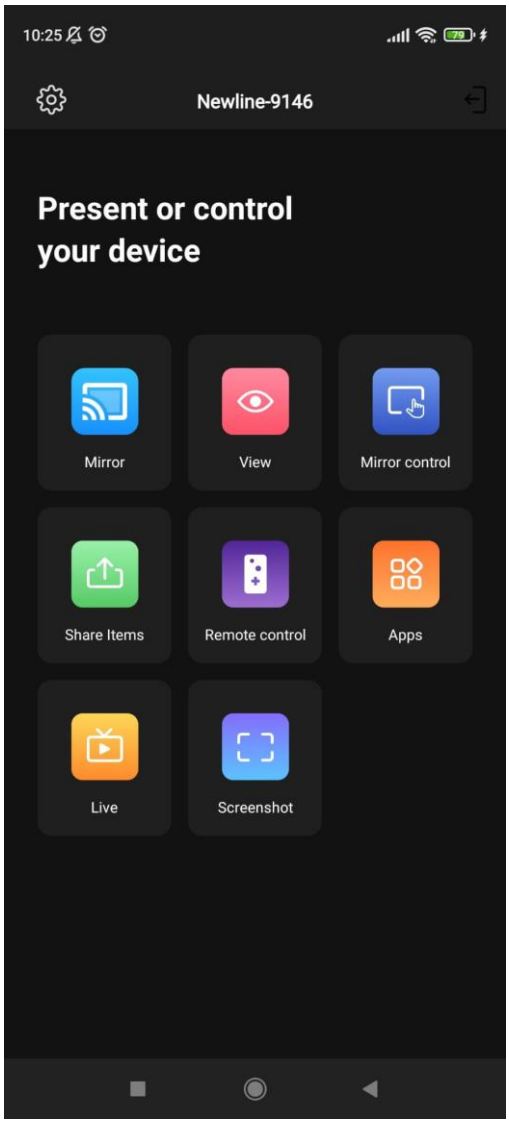
2.2.2. File sharing

- **Image:** select any image to share it to the large display.
- **Audio/Video:** select any audio/video to share it to the large display.
- **Doc:** select any document (Word, PPT, Excel, TXT, etc.) to share it to the large display.



2.2.3. Share Screen

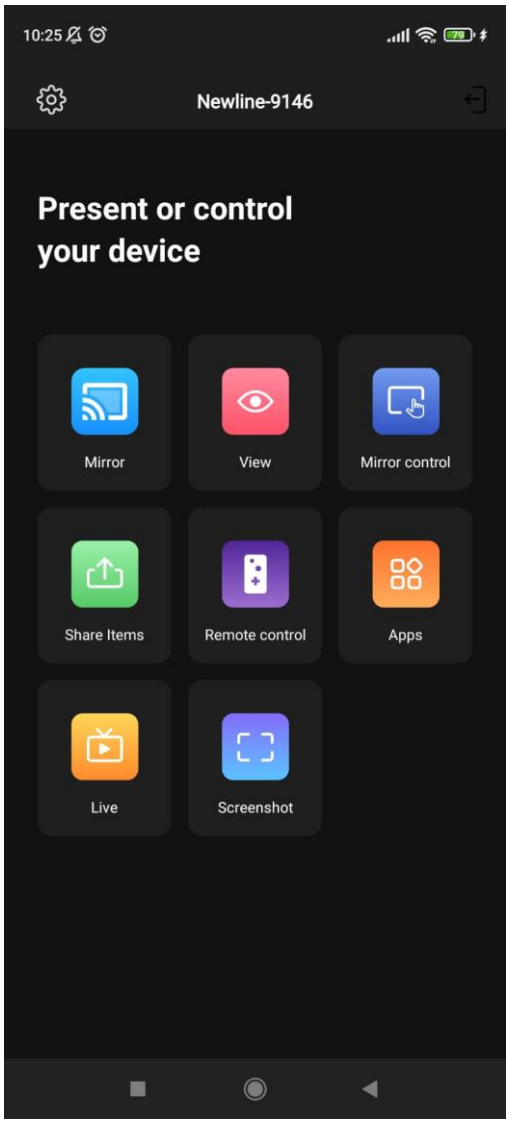
- **Android devices**: tap "Mirror" to share screen to the large display.



- **iOS devices:** tap "Share Screen" and follow the iOS screen sharing guide to share screen to the large display.

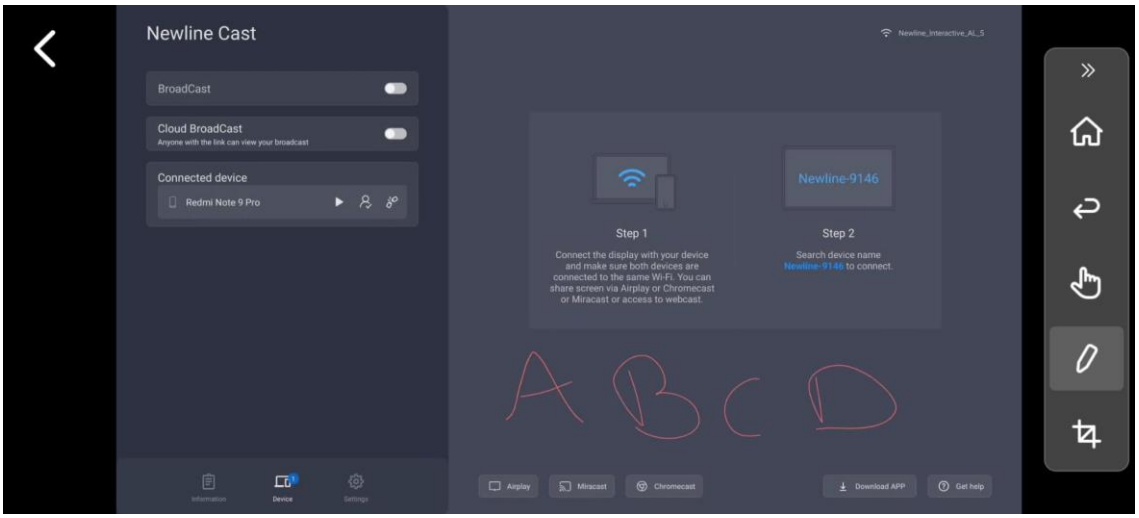
2.2.4. TV Mirror

Tap “Mirror Control" to mirror the screen of the large display to your phone and touch the phone to control the large display.



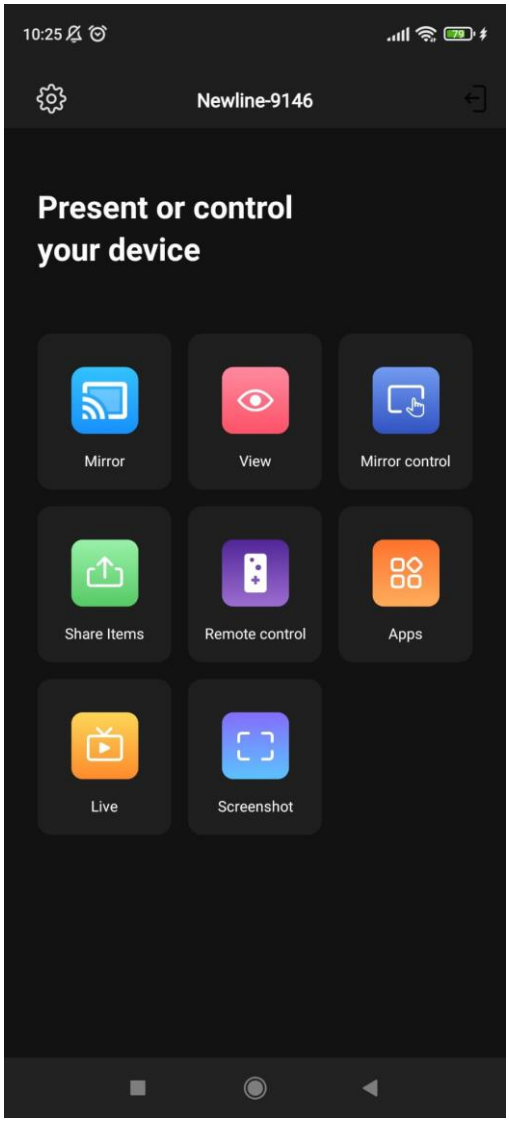
2.2.5. Wireless Annotation

Tap "Mirror Control", and then tap the writing pen button in the sidebar to start wireless annotations on the large display.



2.2.6. Remote Control

Tap “Remote Control” to act your phone as a wireless mouse, remote controller, keyboard, air mouse, etc.



2.2.7. Share Files from Other Apps to large Display

In email, browser, file manager, and other applications, you can share files to the large display through the Newline Cast app.

Or you can share files to the large display with other apps supporting DLNA.

2.3. Guide for Windows/macOS Installation

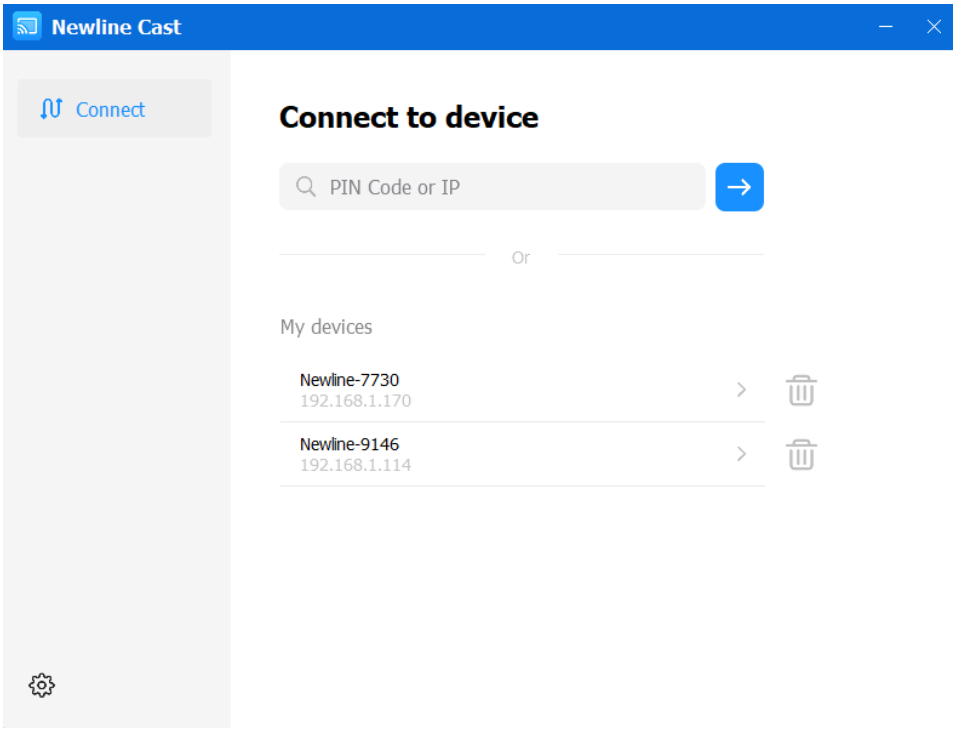
2.3.1. Connect to the Large Display

Please ensure that your Windows/macOS/Chrome OS devices and large display are connected to the same network. There are four connection modes as follows.

