Wireless Presentation & Collaboration System

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1. Getting Started

1.1 Package Content

1. NovoPRO
2. HDMI-to-HDMI Cable
3. Micro-USB-to-USB Power Cable
4. Wall Mount
5. USB Power Adapter
6. Remote Control
1.2 Hardware Setup

Setting up NovoPRO is simple and straightforward.

1) **Video/Audio connection**: Connect the HDMI port to a TV/projector’s HDMI input port with the provided HDMI cable (item (2) in “Package Content”).

2) **Power**: Connect the DC Power Jack to a power outlet with the provided USB power adaptor and USB cable (items (3) and (5) in “Package Content”).

If everything is set up properly, NovoPRO’s green LED should be illuminated.

**Note:**
- You may connect an optional USB mouse/keyboard or a USB disk to the USB port.
- If more USB ports are needed, you can connect a USB hub to the USB port.
- The microSD slot supports microSD cards up to 64GB.

1.3 NovoPRO Home Screen

After a successful boot-up, the NovoPRO device will show the following screen, which is referred to as “NovoPRO home screen” or just “home screen” in this document. The home screen is generated by NovoPRO’s main application, Remote Viewer.
Basic Device Configuration

NovoPRO is default at WiFi Hotspot mode with its SSID name displayed at the home screen (e.g. NVC_4DF8F in box 3). Alternatively, you can connect the NovoPRO to any existing network via a wireless and/or a wired connection. Click on button “WiFi” to make the necessary changes.

Similarly,

- Click on button “Display” to change display-related settings
- Click on button “Settings” to change other general settings.

Software Installation

Windows/Mac Users: Open Desktop Streamer’s download link shown on the home screen with your web browser and follow the on-screen instructions. Or simply visit http://vivitekcorp.com/ for the software download.

iOS/Android Users: Install NovoPresenter from App or Play Store. (See Section 1.5)

Chromebook Users: Install Desktop Streamer from Chrome Web Store (See Section 1.5)

Connection Information

- **Location** – Users can change this to a meaningful room name.
- **PIN** – This is an optional PIN code to join a presentation session.
- **IP address** – Ethernet and WiFi IP address respectively.
- **QR code** – It has all the above-mentioned information. With tablets/phones, users can use NovoPresenter to connect to a presentation session by scanning this QR code.
**4 Application Edition**

NovoPRO has two application modes: Education Edition and Corporate Edition. The main differences between these two editions are as follows:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Education Edition</th>
<th>Corporate Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Projection Control</strong></td>
<td>• Only HOST (teacher) can switch users</td>
<td>Two modes</td>
</tr>
<tr>
<td></td>
<td>• Switch users without permission</td>
<td>(1) Moderator On</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Only moderator can switch users</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Users’ permission is required</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) Moderator Off</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Everyone can switch users</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Users’ permission is required</td>
</tr>
<tr>
<td><strong>Screen Preview</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(Ability for Moderator to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>preview participants’ screen)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Encryption</strong></td>
<td>No</td>
<td>AES-128</td>
</tr>
<tr>
<td><strong>Lock Tablet Screen</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Disconnect Everyone</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

*Note: This manual primarily references the Corporate Edition for instructional examples. Special notes will accompany instructions that are specific to the Education Edition.*

### 1.4 Basic Device Configuration

Before being deployed, a NovoPRO device may require some basic configuration such as setting up its display resolution, network connection, etc. To do so, typically a USB mouse is needed. Alternatively, you can use the provided Remote Control to do so.

*Note: Following any clicking activity on the screen, the navigation bar appears. You could hide the navigation bar by clicking the back key one or more.*
### Function

| Description | WiFi: Click on button WiFi to bring up the Wi-Fi configuration dialog.  
|-------------|----------------------------------------------------------------------------------------------------
|             | - To use the NovoPRO as the Wi-Fi host, select “Enable WiFi Hotspot” and click Apply.            |
|             | - To connect to an existing WiFi network,                                                       |
|             |   - Select “Connect to WiFi”.                                                                     |
|             |   - Click on Configure to bring up a new Wi-Fi configuration page.                                |
|             |   - Enable Wi-Fi connection. Select the SSID of the external router. Enter the WiFi’s password if |
|             |   - Click on Connect to start the connecting.                                                     |

<table>
<thead>
<tr>
<th>Display:</th>
<th>Click on button Display to bring up the Display dialog.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Select the one that matches the display screen best.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Auto Config</th>
<th>NovoPRO will automatically determine the optimal screen resolution.</th>
</tr>
</thead>
<tbody>
<tr>
<td>XGA(1024x768)</td>
<td>You can specify your desired display output resolution.</td>
</tr>
<tr>
<td>WXGA(1280x800)</td>
<td></td>
</tr>
<tr>
<td>720p (1280x720)</td>
<td></td>
</tr>
<tr>
<td>1080p (1920x1080)</td>
<td></td>
</tr>
</tbody>
</table>

- Click Save to confirm the selection, or click Cancel to abort the selection.
Settings:
Click on button Settings for more device settings.

- Firmware Upgrade: Upgrade the NovoPRO to the latest version
- General Settings: Access the Android system settings
- Settings Protection: Enable/disable password lock.

Settings Protection:
This allows users to lock the settings with a password, or unlock it.
- To disable the password, click Disable Protection.
- To set a password, click Enable Protection, then enter a password followed by its confirmation on the next line.

Reset:
Restart the NovoPRO.

Location:
- Click on the associated text to bring up “Edit Room Name” dialog.
- Enter the new name.
- Click Save to confirm the name change, or click Cancel to abort the name change.
Edition:
- Click on button “Edition: xxx” to bring up “Select Edition” dialog.
- Select either Corporate Edition or Education Edition, then click Confirm to make the edition change official, or click Cancel to abort the edition change.

1.5 Client software download and installation

To connect to a NovoPRO device, one of two client applications may be needed on your device. They are,

Novo Desktop Streamer : Windows, Mac, Chromebook
NovoPresenter : Android, iOS

Software Download/Installation for Windows and Mac

You can download the software directly from http://www.vivitekcorp.com. Alternatively, you can download it from the NovoPRO device.