- **Set "Device Name" as the connection mode (default setting):** launch the Newline Cast app, and Newline Cast will automatically

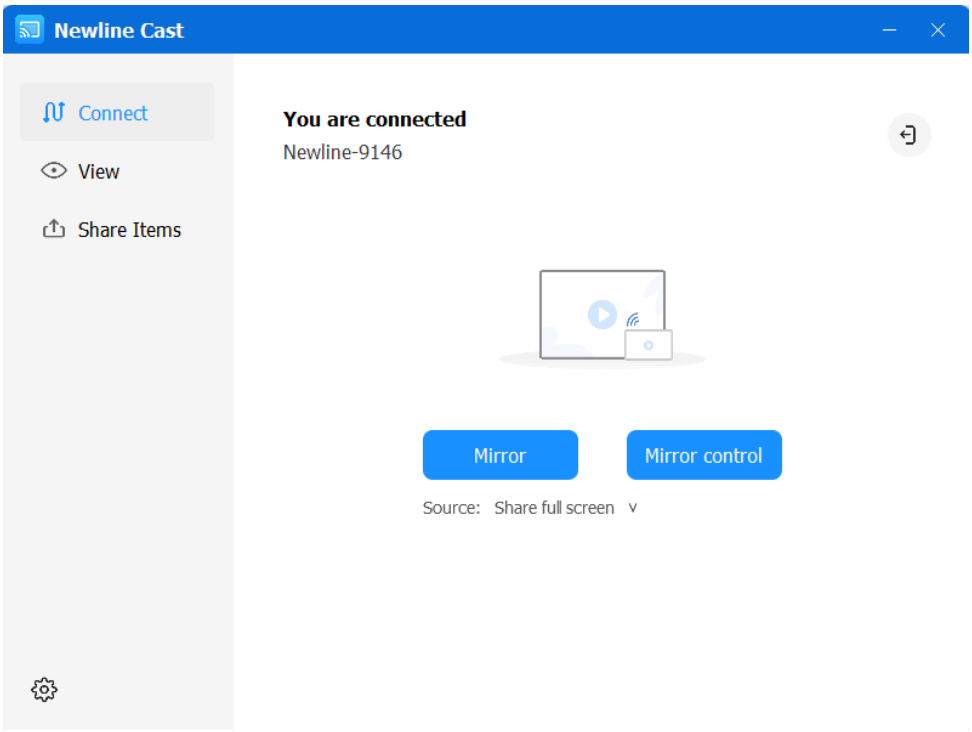
search for large display devices in the same network, and then select the device in the device list to connect to the large display.

- **Set “PIN Code (6 digits)/PIN code (8 characters)" as the connection mode:** launch the Newline Cast app and enter the PIN code to connect to the large display.
- **Enter IP to connect:** enter the IP address of the receiver device to connect to the large display.
- **Select the device in the history list to connect:** click the input box “Enter IP or PIN code to connect" and you will see the history list (if any). Select the device to connect with to large display.

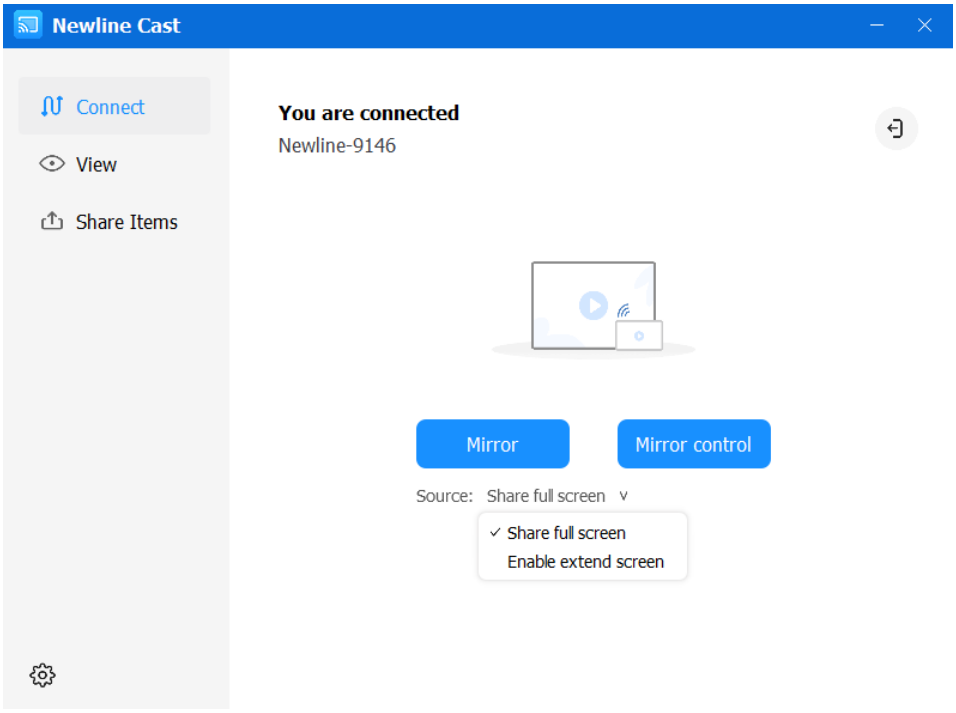


2.3.2. Share Screen

Tap "Mirror" to share your PC screen to the large display, and touch to control client devices from the large display.

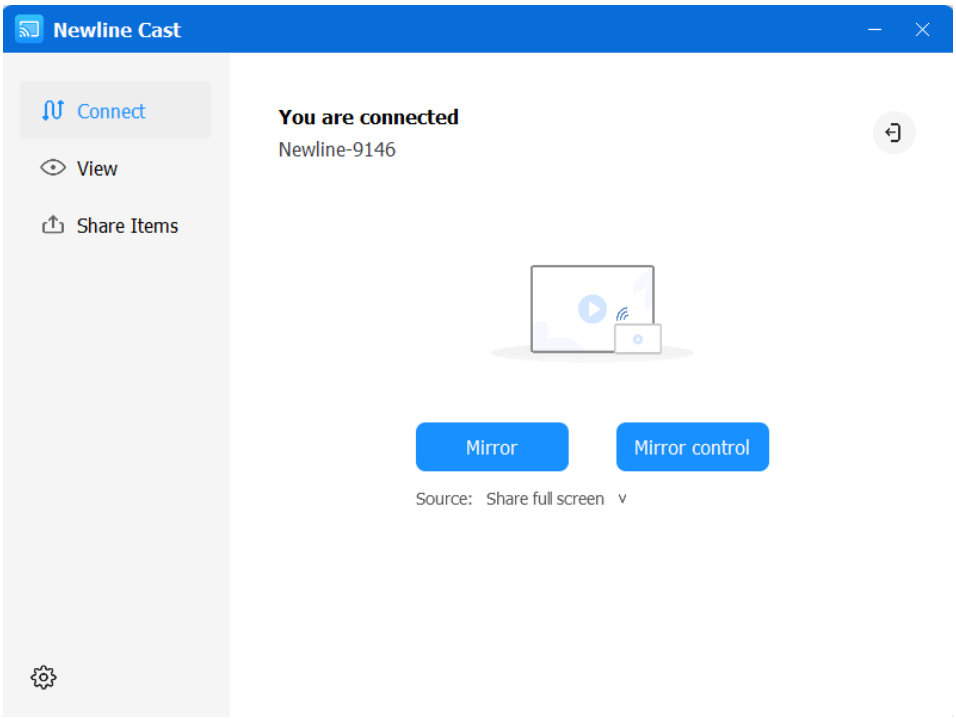


- **Share extend screen (for Win 10 1607 or later):** for Windows users, you can click “Source” to select “Share extend screen” to just share your extend screen to the large display.



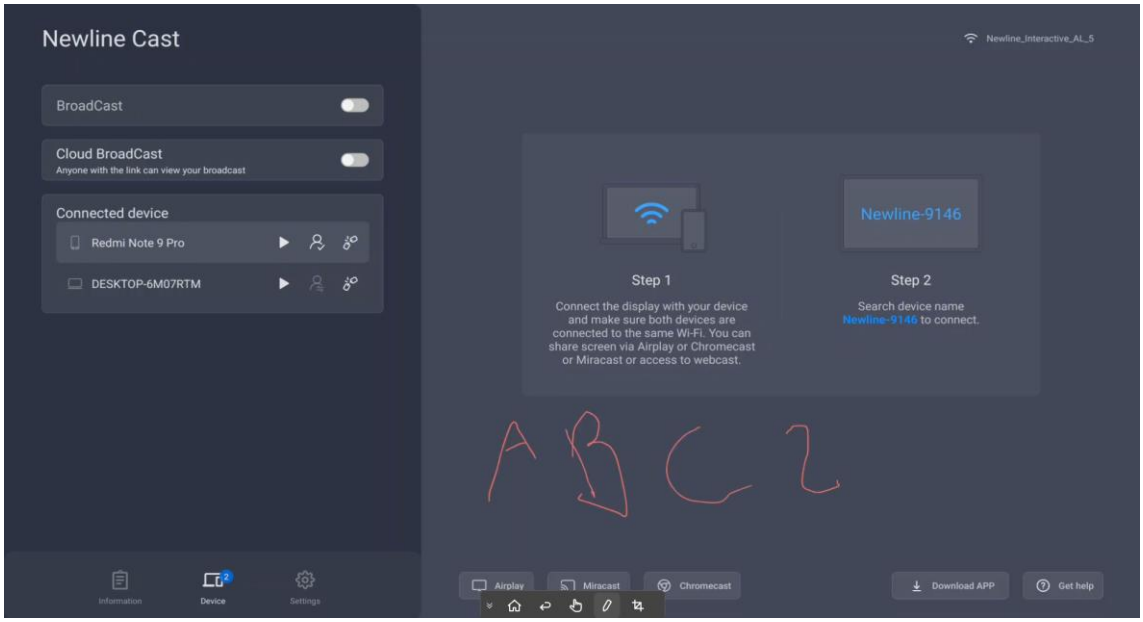
2.3.3. TV Mirror

Tap “Mirror Control” to mirror the screen of the large display to your PC, and control the large display on the PC side.



2.3.4. Wireless Annotations

Tap "Mirror Control", and tap the writing pen button in the sidebar to start wireless annotations on the large display from the PC.

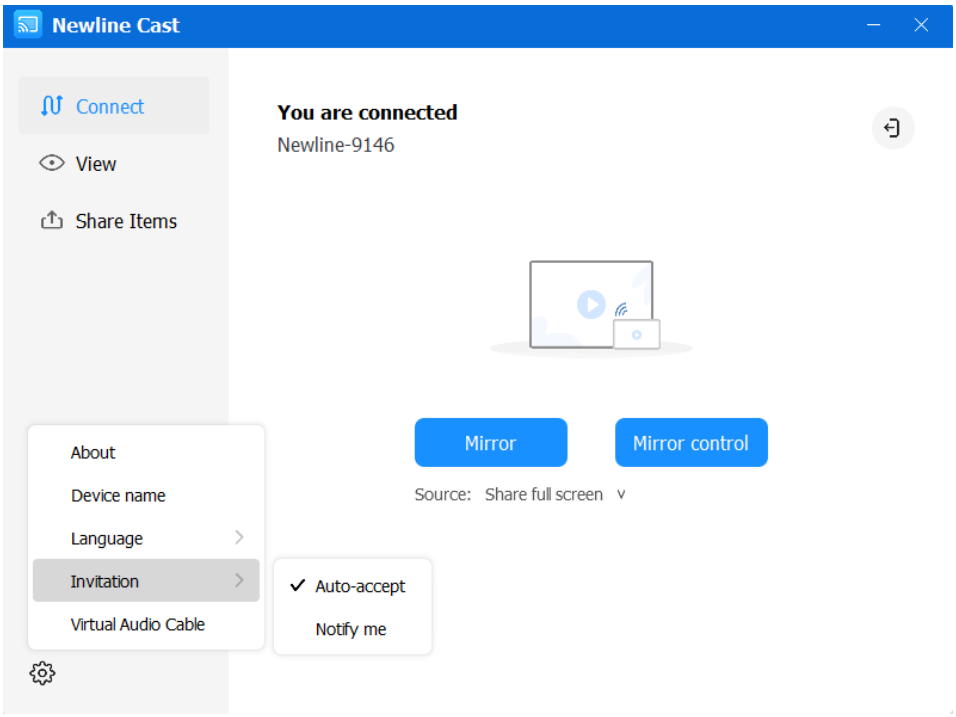


2.3.5. Invitation for Mirroring

Click “Invitation" in Settings and there are two following options for you:

- **Auto-accept:** accept the moderator's invitation for screen sharing automatically. When the moderator taps the button “Share Screen" in Moderator Control Center, your PC screen will be displayed on the large display.

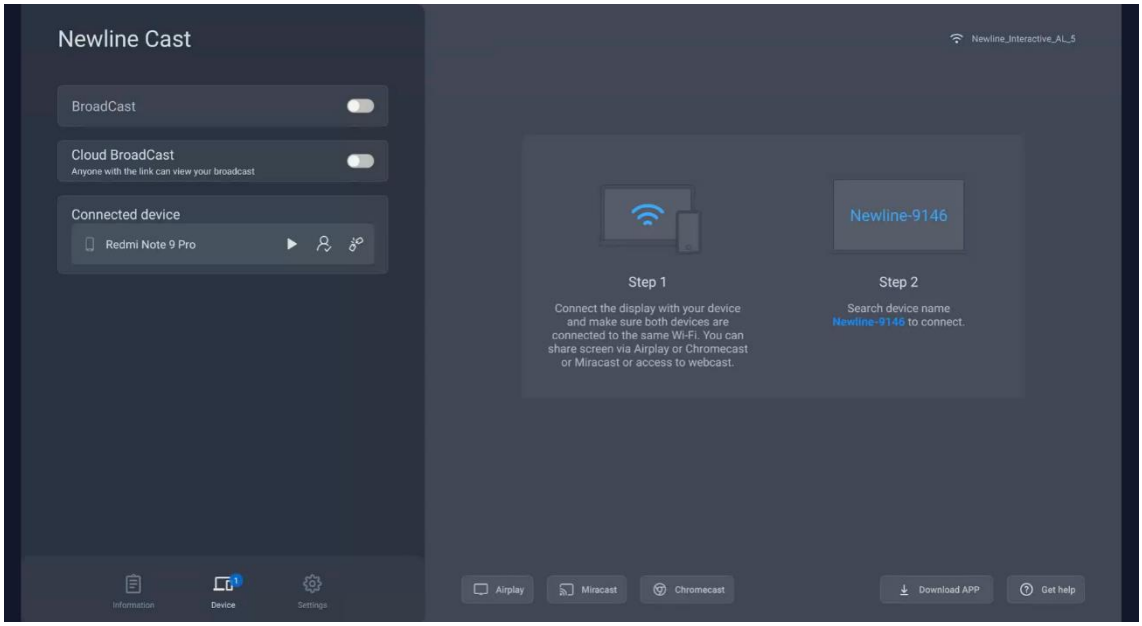
- **Notify me:** when the moderator taps the button “Share Screen” in Moderator Control Center, your PC screen won't be displayed on the large display until you accept the invitation.



3. Newline Cast Receiver

3.1. Key Features

As shown in the figure below, the main page of Newline Cast App receiver will show the network name, device name, IP address, quick guide and so on. In the bottom, three main options are Information, Device and Settings.



3.2. Broadcast and Cloud Broadcast

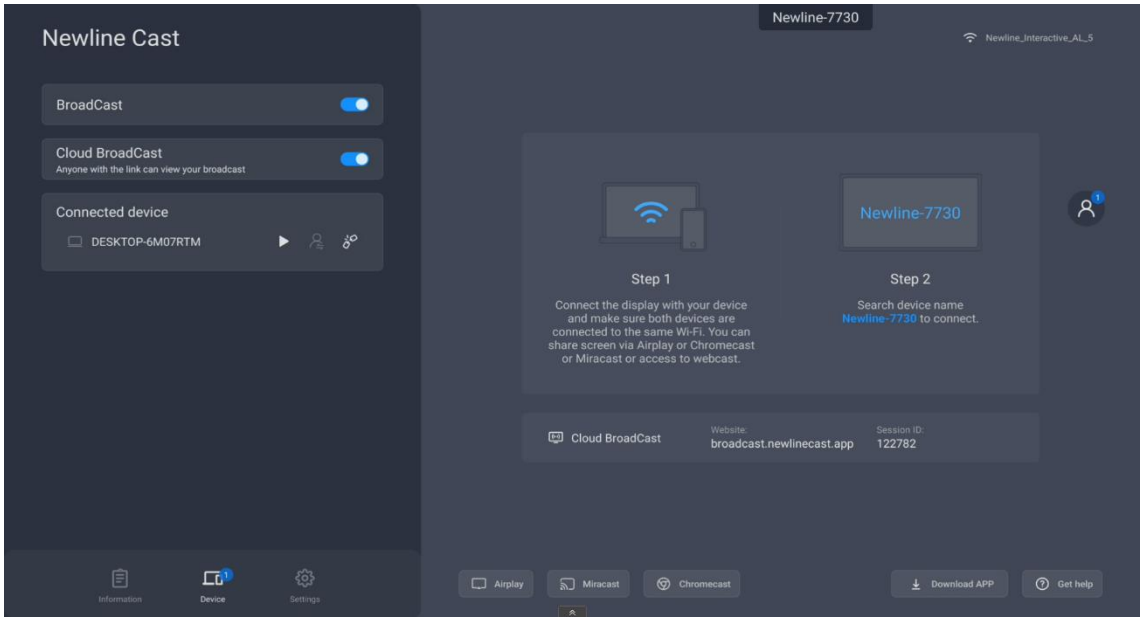
With the latest Broadcast feature, you can cast the screen by entering the ID in the browser without downloading and installing the app. It also supports Internet-based remote screen casting without network domain restrictions.

It is compatible with Windows, macOS, Ubuntu, Chrome OS, and more. Recommended browsers for various OS are as below.

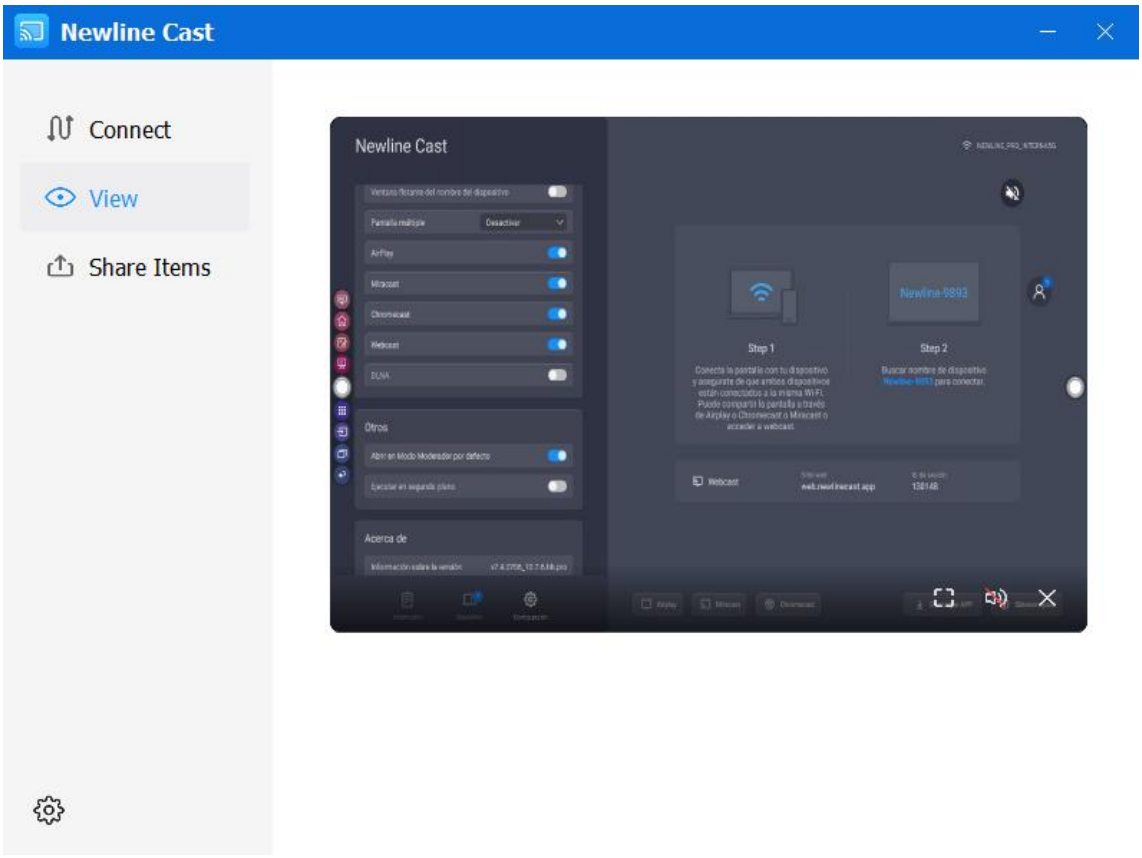
Windows: Google Chrome, Microsoft Edge,
macOS 10.15 and later: Apple Safari, Google Chrome
Chrome OS: Google Chrome
Ubuntu: FireFox, Google Chrome

3.2.1. Guide for Broadcast

1) Tap the button “Enable Broadcast” to start the Broadcast service



2) Once this Broadcast version is enabled, it means that users who are using the Newline Cast installable client will be able to see the contents of the screen being Broadcasted to their devices.