1. Connect your computer to the same network as the NovoPRO.
2. Open Desktop Streamer’s download link shown on the home screen with your web browser and follow the on-screen instructions. For the example home screen shown above, you would use http://192.168.43.1:8080. You will be able to see the download page, as shown in the following figure.
(3) Select the appropriate OS and then click the **DOWNLOAD** button to start the download.
(4) Execute the downloaded file to start the installation. Following the on-screen instructions and you should be able to finish the installation in a couple minutes.

**App Download/Installation for Android/iOS**
(1) For iPhones/iPads, download and install *NovoPresenter* App from the Apple App Store.
(2) For Android phones/tablets, download and install *NovoPresenter* App from the Google Play Store.

**App Download/Installation for Chromebooks**
Download and install *Novo Desktop Streamer* from the Google Chrome Web Store.
2. Setting Up Network

To fully take advantage of NovoPRO’s capabilities, it should be properly deployed in a school or corporate’s network. Some aspects should be carefully considered and planned, for example, WiFi interference and channel selection and intranet firewall. In this chapter, these aspects will be illustrated to facilitate a successful NovoPRO deployment in your network.

2.1 Network connection

NovoPRO has three network connection types, Ethernet, WiFi Client, and WiFi Hotspot.

A) Ethernet – NovoPRO can be plugged into your Ethernet via its RJ45 port. Namely, you can connect NovoPRO to your organization’s backbone network. It is recommended to use Ethernet connection (when possible) since it gives you better robustness and higher performance.

B) WiFi – NovoPRO’s built-in 802.11ac WiFi operates at dual bands (2.4/5GHz). With its 2T2R antenna, it can achieve a maximum bandwidth of 300Mbps\(^1\). This high-performance WiFi module can operate at two modes.

   a) Client Mode – NovoPRO can be connected to your organization’s WiFi network via its built-in WiFi module.

   b) Hotspot Mode – NovoPRO can create its own WiFi network, allowing users to connect their mobile devices to this ad hoc network.

The following table summarizes their feature difference and typical usage.

<table>
<thead>
<tr>
<th></th>
<th>Ethernet/WiFi Client Mode</th>
<th>WiFi Hotspot Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Users Allowed</td>
<td>64</td>
<td>8</td>
</tr>
<tr>
<td>Internet/Intranet Access</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Typical Usage</td>
<td>Pre-configured for School or Corporate</td>
<td>Quick setup for small-group meetings</td>
</tr>
</tbody>
</table>

It is worth mentioning that Ethernet and WiFi connections can coexist on NovoPRO. Namely, you can configure NovoPRO in Ethernet and WiFi Client mode, or in Ethernet and WiFi Hotspot mode.

---

\(^1\) 300Mbps is the maximum value while the actual bandwidth may vary depending on operating environment.
2.1.1 Ethernet

The following home screen shows NovoPRO is in Ethernet mode, where its Ethernet IP is highlighted in a red box.

When connecting to a wired network, NovoPRO supports both DHCP and Static IP connection types.

- **DHCP**: NovoPRO obtains its IP address from the DHCP server on the network.
- **Static IP**: NovoPRO is assigned a fixed IP address manually.

“DHCP” is the default connection type. However, “**Static IP**” might be more preferable as it makes remote management much easier.

The following diagram illustrates how to select one of these two connection types. (Settings → General Settings → Ethernet → Ethernet Configuration).
To set up “Static IP” properly, you need to have the following information, as shown in the diagram on the right.

- An unallocated IP address;
- Netmask;
- DNS address;
- Gateway address.

2.1.2 WiFi client mode

In this mode, NovoPRO functions as a client to join an existing WiFi network. As illustrated in the following diagram, to set up the WiFi connection, on NovoPRO home screen, click on button WiFi → Connect to WiFi → Configure → Wi-Fi (ON). Then select the desired Wi-Fi SSID (the name associated with the Wi-Fi network) and enter the proper credentials when necessary.

You may notice that you have the choice of using “DHCP” or “Static IP” in the connection dialog, which is exactly the same as Ethernet connection.
WiFi Network Optimization: To achieve good user experience with NovoPRO devices deployed in your organization’s WiFi network, it is recommended that you keep an eye on RF interference, WiFi signal strength, WiFi channel utilization, etc. It is worth mentioning that two popular Apps can help determine whether there is any wireless network channel interference.

- “WiFi Analyzer” on Android devices;
- “InSSIDer” tool on Windows OS.

The following is a screenshot from “WiFi Analyzer” App. As you can tell, WiFi channel 6 is heavily utilized. You might want to change one or some of them to other less-crowded channels.
Logging in a WiFi Network via Captive Portal: Some WiFi networks are equipped with a captive portal, which requires users to log in via a web browser before they can access the Internet. When a NovoPRO device is connected to this type of network, users can follow the following steps:

A. Follow the above configuration steps to connect to the organization’s WiFi network;
B. After the WiFi is connected, click on button “Browser” on the home screen (see the picture below);
C. Open this web browser and you will be prompted for login credentials.
D. Enter the proper username and password, and you will be connected to the network;
E. Click the button “Return Back” on the home screen to return to NovoPRO App main interface.

Logging in a WiFi Network with 802.1x Authentication:
When you connect to a WiFi network with 802.1x authentication (for example, radius server), you will need to enter the following fields to set up the connection properly:

- Network SSID → Your network
- Security → 802.1x Enterprise
- Choose the right settings for
  - EAP method
  - Phase 2 authentication
- Identity → Your username (such as DOMAIN\John.Smith)
- Password → Your password

Click on button “Connect” to start the connection.
2.1.3 WiFi hotspot mode

A newly unpacked NovoPRO starts up in Wi-Fi Hotspot mode, where you can start using it without any entanglement with networking setup. The default SSID for this WiFi Hotspot is “NVC_XXXXX” (for example, “NVC_4DF8F” in the following screenshot), where “XXXXX” is a device-generated text string. Please note that Android mirroring (Miracast) is disabled in this mode. In comparison, AirPlay mirroring has no such limitation.

![First Time Using NovoPRO](image)

2.1.4 Dual-Network Configuration

NovoPRO can even be connected to both your organization’s wired network and wireless network simultaneously. This function is extremely useful for organizations with “guest” wireless network setup for external visitors. In such a case, NovoPRO’s RJ45 port is connected to a wired EMPLOYEE network for employees to securely access it; at the same time NovoPRO’s WiFi is connected to a GUEST network to allow visitors to access it. The following graph describes such a network setup scenario.
By doing so, the GUEST and EMPLOYEE networks are kept separated, while at the same time, the NovoPRO device is available to both guest users and employees.