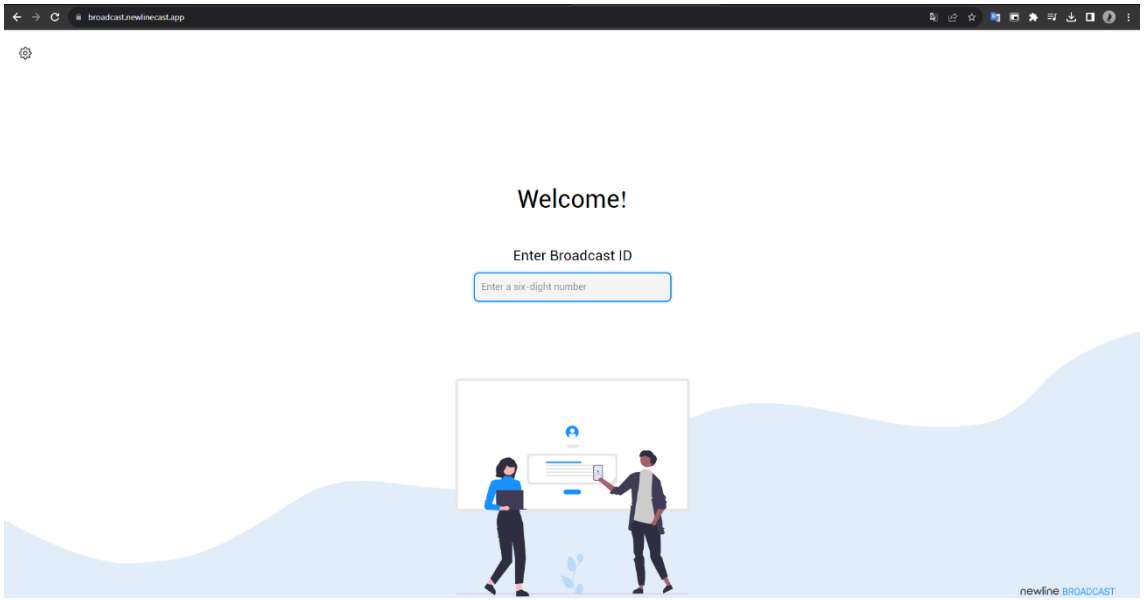


3.2.2. Guide for Cloud Broadcast

Tap the button to enable “Cloud Broadcast" to start the Cloud Broadcast service.

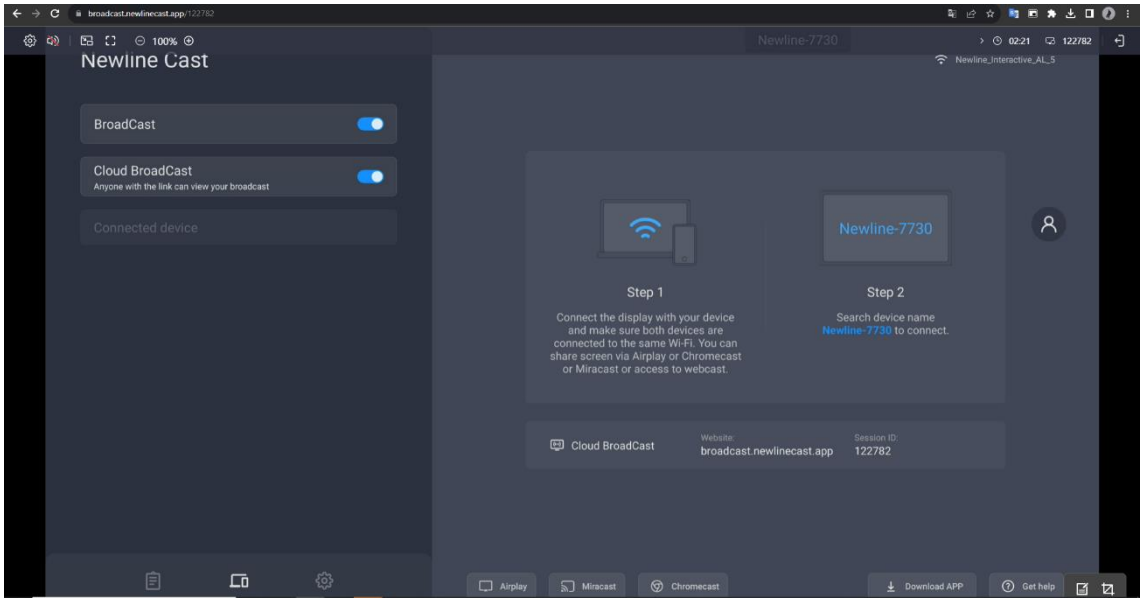
Cloud Broadcast will work in online mode if your display has Internet access, and you can cast your screen by following the steps.

1) Visit "broadcast.newlinecast.app" with the web browser on your laptop and enter Broadcast ID.

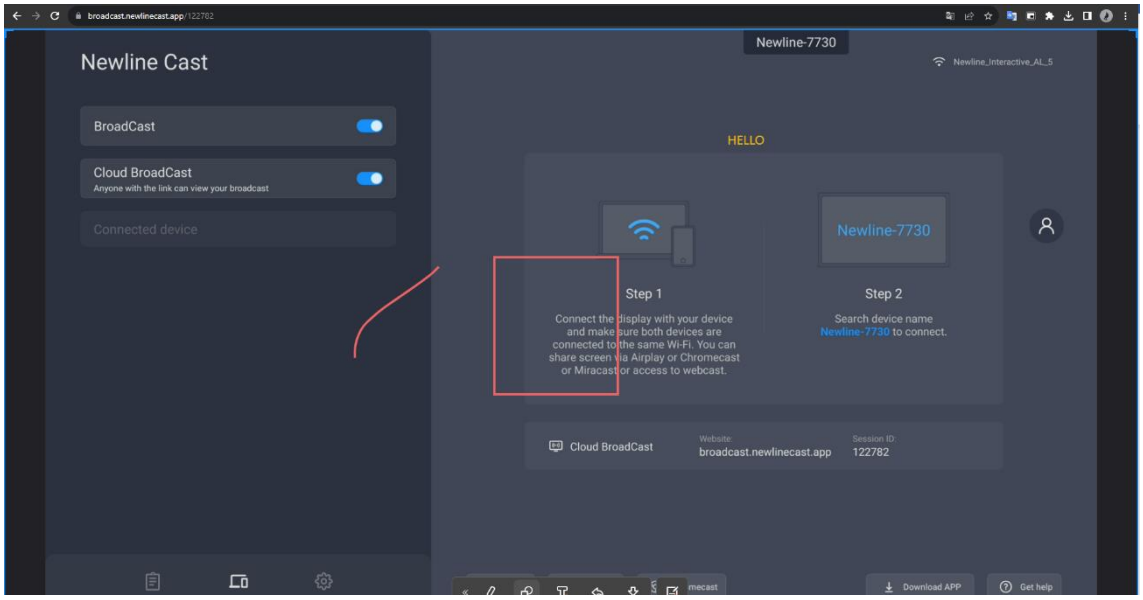


2) A temporary message of a One-Time password will be displayed, ignore this momentarily as Broadcast connects.

3) Once connected you will be able to see the contents of the screen in your own device.

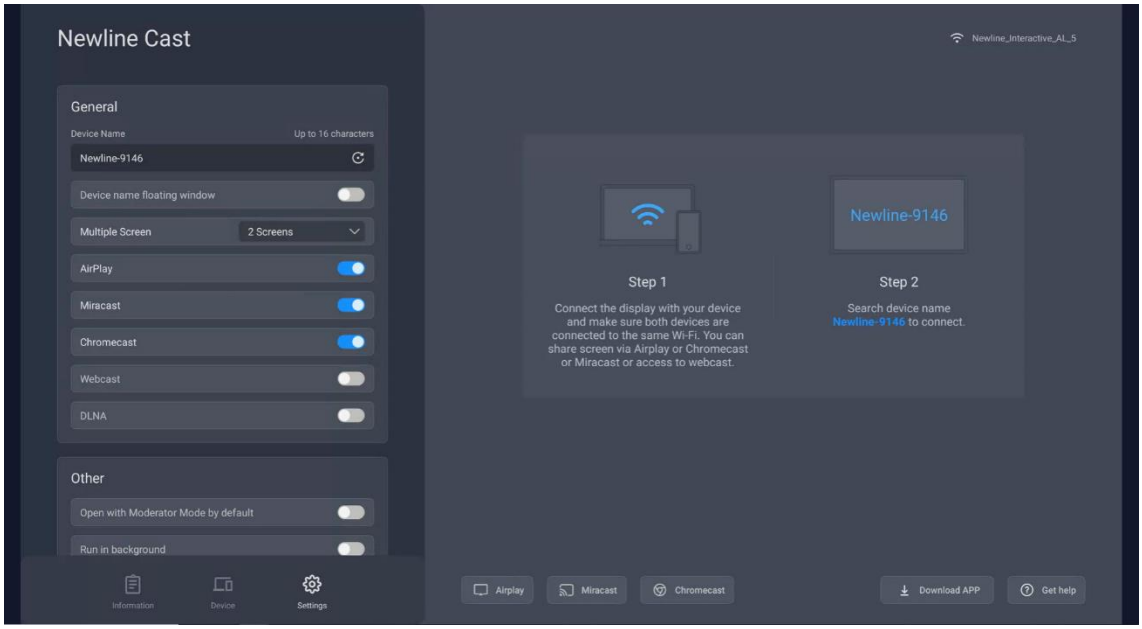


4) While in Cloud Broadcast, you can toggle annotations by clicking on the button located in the bottom right of the screen. You will have access to pen tools, shape building tools as well as text. You can save all of this content in the form of screenshots as well.



3.3. Settings

In the Settings page of Newline Cast, you can customize the device name, connection mode, multiple screens and so on.



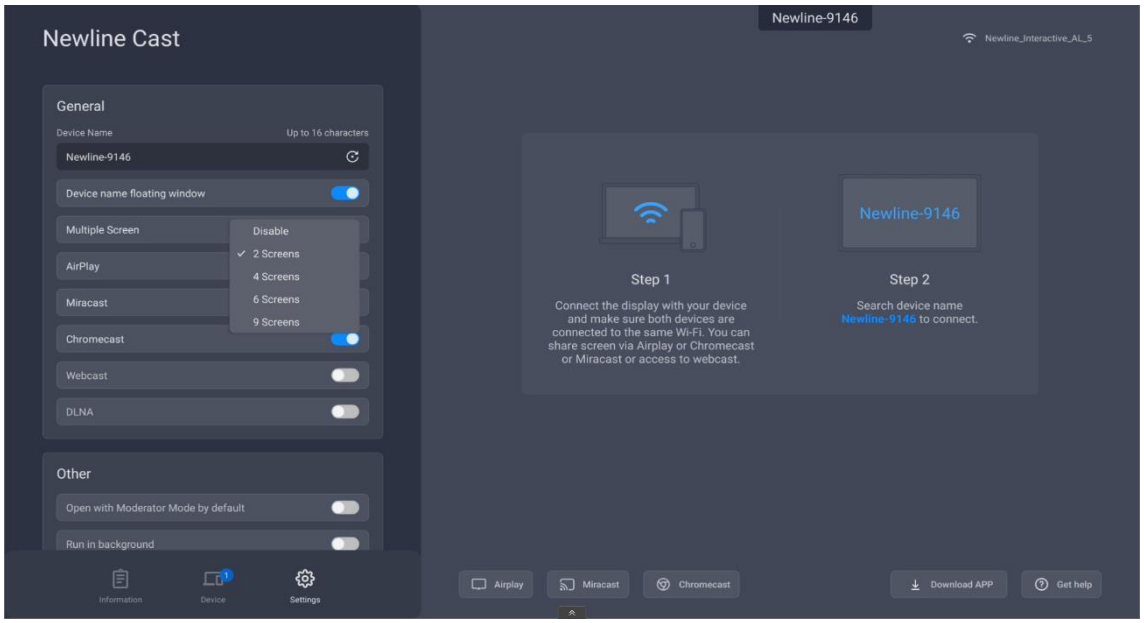
Show Device Name on Screen: if the switch is ON, the client device name will be shown on the top left of the receiver device.

AirPlay, Miracast, Chromecast, WebCast, DLNA Visible: if the switch is ON, users can use these protocols. If OFF, users have to use the NewlineCast Apps to share screen.

3.4. Multiple Screens

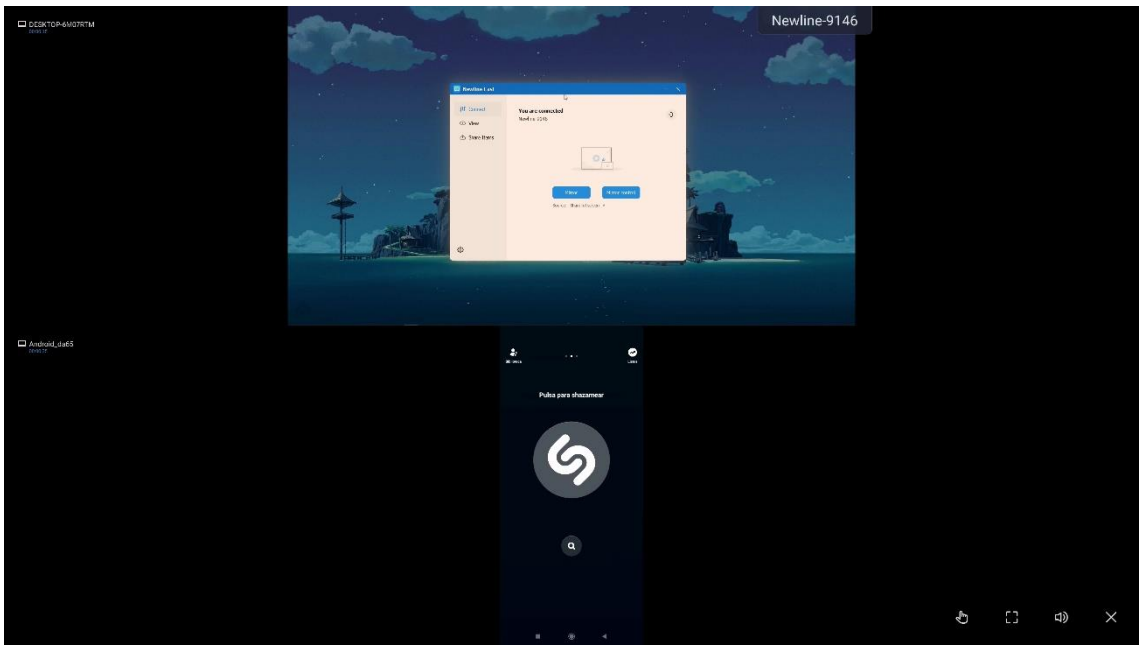
3.4.1. Multiple Screens Setting

Launch Newline Cast app on the large display, tap the “Settings” button in the bottom right to set multiple screens. 9 split screens can be set at most.



3.4.2. Multiple Screens Display

Multiple client device screens can be shared to the receiver at the same time, and the receiver screen will be split automatically.



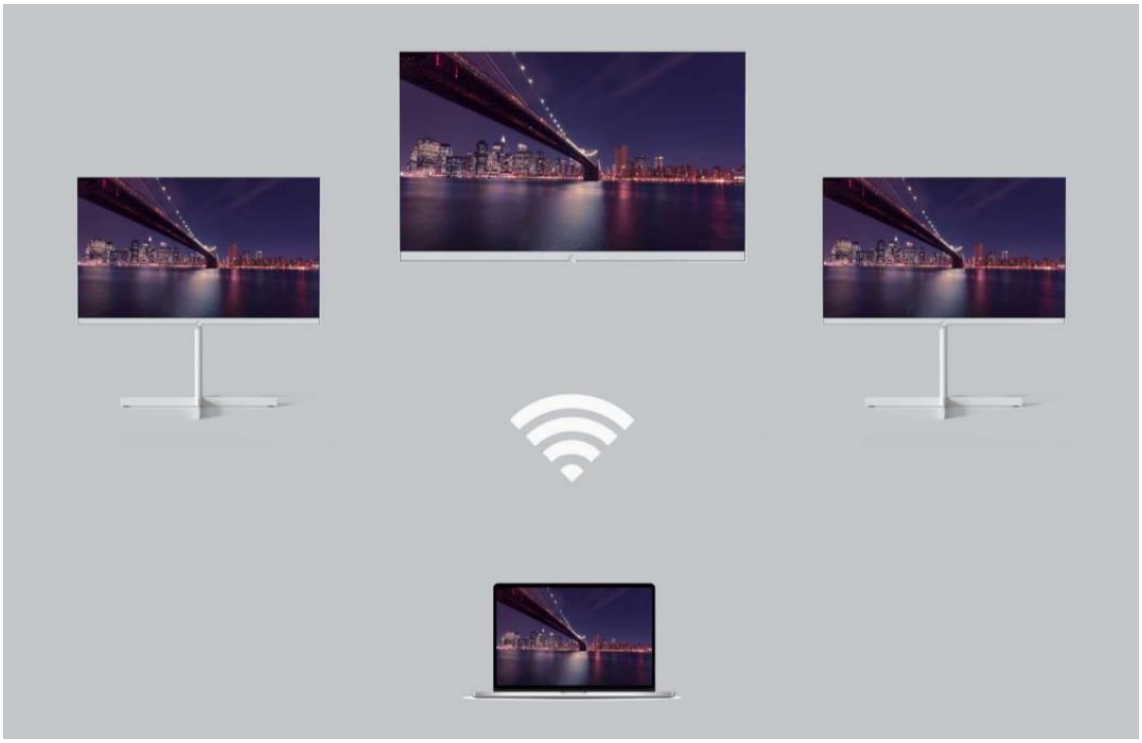
3.4.3. Switch the Audio Source

The audio of the last sharing device will be output by default from the large display on multiscreen mode. You can tap any one of the split windows on the large display to select the audio output source.

3.5. Display Group

Precondition: Newline Cast is installed and activated, and the receiver devices are in the same Local Area Network (LAN).

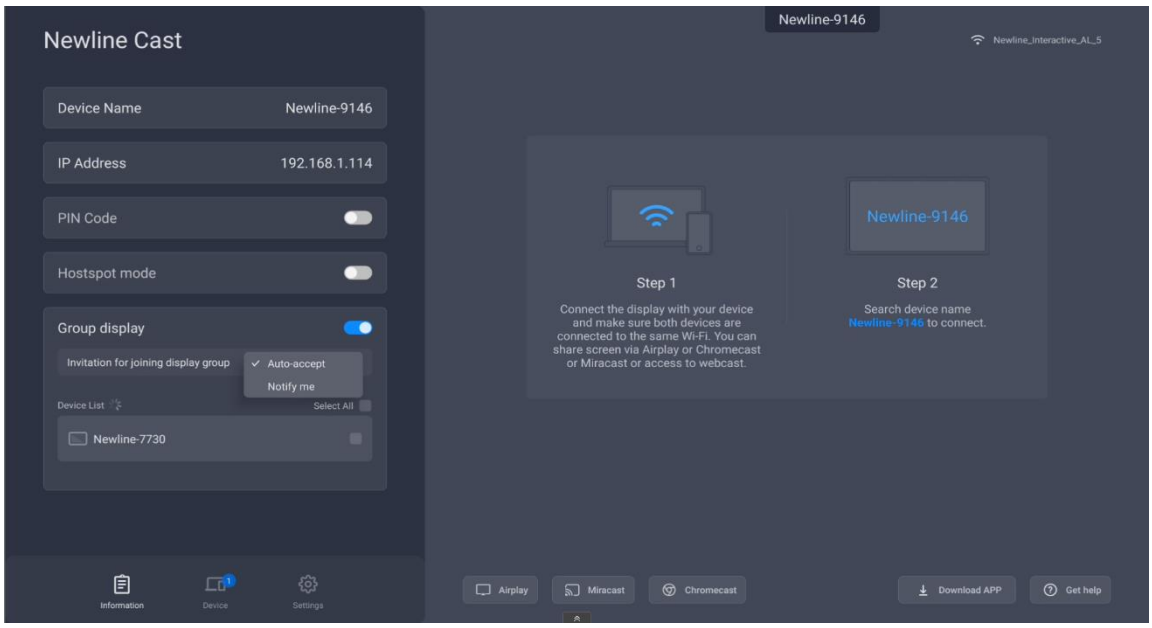
Feature description: the main screen can be duplicated to multiple large displays simultaneously, and the client device can also be mirrored to multiple receiver displays.