**Notes on Network Security:** Within NovoPRO, the WiFi section is completely separated from the Ethernet section, namely, there is no network routing between these two sections. Therefore, users connecting to the WiFi section will not be able to access any resource on the Ethernet at all, and vice versa. In short, security is not compromised in this configuration.

### 2.2 Port numbers and intranet firewall

NovoPRO is a TCP/IP-network-based device, and the communications between a NovoPRO device and its client devices (e.g. laptops, tablets, etc.) are achieved through several TCP and UDP ports. The following table summarizes all the port numbers being used.

<table>
<thead>
<tr>
<th>Port Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20121</td>
<td>TCP</td>
<td>Port to transfer commands and status reports between the NovoPRO unit and users’ devices. (For example, laptops/tablets use this port to establish “connection” to the NovoPRO unit.)</td>
</tr>
<tr>
<td>20122</td>
<td>TCP</td>
<td>Port to enable “Remote Mouse” functionality</td>
</tr>
<tr>
<td>20123</td>
<td>TCP</td>
<td>Port to transfer screen image</td>
</tr>
<tr>
<td>20124</td>
<td>UDP</td>
<td>Port to send discovery message (so that the NovoPRO unit can be discoverable by laptops/tablets.)</td>
</tr>
<tr>
<td>20125</td>
<td>TCP</td>
<td>Port to transfer preview image</td>
</tr>
<tr>
<td>Port</td>
<td>Protocol</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>20126</td>
<td>TCP</td>
<td>Port to transfer AV-streaming’s command data</td>
</tr>
<tr>
<td>20127</td>
<td>TCP</td>
<td>Port to transfer AV-streaming’s audio data</td>
</tr>
<tr>
<td>20128</td>
<td>TCP</td>
<td>Port to transfer AV-streaming’s video data</td>
</tr>
<tr>
<td>20129</td>
<td>TCP</td>
<td>Port to transfer voting/polling data</td>
</tr>
<tr>
<td>20130</td>
<td>TCP</td>
<td>Port for video streaming service</td>
</tr>
<tr>
<td>20131</td>
<td>TCP</td>
<td>Port for file transfer service</td>
</tr>
<tr>
<td>20141</td>
<td>UDP</td>
<td>Port for device management</td>
</tr>
<tr>
<td>20142</td>
<td>UDP</td>
<td>Port for device reporting</td>
</tr>
</tbody>
</table>

To enable successful operations of a NovoPRO device, these ports should not be blocked by your network’s firewall.
3. Making a Presentation

The NovoPRO device supports up to 64 concurrent *participants* across a mix of PC, Chromebook, tablets, and smart phones. To make a presentation, each *participant’s* device will need to connect to the NovoPRO to join the presentation session. There are four key features that help facilitate smooth collaboration and coordination of presentations using the NovoPRO:

1) A *participant* list is included with the individuals’ roles indicated by clear graphical representation.
2) A specific capability is defined for each role.
3) Up to 4 *participants* can show their screen simultaneously through a feature called “4-to-1 projection”
4) Annotation tools allow *participants* to highlight, draw or make notations on the display screen.

3.1 Presenting with Windows/Mac/Chromebook

Novo Desktop Streamer Windows/MAC/Chromebook versions have similar interfaces and operations, except that the Chromebook version has slightly fewer functionalities compared with the other two due to Chrome OS limitation. Here Windows version *Desktop Streamer* is used to illustrate key operation steps.

**Launch Presentation Application**

Launch the *Novo Desktop Streamer* Application by double clicking icon ![Desktop Streamer Icon](image). Once launched, the *Desktop Streamer* will appear as follows.

![Desktop Streamer Interface](image)

To make a presentation, follow the steps listed below:

- **Step 1:** Set up session parameters
- **Step 2:** Connect to your *NovoPRO* device
- **Step 3:** Make a presentation
Step 4: Manage the presentation

### 3.1.1 Step 1: Set up session parameters

Before clicking on the connection button, some session parameters needs to be set up.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Main Window" /></td>
<td>The main window of Novo Desktop Streamer Application.</td>
</tr>
<tr>
<td><img src="image" alt="IP Address Selection" /></td>
<td>Manually enter the IP address shown on the NovoPRO home screen, or select an IP address entry from the drop-down menu that matches the IP address shown on the NovoPRO home screen.</td>
</tr>
<tr>
<td><img src="image" alt="Name Entry" /></td>
<td>(Optional) Manually enter a name for this computer to be identified in the participant list among other participants. Example: Kevin (Note: If a name is not entered in this field, the default name of your device will be used.)</td>
</tr>
<tr>
<td><img src="image" alt="PIN Entry" /></td>
<td>If PIN is required for a presentation session, check the “PIN required” box and enter the four-digit PIN shown on the home screen.</td>
</tr>
<tr>
<td><img src="image" alt="Settings Tab" /></td>
<td>Click to expand the Settings tab to access additional settings options.</td>
</tr>
</tbody>
</table>
1. **Projection Mode:**  
   *Video Playback:* Select this option for video-quality image, with synchronized audio. (You might notice some sluggishness in mouse movement due to the needs of buffering to ensure smooth video playback.)  
   *Presentation:* Select this option for low-latency and fast-response presentation. Audio signal is not transmitted. Two additional drop-down configurations, **Visual Quality** and **Screen Refresh Rate**, will be enabled.  

2. **Visual Quality:**  
   *High:* This setting yields the best visual quality but has the most latency and may result in longer video delay.  
   *Normal:* This setting yields the normal visual quality with the normal CPU consumption.  

3. **Screen Refresh Rate:**  
   *High:* This setting yields the enhanced visual quality but results in higher CPU consumption.  
   *Normal:* This setting yields the normal visual quality with the normal CPU consumption.  

4. **Check for updates:**  
   Click to check whether *Novo Desktop Streamer* is the latest. If not, initiate an upgrade process.

### 3.1.2 Step 2: Connect to your NovoPRO device

Once you have set up session parameters, you are ready to start or join a presentation.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Connect to your NovoPRO device.](image) | Connect to your *NovoPRO* device.  
Click on button ![Connect](image). If you are the first *participant*, this will start a presentation session. If you are not the first *participant*, you will be joining a presentation session. |
| ![After a successful connection, you will see the connection tab lit up](image) | After a successful connection, you will see the connection tab lit up.  
If you are the first *participant*, you will see that your desktop is mirrored to NovoPRO’s screen.  
You can turn on/off the PIN switch to enable/disable the use of PIN code for the presentation session. |
By clicking , you can bring up the session information (including QR code) for other users to connect to this session.

Please note that your PC screen resolutions may change to match projector resolution. After disconnecting from the NovoPRO device, the original screen resolution will be restored.

### 3.1.3 Step 3: Make a presentation

Once you have started/joined a presentation session you can make a presentation with the content stored on your PC, local network, or the Internet. Your desktop screen will be mirrored to the NovoPRO screen regardless of the applications you are running on your PC.

**Notes:** There may be situations where you want to write, highlight, mark, or record video of your presentation. You could install free software, NovoScreenote, to do so. It is available for download at [http://www.vivitekcorp.com](http://www.vivitekcorp.com). After you have installed NovoScreenote, you can launch it from your Novo Desktop Streamer.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch NovoScreenote:</td>
<td>Click the tab to bring up the toolbar page, then click <strong>Launch NovoScreenote</strong>.</td>
</tr>
</tbody>
</table>

### 3.1.4 Step 4: Presentation management

#### 3.1.4.1 Moderator
### Function

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set the moderator mode:</strong></td>
<td>Click the tab and click the <strong>Moderator On/Off</strong> switch to turn the moderator function on or off.</td>
</tr>
<tr>
<td></td>
<td>: The moderator mode is off.</td>
</tr>
<tr>
<td></td>
<td>: The moderator mode is on.</td>
</tr>
<tr>
<td><strong>Note:</strong> This feature is available to <strong>Corporate Edition</strong> only.</td>
<td></td>
</tr>
<tr>
<td><strong>Manage presentation:</strong></td>
<td>The moderator has the capability to select participant(s) for projection.</td>
</tr>
</tbody>
</table>

### 3.1.4.2 Role assignment

There are three roles in a presentation session, the **moderator**, the **presenter**, and the **participant**. The first **participant** to start the presentation session is assigned as the **moderator**. Individuals that join subsequently are **participants**.

By default, the **moderator** assumes the **presenter** role until he hands it over to another **participant**.

To show all current **participants** who have joined the presentation session, click the **tab**.
Function | Description |
---|---|
Click the ☑ tab to show the participant list. |  
: the moderator  
: participant  
: current presenter.  
: current presenter that is being projected in one of the screen quadrants (4-to-1 projection). (The icon shown here is for a presenter that is presenting in quadrant #1).  
For the Education Edition, the moderator can preview screens of all participants.

Example 1:  
[ ] Kevin  
Total: 6  
Example 2:  
1. Batty  
2. IVAN  
3. David  
4. Kate  
Total: 6  
Indicate the names of the presenters, the participant list sorting method, and the total number of participants.  
Sorting in the participant list:  
- : sorted by participants’ name  
- : sorted by the “join” time (most recent on top).  
Toggle between or to change the list sorting method.  
Example 1: Kevin is the only presenter. The participant list is sorted by participants’ name. There are currently 6 participants.  
Example 2: Batty, Ivan, David and Kate are 4 presenters. The participant list is sorted by the “join” time (most recent on top). And there are currently 6 participants.

### 3.1.4.3 Role change, screen preview, and 4-to-1 projection
(Note: For Education Edition the moderator can preview screens of all participants.)

| Function | Description |
---|---|
Role change: transfer the moderator role |  
Click the ☑ tab to list all participants. If you want to transfer the moderator role to another participant, click on the participant’s icon.  
Note: only the moderator is allowed for this operation.
The moderator’s screen:

A dialog box pops up to ask for your confirmation. You have 20 seconds to click the Yes button to accept or click the No button to reject the requested role change.

The participant’s screen:

At the same time, a dialog box will appear on that participant’s screen to ask for his/her confirmation. The participant has 20 seconds to click the Yes button to accept or click the No button to reject the requested role change.

Full-Screen Projection

Click the tab to list all participants. If you want to promote one participant to be a presenter, click on the participant’s icon. A bigger icon window pops up, where you can click the center button to pass presentation role to that participant.

For Corporation Edition, when a participant is asked to be a presenter, a dialog box will appear on the participant’s screen. The participant has 20 seconds to respond.

For Education Edition, this dialog box will not appear.

Screen preview (Education Edition only):

1. Click the tab to view the participant list.
2. Click on the participant’s name.

Note: Only the moderator can preview the participant’s screen.
That participant’s screen will be shown below his/her name.

You can click on the participant’s name again to close the screen preview.

4-to-1 Projection:

Click the tab to view the participant list.

1. Move cursor over to highlight participant Kevin.

2. Click on a numbered box to assign the presenter to be projected at the corresponding screen quadrant.

In the dialog box, we see that Kevin has received a request to assume the presenter role.

After Kevin clicks Yes to accept being a presenter, Kevin’s screen will appear in one of the screen quadrants.

Note: This is for Corporate Edition only.

3.1.4.4 Pause, resume, and disconnect
### 3.1.4.5 Lock/Unlock students’ tablets/phones (*Education Edition* only)

This feature allows the moderator to lock down student tablets. This feature is only available in the *Education Edition*.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>To pause/resume a presentation:</td>
<td>Click the tab to bring up the presentation control page.</td>
</tr>
<tr>
<td>Pausing and resuming a presentation:</td>
<td>Move your mouse cursor to hover on icon . Toggle between and to pause and resume a presentation respectively.</td>
</tr>
<tr>
<td>To disconnect from a presentation session:</td>
<td>Click the button to exit the presentation session. If the <em>moderator</em> exits a presentation session without handing over the <em>moderator</em> role, all <em>participants</em> will receive a message prompting them to take over the <em>moderator</em> role. The first to respond to the prompt will assume the <em>moderator</em> role.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>To lock/unlock mobile devices:</td>
<td>Click the tab to bring up the toolbar page, then click <strong>Mobile Devices</strong> to lock or unlock mobile devices. : mobile devices are unlocked. : mobile devices are locked.</td>
</tr>
</tbody>
</table>
Mobile device locked:
A lock icon will pop up on all mobile device’s screens to show that the screen has been locked.