3.5.1. Options for Invitation

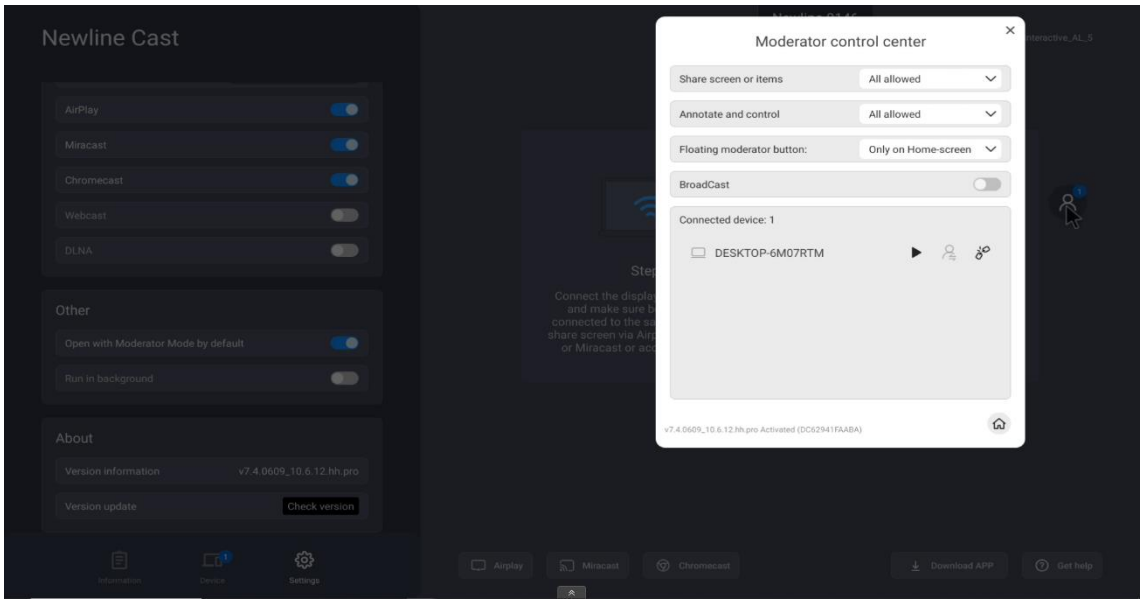
Auto-accept: other displays can share their screen to this display without any permissions.

Notify me: you will see a dialog when your screen is invited to join the group, and other displays can share their screen to this display only when you allow the invitation.



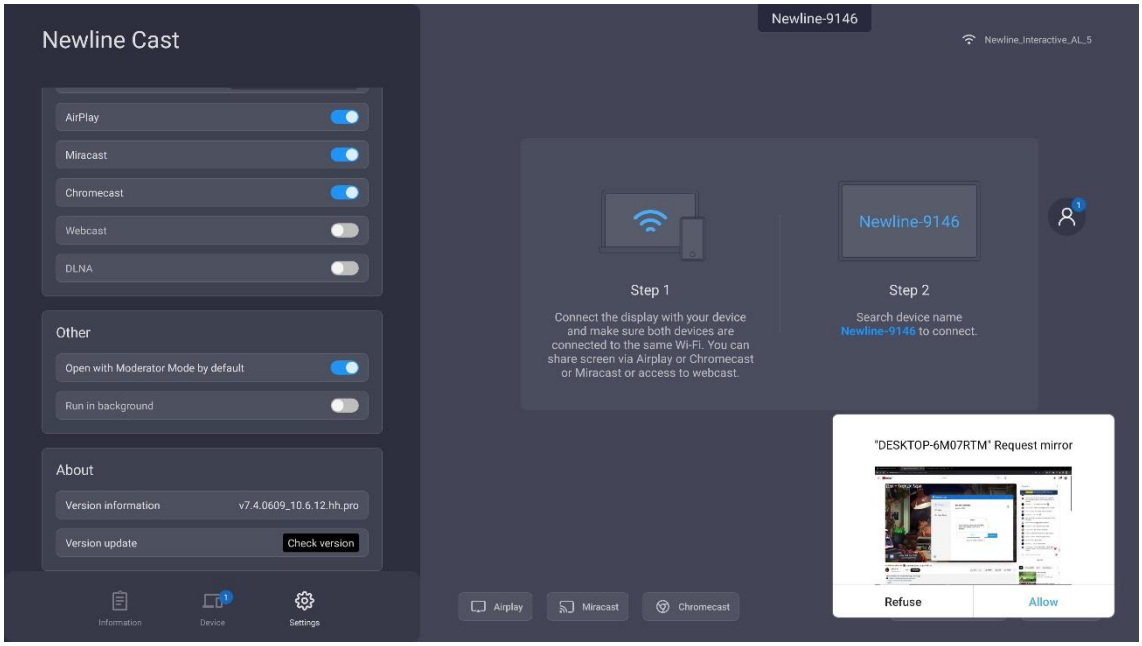
3.6. Moderator Control Center

Launch "Newline Cast", tap on Settings and then tap the moderator control button in the left column to enter the moderator control center. You can also enter the moderator control center by tapping the floating moderator button.



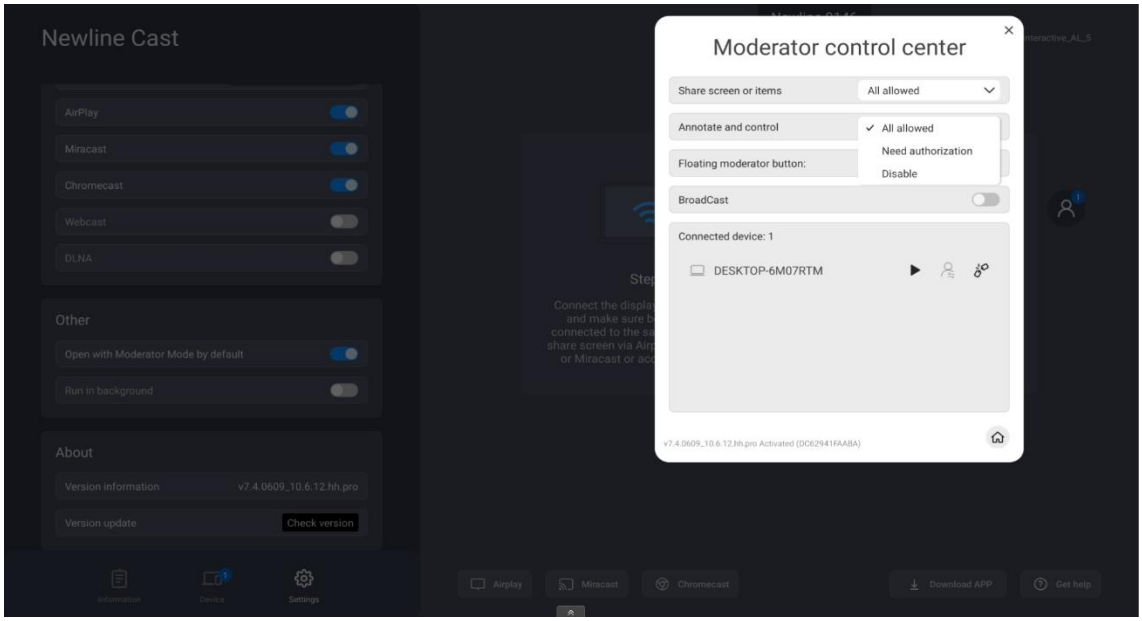
3.6.1. Options for “Share Screen or items”

- **Allowed:** client devices can share screen or share images/audio/videos/files to the large display.
- **Need authorization:** client devices can share screen or share images /audio/videos/files to the large display only when the option “Allow” is selected in the authorization dialog for sharing screen.
- **Screen Preview:** If this option is selected, a small preview window will appear in the bottom right corner of the screen.
- **Disable:** any client devices cannot share images/audio/videos/file if the option of “Share Screen or File” is set as “Disable”



3.6.2. Options for “View, Control and Wireless Annotations”

- **Allowed:** client devices can view and control the large display, can do annotations in Mirror Control or Remote Control.
- **Need authorization:** client devices can view and control the large display and can do annotations in Mirror Control or Remote Control only when the option “Allow” is selected in the authorization dialog.
- **View only**: client devices can only view the large display in Mirror Control but cannot control the large display or do annotations.
- **Disable:** any client devices cannot view, control the large display in TV Mirror or Remote Control, or do annotations.



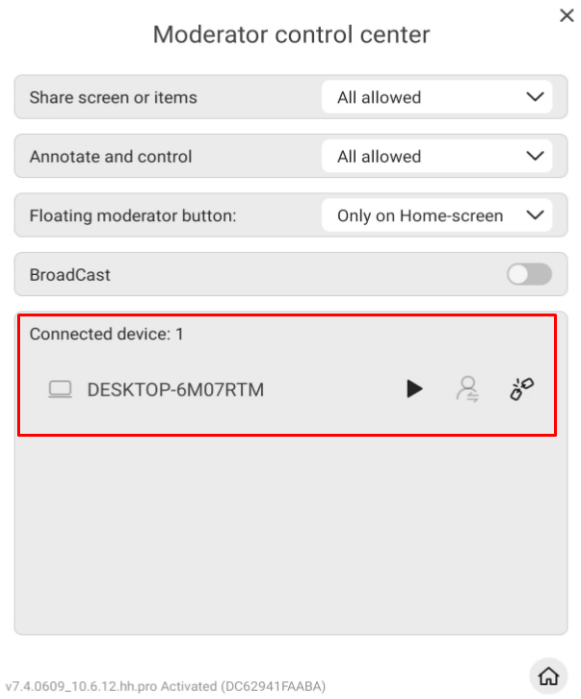
3.6.3. Other Options in Moderator Control Center

Precondition: the client device is connected to the large display.

Invite the client device to share screen: select any one client device in the moderator control center, and click the Play button to invite the client device to share screen, and tap this button again to stop sharing when the client device is sharing screen.

Allow the client device to control the large display: tap the screen control button to enable or disable the client's control permission for the large display. If this button is marked with a small green tick, it shows the client can control the large display.

Disconnect the client device: tap the "disconnect" chain button , and select “OK” in the dialog to disconnect the client device.



3.7. WebCast

With the latest WebCast feature, you can cast the screen by entering the ID in the browser without downloading and installing the app. It also supports Internet-based remote screen casting without network domain restrictions.