### 3.1.4.6 Terminate session (*Education Edition only*)

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>To terminate the session:</strong></td>
</tr>
<tr>
<td></td>
<td>Click the tab to bring up the toolbar page, then click <strong>Terminate Session</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Confirmation:</strong></td>
</tr>
<tr>
<td></td>
<td>Click Yes to terminate the session. All devices will be disconnected.</td>
</tr>
</tbody>
</table>

### 3.2 Presenting with Android/iOS Devices

*NovoPresenter* App has similar functionalities as Desktop Streamer software. It is available for both for iOS and Android devices. Here an iPad is used as an example to illustrate its key functions.

#### Launch Presentation Application

Launch the *NovoPresenter* application by clicking on the *NovoPresenter* app icon on your iPad.

To make a presentation, follow the steps below:
- **Step 1:** Connect to your NovoPRO device
- **Step 2:** Make a presentation
- **Step 3:** Manage the presentation

#### 3.2.1 Step 1: Connect to your NovoPRO device

There are two ways to connect to your NovoPRO device:
1. Connect to your NovoPRO device automatically via QR code.
2. Connect to your NovoPRO device manually.

3.2.1.1 Connect via QR Code

The easiest way to connect to your NovoPRO is to use the QR-code scan feature in NovoPresenter App. After launching the app, tap the tab (as seen in the screenshot below).

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connect via QR Code:</td>
<td></td>
</tr>
<tr>
<td>- The QR Code / Manual Inputs switch will be in the QR Code position by default (if not, just tap the switch once).</td>
<td></td>
</tr>
<tr>
<td>- Aim your tablet’s camera at the QR code.</td>
<td></td>
</tr>
<tr>
<td>- If the network connection is set up properly, NovoPresenter will automatically login to your NovoPRO.</td>
<td></td>
</tr>
<tr>
<td>Should automatic login fail, you may check for your network connection or try manual login (Section 3.2.1.2).</td>
<td></td>
</tr>
</tbody>
</table>
Successful Connection:
After *NovoPresenter* is connected successfully to your NovoPRO, the connection tab will become lit up.

If you are the first *participant*, you will see that your iPad screen is mirrored to NovoPRO’s screen.

You can turn on/off the PIN switch to enable/disable the use of the PIN code for the presentation session.

View participants list:
You can tap the *participants* tab to see the *participants* list.

Example: There are a total of *six participants* in the presentation group shown at left.
- The *moderator* is Ivan.
- Ivan is not making a presentation
- Batty, David, Kate, and Kevin are assigned to be the *four presenters*.

3.2.1.2 Connect via Manual Input
Use this method if you need to configure some login information before connecting to NovoPRO.

After launching the app, tap the *tab* (as seen in the screenshot below).
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="QR Code / Manual Inputs switch" /></td>
<td><strong>Manual configuration option:</strong> Toggle the <strong>QR Code / Manual Inputs</strong> switch to the <strong>Manual Inputs</strong> position.</td>
</tr>
</tbody>
</table>
**IP Address:**
Manually enter the IP address shown on your NovoPRO home screen, or select an entry from the drop down menu that matches the IP address shown on your NovoPRO home screen.

You can tap the button to scan the IP addresses of all available NovoPROs within the same subnet. Select the drop-down menu to see the available NovoPROs within your area.

Example: **192.168.43.1**.

**PIN:**
- If a PIN code is required to connect to the NovoPRO, slide the **PIN Required** switch to the ON position and enter the PIN shown on the NovoPRO home screen.
- If the PIN code is not required, slide the **PIN Required** switch to the OFF position.

**Your Name:**
(Optional) Manually enter a name for this tablet to be identified by in this presentation session.
Example: Jennifer.
(Note: If a name is not entered in this field, your iPad’s default will be used.)

**Make Connection:**
Tap the **Connect** button.

If you are the first participant, this will start a presentation session on your NovoPRO.

If you are not the first participant, you will be joining a presentation session.
**Successful Connection:**
After your NovoPresenter app connects successfully to your NovoPRO, the connection tab will become lit up.

If you are the first participant, you will see that your iPad screen is mirrored to NovoPRO’s screen.

You can turn on/off the PIN switch to enable/disable the use of the PIN code for the presentation session.

**View participants list:**
You can tap the tab to see the current participant list.

Example: There are a total of six participants in the presentation group shown at left.
- The moderator is Ivan.
- Ivan is not making a presentation
- Batty, David, Kate, and Kevin are assigned to be the four presenters.

### 3.2.2 Step 2: Make a presentation

Once you have started/joined a presentation session, you can present the content stored on your iPad, local network, or the Internet. There are four tabs at the bottom left corner of the NovoPresenter home screen:

- : MyNotes – create and share screen notes
- : Gallery – browse and show images/videos stored on your iPad
- : Documents – browse and show documents stored on your iPad
- : Web – browse the Internet
3.2.2.1 My Notes

Create and share custom screen notes
This is a virtual whiteboard that allows tablet users to create, edit and display.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch My Notes:</td>
<td>Tap <img src="image.png" alt="image" /> at the bottom left corner of the screen</td>
</tr>
</tbody>
</table>
Create a new note:
Tap at the top of the screen.

Enter a note name:
Type a name for your note in the “Add Note” dialog box and tap Yes.

Start making a note:
A blank note is ready.
Use the note tools:
The note tools are located at the bottom of the screen.
- Picture insertion
- Text insertion (You can reposition your text by dragging it across your screen with your finger.)
- Pen
- Highlighter
- Eraser
- Clear All
- Move an image
- Undo
- Redo

Add new pages:
The “Page Control” locates at the right side of the screen.
- Open the “Page Control” pane.
- Close the “Page Control” pane.
- Add a new page.
- Select a page by tapping its thumbnail.
- Delete the selected page.
- Move the selected page up.
- Move the selected page down
Close and save changes:
Tap to exit editing. The changes will be saved automatically.

Organize your notes with Subject folders
Tap this icon to add a subject (folder). When the “Add Subject” dialog box appears, enter the name for the new subject.

To move a note under a subject, long press the note until a popup menu appears. Then tap button.

When the “Move to” window pops up, select a subject (folder) and then tap “Ok”.
To import images/videos to an iPad, you can follow the steps described below.

1. Connect your iPad to your computer.
2. In iTunes, select your device (“iPad Mini” in this case), and click the Photos button at the center-top area.
3. Select the folders we want to sync’ the photos/videos from.
   - Please check “Include videos” if you want to sync’ videos to your iPad
4. Click “Sync” to start synchronization process.
3.2.2.3 Documents (Local Storage)

To import images/videos to an iPad, you can follow the steps described below.

(1) Connect your iPad to your computer.
(2) In iTunes, select your device (“iPad Mini” in this case), and click the Apps button at the
center-top area.

(3) Below File Sharing, select **NovoPresenter** from the Apps list.

- Then you can specify the files for transfer by either clicking button “Add File...” or dragging files into the Document list.
- If you want to delete existing files, highlight them and press “Delete” button on the keyboard.

(4) Click “Sync” to start transferring the selected files.

**Function Description**

Navigate document list:
Tap **documents** tab to access Documents. The folder icon will become lit up.

For local storage, tap **Local Storage**. Documents will be listed on the right pane. Tap the desired one to open for viewing.

You can change sorting method by tapping button **Sort by...**. The following sort-by methods are supported:
- Sort by Name (default)
- Sort by Date
- Sort by Extension
Note: You can tap the tab to refresh the document list.

View documents:
The selected document will be opened in full screen.

You can zoom in and out by pinching your fingers.

To scroll down or move to the next page, slide your finger up or drag the scroll bar down. To scroll up or move to the previous page, slide your finger down or drag the scroll bar up.

To return to the Document List page, tap .

To use the on-screen annotation tools, tap .
### 3.2.2.4 Documents (Dropbox)

**Function**

- Tap **tab to access Documents. The folder icon will become lit up.**
- For Dropbox, tap **My Dropbox**.

**Description**

**Select Dropbox as the document source:**

When using this feature for the very first time, an authentication dialog will be popped up.

Enter your e-mail address and password associated with your Dropbox account, and then tap the **Sign In** button.
Navigate document list:
By default, your Dropbox's home directory is shown. Navigate to a folder by tapping the desired folder.

You can change sorting method by tapping button Sort by....

Note:
- Tap the 🔥 tab to return to the parent folder.
- You can tap the 🔴 tab to go back to Dropbox’s home directory.
- You can tap the 🔴 tab refresh the document list.
View document:
The selected document will be opened in full screen.

You can zoom in and out by pinching your fingers.

To scroll down or move to the next page, slide your finger up or drag the scroll bar down. To scroll up or move to the previous page, slide your finger down or drag the scroll bar up.

To return to the Document List page, tap <.

To use the on-screen annotation tools, tap 📝.

Unlink the Dropbox account:
If you need to unlink the Dropbox account, tap and hold the Dropbox tab for a few seconds. When the Request Confirmation appears, tap Yes to proceed.

3.2.2.5 Web
You can open any website for sharing with NovoPresenter. An example screen is shown below.
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Browse a webpage:</strong></td>
<td>Tap the internet tab 🌐. It will light up blue. Select one of the three options to access a Web page:</td>
</tr>
<tr>
<td></td>
<td>- Go to… (enter webpage address[default])</td>
</tr>
<tr>
<td></td>
<td>- Snap a QR Code</td>
</tr>
<tr>
<td></td>
<td>- Browse My Bookmarks (Web site bookmarks)</td>
</tr>
</tbody>
</table>
**Go to...:**
Tap the Go to... tab.
Enter the webpage address and tap Go.
Example: Enter the URL [www.wikipedia.org](http://www.wikipedia.org) and click on button Go.

**Snap QR code:**
- Tap button Snap QR Code.
- Aim your iPad’s camera at the desired QR code.

**Browse my Bookmarks:**
Tap the Browse my Bookmarks tab.
From the bookmark list at the right, tap the desired one to open the corresponding webpage.

Tap and hold a bookmark for two seconds to edit or delete the bookmark.

*Note: The bookmark list may initially be empty. You can add a webpage to the bookmark list while browsing.*
3.2.6 Annotation

NovoPresenter has a built-in drawing tool for on-screen annotation, such as handwriting and highlighting. You can bring up this tool by tapping , as shown below.
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tap the tab to enable the annotation tool.</td>
</tr>
<tr>
<td>Pen: red</td>
<td></td>
</tr>
<tr>
<td>Pen: blue</td>
<td></td>
</tr>
<tr>
<td>Pen: black</td>
<td></td>
</tr>
<tr>
<td>Highlighter</td>
<td>Toggle between annotation mode and touch mode</td>
</tr>
<tr>
<td>Clear All</td>
<td></td>
</tr>
<tr>
<td>Eraser</td>
<td></td>
</tr>
<tr>
<td>Undo</td>
<td></td>
</tr>
</tbody>
</table>

### 3.2.2.7 Screenshot

This feature allows users to take tablet screenshots.
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Screenshot button" /></td>
<td><strong>Take a screenshot:</strong> Tap the <strong>Screenshot</strong> button and the current screenshot will be saved in local storage.</td>
</tr>
</tbody>
</table>
3.2.3 Step 3: Manage the presentation

You can manage the presentation through the participants panel, as shown in the figure below.

![Image of NovoPRO interface with participants panel]

3.2.3.1 Moderator

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Moderator tab highlighted" /></td>
<td>Set the moderator mode: Tap the Moderator tab and tap the Moderator On/Off switch to set the moderator mode. OFF The moderator mode is off. ON The moderator mode is on.</td>
</tr>
</tbody>
</table>

Note: This feature is available to Corporate Edition only.
### 3.2.3.2 Role assignment

There are three roles in a presentation session, the *moderator*, the *presenter*, and the *participant*. The first *participant* to start the presentation session is assigned as the *moderator*. Individuals that join subsequently are *participants*.

By default, the *moderator* assumes the *presenter* role until he hands it over to another *participant*.