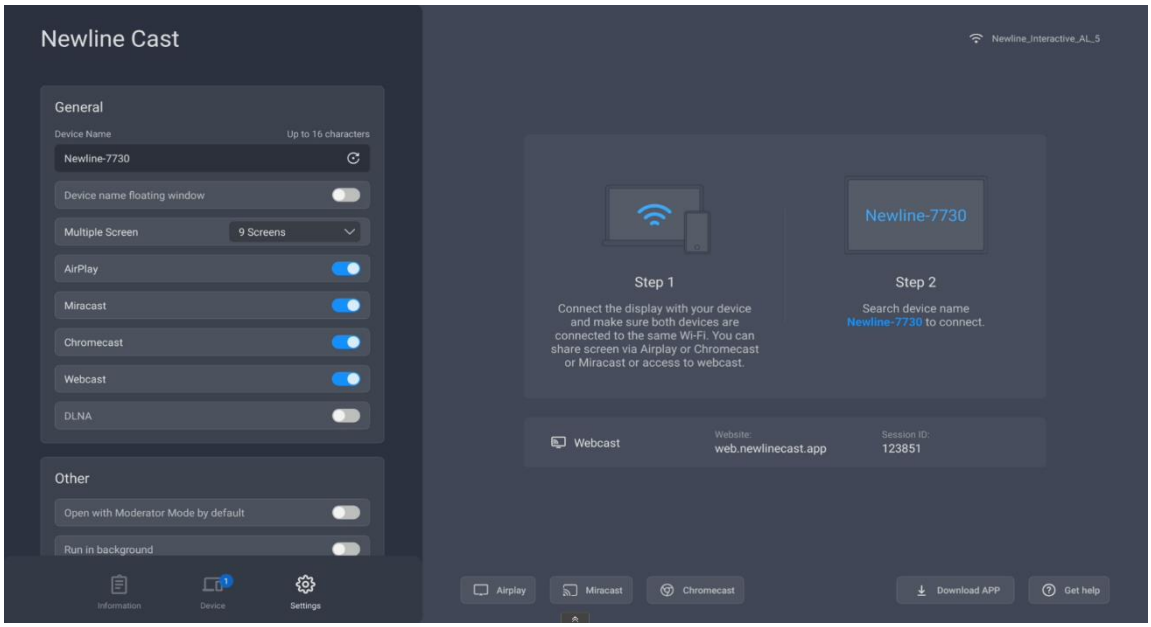
It is compatible with Windows, macOS, Ubuntu, Chrome OS, and more. Recommended browsers for various OS are as below.

- Windows: Google Chrome, Microsoft Edge,
- macOS 10.15 and later: Apple Safari, Google Chrome
- Chrome OS: Google Chrome
- Ubuntu: FireFox, Google Chrome

Note: WebCast doesn't work with phone browsers. The touch feedback doesn't work with WebCast. 3.6.1 Enable WebCast.

3.7.1. Enable WebCast

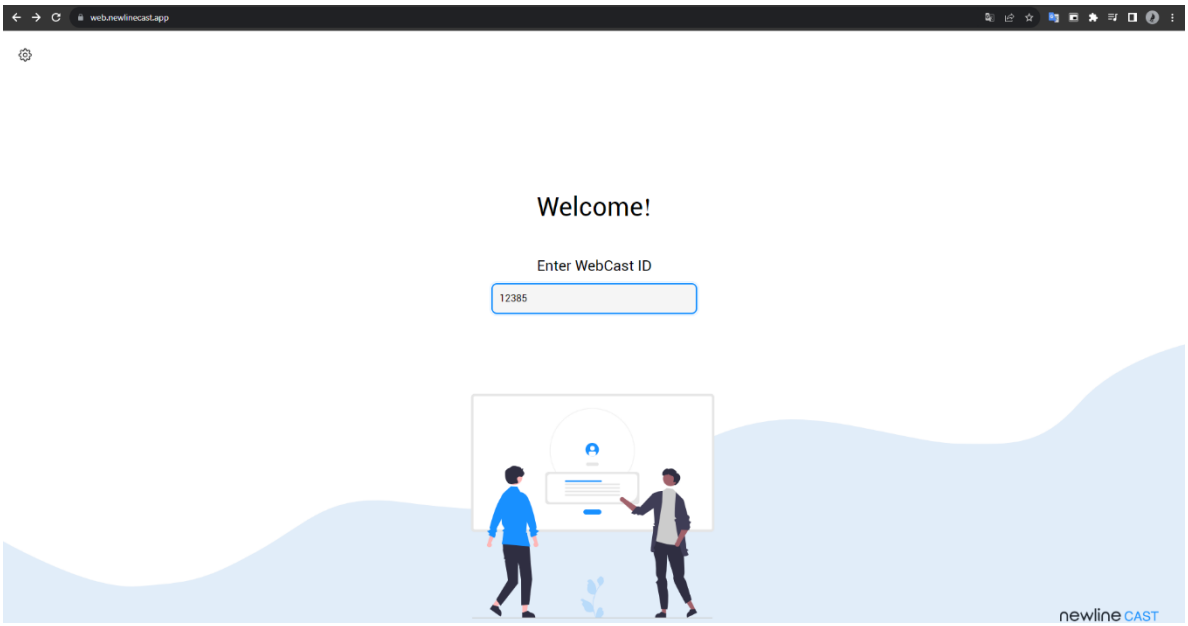
Tap the button “Enable WebCast” to start the WebCast service.



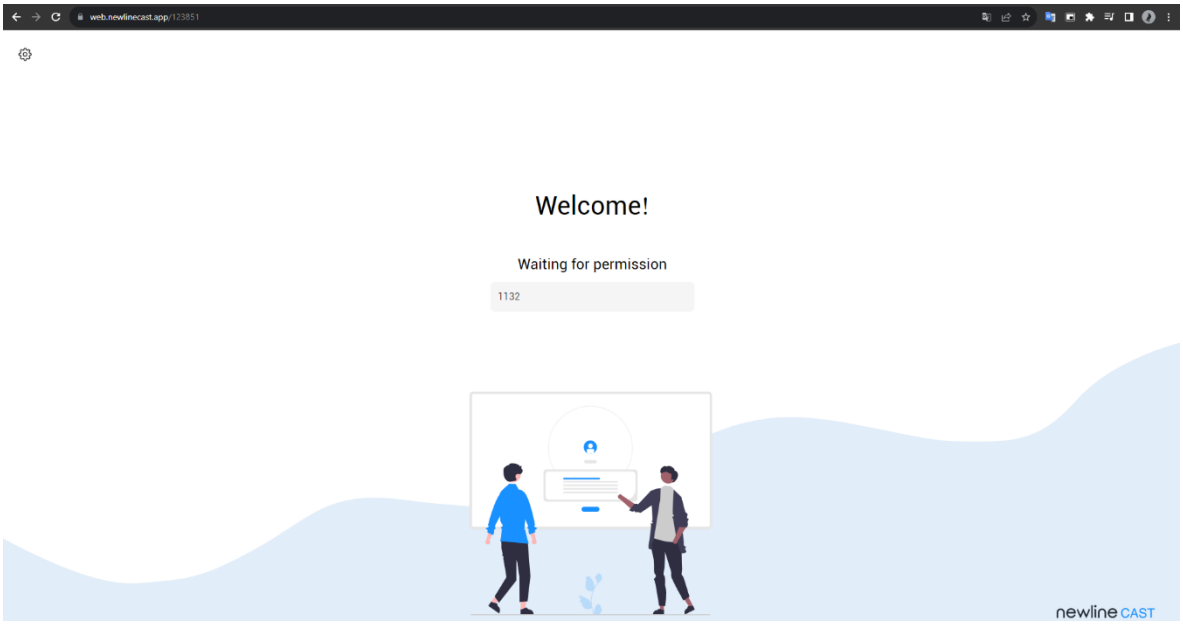
3.7.2. Guide for Webcast

WebCast will work in online mode if your display has Internet access, and you can cast your screen by following the steps.

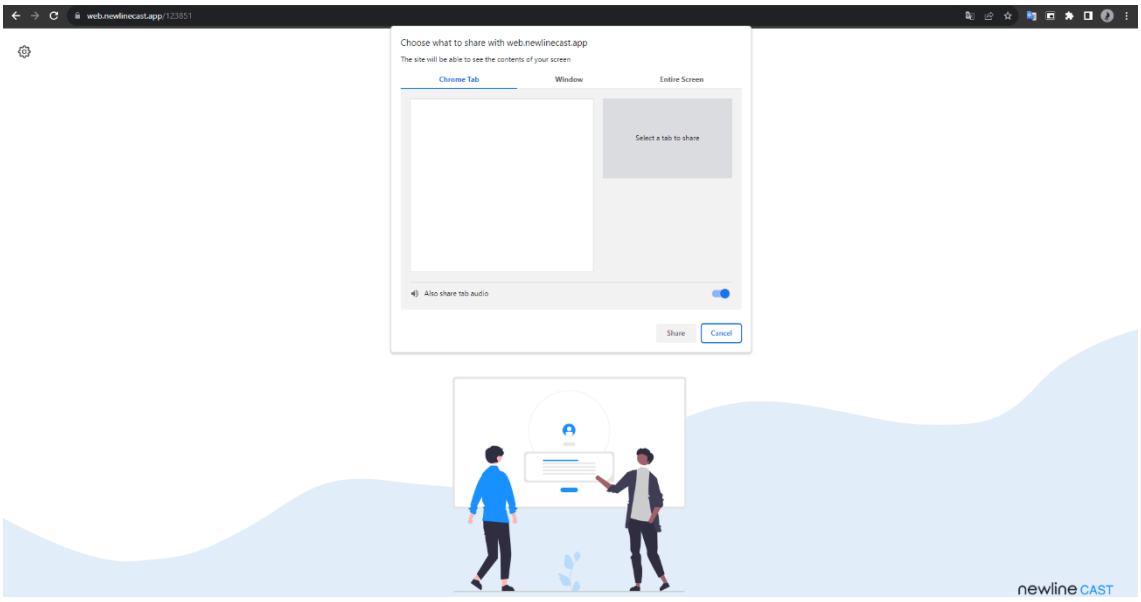
5) Visit "web.newlinecast.app" with the web browser on your laptop and enter WebCast ID.



6) Enter the one-time password that pops up on the large display (or tap "Allow" button on it) to establish a WebCast connection. The moderator can allow or deny your WebCast casting request.



3) The screen share content selection dialog will pop up, you can choose "Entire Screen", "Window" or "Chrome Tab", and check the “Share system audio" option. Then click the "Share" button to start casting.



3.7.3. Offline Mode

WebCast will work in offline mode if the large display cannot access the internet. The WebCast link will be created using the LAN IP address of the large display with port 1080.

Tips: You may get a message "NET::ERR_CERT_AUTHORITY_INVALID" on the web browser, please ignore it and tap the Advance button, then choose "Proceed to [the LAN IP address of large display]" to enter the WebCast page.