To show all current *participants* who have joined the presentation session, click the *tab*.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="function" /></td>
<td>Select the <em>tab</em> to show the <em>participant</em> list.</td>
</tr>
<tr>
<td><img src="image" alt="function" /></td>
<td>: the <em>moderator</em></td>
</tr>
<tr>
<td><img src="image" alt="function" /></td>
<td>: current <em>presenter</em></td>
</tr>
<tr>
<td><img src="image" alt="function" /></td>
<td>: current <em>presenter</em> that is being projected in one of the screen quadrants (4-to-1 projection). (The icon shown here is for a <em>presenter</em> that is presenting in quadrant #1).</td>
</tr>
</tbody>
</table>

Example: There are six *participants* in the presentation session (3 iPads, 1 Windows PC, 1 Android phone, and 1 iPhone.) Kate, Batty, David, and Kevin are *presenters* in 4-to-1 projection.

<table>
<thead>
<tr>
<th>Example 1:</th>
<th>Total <em>participants</em> and current presenter(s).</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="example" /></td>
<td>Example 1: Currently there are 2 <em>participants</em> and Ivan is the only <em>presenter</em> in full-screen projection.</td>
</tr>
</tbody>
</table>
Example 2: Currently there are 6 participants. Kevin, Kate, Batty, and David are 4 presenters in 4-to-1 projection.

3.2.3.3 Role change, screen preview, and four-way split screen

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role change: transfer the moderator role</td>
<td></td>
</tr>
<tr>
<td>Tap tab to show the participant list. Then tap icon of the participant you want to transfer moderator role to.</td>
<td></td>
</tr>
<tr>
<td>Note: only the moderator can performs this operation.</td>
<td></td>
</tr>
</tbody>
</table>

On moderator’s screen:

```
Request Confirmation
Transfer moderator role to Kevin?
```

| NO | YES |

On participant’s screen:

```
Request Confirmation
Would you like to be the moderator?
```

| NO | YES |

A confirmation dialog pops up. You have 20 seconds to respond.

After the moderator confirms the role transfer, a dialog box will appear on the participant’s screen to ask his/her confirmation. The participant has 20 seconds to respond.
Full-Screen Projection

1) Tap the participant (e.g. Kevin) to bring up the control panel
2) Tap \[ \text{button} \] to set Kevin as the full-screen presenter.

For Corporation Edition, when a participant is asked to be a presenter, a dialog box will appear on the participant’s screen. The participant has 20 seconds to respond.

For Education Edition, this dialog box will not appear.

Screen preview (Education Edition only):

For the Education Edition, the moderator can preview desktop screens of all participants.

To preview a participant’s screen, tap the corresponding entry. Wait for a few seconds for the screen to appear.

In this example, Kevin’s Windows PC is selected to be previewed.
4-to-1 Projection

1) Tap the participant (e.g. Kevin) to bring up the control panel
2) Tap button “1”, “2”, “3”, or “4” to put the participant in the corresponding quadrant.

In this example, Kevin is assigned to make a presentation in Box #1.

For Corporation Edition, when a participant is asked to be a presenter, a dialog box will appear on the participant’s screen. The participant has 20 seconds to respond.

For Education Edition, this dialog box will not appear.

3.2.3.4 Pause, resume, and disconnect

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Pause and resume icons" /></td>
<td><strong>Pause and resume a presentation:</strong> While presenting, the presenter can toggle between <img src="image" alt="Pause icon" /> and <img src="image" alt="Resume icon" /> to pause and resume the presentation respectively.</td>
</tr>
</tbody>
</table>
**3.2.3.5 Reset**

In case you run into cases where NovoPRO may have weird behavior or lock up, you could reset NovoPRO from your iPad.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reset NovoPRO:</strong></td>
<td>First tap tab and tap arrow of the Device’s Reset window.</td>
</tr>
</tbody>
</table>

**Disconnect from a presentation session:**

Tap **Disconnect** button to exit the presentation session.

If the *moderator* exits the presentation session without handing over the *moderator role*, all *participants* will receive a message prompting them to take over moderator role. The first to respond to the prompt will assume the role of *moderator*. 
Quick Reset and Full Reset:
- Tap Quick Reset to do a soft reset (restarting the software on NovoPRO).
- Tap Full Reset to do a hard reset (restarting the NovoPRO device).

Conflicts may occur when multiple participants simultaneously attempt to reset the NovoPRO. The reset priorities are as follows:
1. Moderator: The moderator has the sole privilege to Quick Reset and Full Reset when the moderator stays connected to the NovoPRO.
2. Presenter: If the moderator loses connection to the NovoPRO, the current presenter inherits the privilege to Quick Reset and Full Reset.
3. Participant: If the moderator and all presenters lose connection to the NovoPRO, any participant can perform Quick Reset and Full Reset.

3.2.3.6 Lock/Unlock students’ tablets (Education Edition only)
This feature allows the moderator to lock down student tablets/phones. This feature is only available in the Education Edition.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>To lock/unlock students’ tablets:</td>
<td>Click the Mobile Devices tab to bring up the toolbar page, then click Mobile Devices to lock or unlock the students’ tablets. Student tablets/phones are unlocked. Student tablets/phones are locked.</td>
</tr>
</tbody>
</table>
Student tablets locked:
A lock icon will appear on the students’ tablets/phones.

### 3.2.3.7 Terminate session *(Education Edition only)*

The moderator can disconnect all devices with one touch. This feature is only available in the *Education Edition*.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>To terminate a session:</td>
<td>Tap the tab and tap <strong>Terminate Session</strong>.</td>
</tr>
</tbody>
</table>

**Confirmation:**
Click **Yes** to terminate the session. All devices will be disconnected.

### 3.3 iOS/Android Full Mirroring

When NovoPRO is at its home screen, it can receive requests from either a collaboration connection described in section 3.1 and 3.2, or iOS/Android full mirroring request. This is true even when collaboration connections are already set up using *Desktop Streamer* or *NovoPresenter* app. To do so,

1) The *moderator* should click the “mode switch” button in the left figure below.
2) Then a pop up window asks you to confirm you’d like to switch to mirroring mode. Once you click the “Yes” button, NovoPRO will return back to its home screen to allow you to start iOS/Android full mirroring.