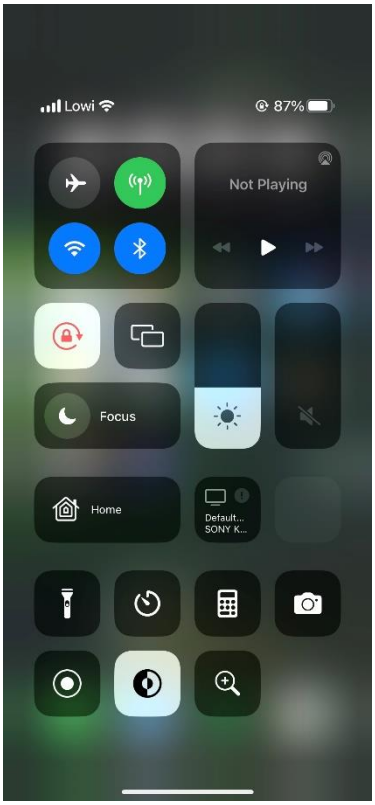
4. Non-APP Casting

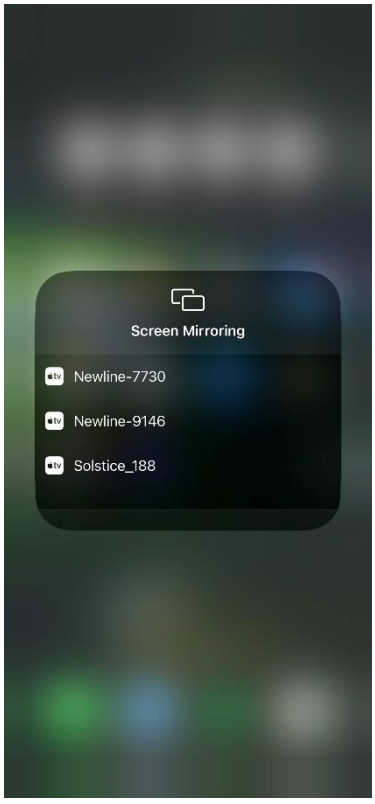
If the iMirror, Miracast, Chromecast and DLNA Apps are pre-installed on the display, you can find the corresponding switches on the Newline Cast settings page.

4.1. Airplay

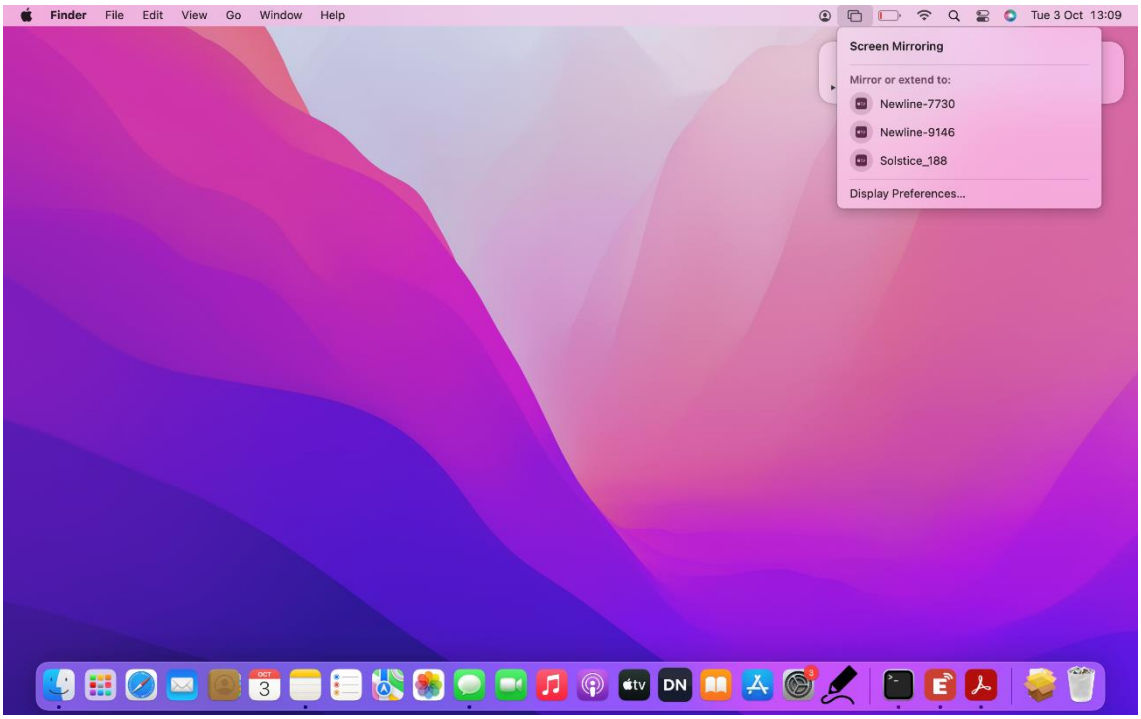
With the AirPlay Visible enabled, the Apple devices (such as iPhone/iPad/MacBook/iMac) can cast screen to the large display with the Screen Mirroring function in iOS.

4.1.1. Guide for iPhone Screen Mirroring





4.1.2. Guide for MacBook Screen Mirroring

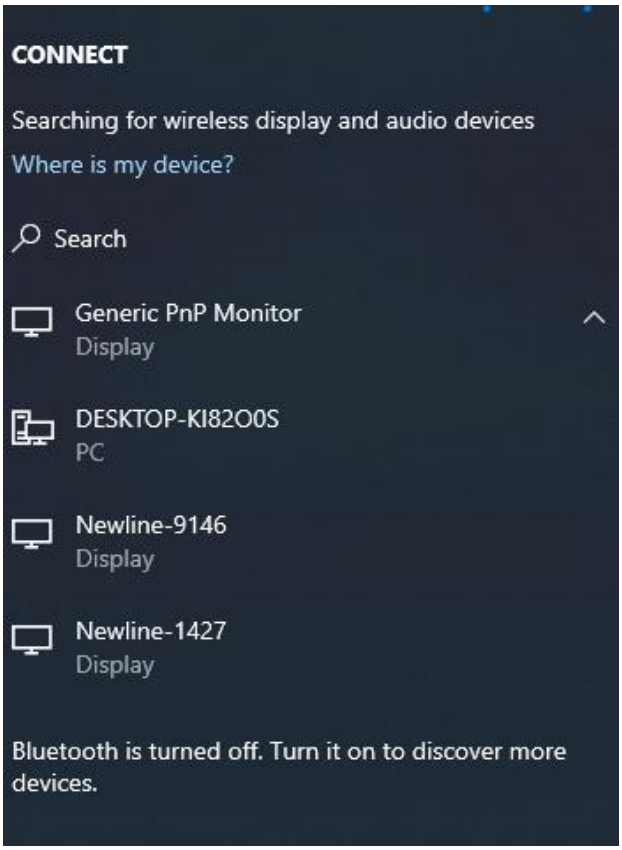


4.2. Miracast

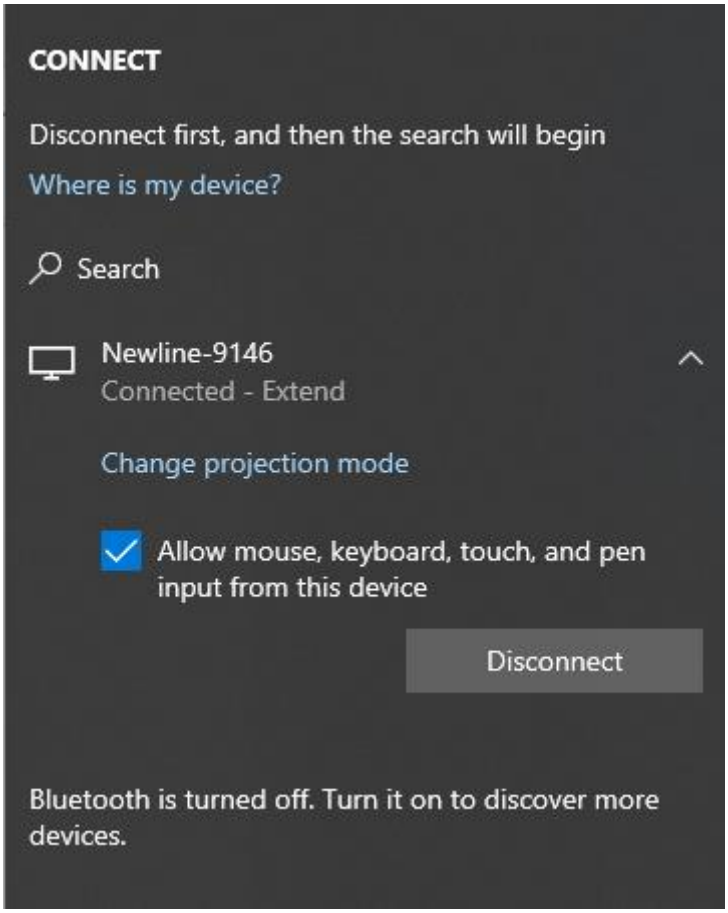
With the Miracast switch enabled, Windows laptops or Android phones that support the Miracast can discover the large display, and select it to cast the screen.

4.2.1. Guide for Windows Laptops

1) Press Win + K and select the device to cast to.



2）Check the option “Allow mouse, keyboard, touch, and pen input from the device" to enable touch feedback feature.



4.2.2. Guide for Android Phones

Open Cast/SmartView/Wireless Projection… on Android phones (different brands may name differently for this function), select a device to cast screen.

Miracast feature depends on the Wi-Fi direct transmission (P2P) of the hardware, so the performance and stability have a lot to do with the Wi-Fi of the large display.

4.3. Chromecast

4.3.1. Preconditions to Use Chromecast

1) The switch “ChromeCast” in NewlineCast settings is enabled.

2) The client and receiver devices are in the same network.

3) The date of the large display is accurate.

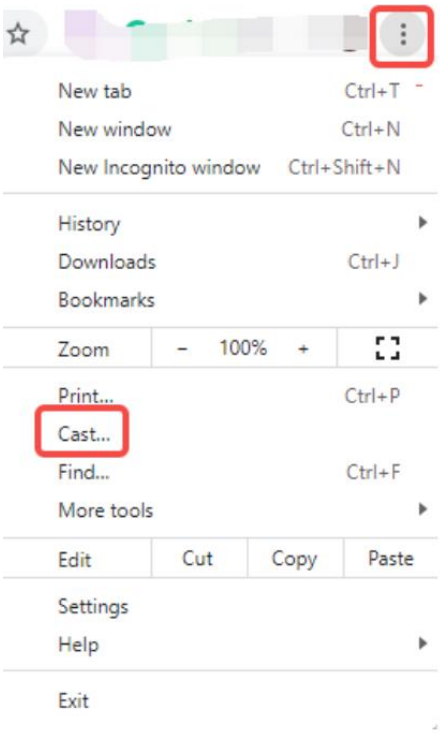
4.3.2. Guide for Chromecast

1) **Android Phones**

Open Cast/SmartView/Projection… (different phone manufacturers may name differently for this function), select a large display to cast screen.

2) **Chrome Browser**

Click the "More" icon in the top right corner of the Chrome browser, find the “cast” option, and then select a large display device to cast screen.



3) **Chromebooks**

Click the system clock in the bottom right corner, open “cast”, and select a large display to start casting.