3.1.1 iOS Full Mirroring

All participants using iPads/iPhones can mirror their screens to NovoPRO by using iPad/iPhone’s built-in Airplay service. No software installation is required in this case. To do so,

1. Connect your iPad/iPhone to the same network where your NovoPro device stays.
2. Swipe up from the bottom of the iPad or iPhone to show the Control Center.

3. Click AirPlay and select NovoPro’s AirPlay device name. By default NovoPro’s AirPlay device is named as “Novo-XXXXX”, where XXXX is a device-generated name.
4. Switch on “Mirroring” option. Then an “Airplay Password” prompt pops up. Enter the 4-digit “AirPlay password” shown on NovoPro’s home screen (illustrated below). Once the correct password is entered, your iPad/iPhone will be mirrored to the NovoPRO’s screen.

5. To stop mirroring your iPad/iPhone, you should swipe up from the bottom of the iPad/iPhone to access the “AirPlay” menu. Tap “Novo-XXXX” name, and then switch off mirroring function.
3.3.2 Android Full Mirroring

All participants using Android tablets or phones can mirror their screens to NovoPRO by using tablets/phones’ Miracast service. No software installation is required in this case.

*Please note: the actual operation steps might vary due to different Android OS releases and/or manufacturers’ Android customization. The following steps are illustrated using Google’s Nexus 7 Android tablet.*

1. Connect your Nexus 7 the same network as your NovoPro.
2. Swipe down from the top of Nexus 7 to show the Control Center, and then tap Cast button.
3. You will see a list of devices you can cast your Nexus 7 to. If this is the first time you set up such a connection, the list may be empty. If you don’t see the desired NovoPRO in the list, tap “MORE SETTINGS”.

4. A new list will pop up with all available Miracast-capable devices you can cast to. In this case, “Novo-C87F6” is the desired NovoPRO unit. Tap on it and continue.
5. Establishing such a connection could take up to 15 seconds. The following “Connecting...” message may appear.

6. If the connection is successful (i.e. a Miracast session is started successfully), the status message will change to “Connected”. At this moment, your Nexus 7 should be mirrored to the NovoPRO’s screen.

7. To stop mirroring, please swipe down from the top of the Android device to show the Control Center, and then tap **Cast** Icon. Please note that “Cast” is changed to NovoPRO’s device name (“Novo-xxxxx”).
8. Tap icon to stop the Miracast session.
3.4 Presenting with NovoPRO

Your NovoPRO device allows you to make presentations with the computing power of the device itself without the assistance of a computer. Your presentation files may reside in a microSD card, USB memory drive, the internal storage of your NovoPRO device, or in your Dropbox online storage account (Internet connection required for Dropbox access).

The steps for making a presentation with only your NovoPRO are as follows:

1) If your presentations are stored on a microSD card, please insert the microSD card into the microSD card slot.
2) If your presentations are stored on a USB thumb drive, please first connect a USB hub to your NovoPRO device, then connect a mouse and a USB thumb drive to the USB hub.
3) You can also save your presentation files in the local storage of your NovoPRO or in your Dropbox online.
4) Connect a USB mouse to the NovoPRO. Or, if you use a touch-screen panel, you can connect its USB output to the NovoPRO.

You are now ready to make a presentation with your NovoPRO.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present with NovoPresenter</strong></td>
<td>(1) Click an empty spot on the NovoPRO home screen. Then click the home button.</td>
</tr>
</tbody>
</table>
(2) Click the apps button.

(3) Click NovoPresenter.

(4) Now you can navigate to and open the desired files.
Return to NovoPRO Home Screen

(1) Click the back key \(\leftarrow\) one or more times until you exit NovoPresenter.

(2) Click Remote Viewer \(\rightarrow\).

(3) Click the back key \(\leftarrow\) one or more times until the system bar disappears.
4. Collaboration Tools

NovoPRO is not only a wired/wireless presentation device, but also a collaboration system with a set of built-in tools. You can access these tools by clicking the “Tools” button.

The bottom 3 tools are straightforward and self-explanatory, and this chapter will focus on the 3 tools shown on the top row. In addition, a new concept, User Group, is described in details as well.

4.1 Voting/Polling

Voting/Polling allows the moderator to create sets of questions or quizzes to post/administer to all participants.

- Voting allows the moderator to administer a polling question set to all participants in a presentation session.
- Voting allows participants to respond to questions from their devices.
- The moderator can monitor the voting results in real time.

4.1.1 Edit voting/polling

Creating a question set

1. Click on the “Tools” tab and select “Edit Voting.” This will open the Voting window.
2. To create a new question set, select “New.” This will open the “Question” Editor.

3. Enter the text of your question by clicking on the text field at the top. If the question is a multiple-choice question, please label the choices as “A.”, “B.“, “C.,” etc.

4. If you wish to include an image, click on area “Click to Import Image”. This will allow you to import an image from your computer.
Select the image (.png, .jpeg, .jpg) and click “Open.” The image should now appear below the text area.

5. Choose Question Type from the “Type” drop-down list.
6. Select the correct answer from the “Answer” drop-down list. If the question does not have a correct answer (such as an opinion poll), you can choose “Not Selected”.

*Note: Open-ended questions do not have this option.*

7. To add another question, click on the “+ Question” button at the bottom left corner.
8. When a question set is completed, save it by clicking the “Save” tab.

9. Name your quiz and select a location on your computer. This will create a database (.db) file that can be re-opened, edited or administered later.

4.1.2 Administer voting/polling

Start voting
1. Click on the “Tools” tab and select “Edit Voting.” This will open the Voting window.

2. Open an existing question set or create a new one (as described in the previous section.)
3. Select a question and click “Start” to send it to all participants. The question will appear on participants’ screens.
4. As participants answer the question, the moderator can monitor the results by clicking the “View Status” button. With the status window opened, the moderator can view participants’ reaction in real time.

5. To return to the question, click “View Question.”

6. The moderator needs to stop the current voting before starting another voting question.

7. At the end of the voting/polling session, you can export the result as a CSV file by clicking “Export as CSV.”
4.1.3 Respond to voting/polling

Once a participant receives a voting/polling question, the question will pop up automatically on the participant’s screen.

- For a multiple-choice question, the participant can select the answer and then submit.
- For an open-ended question, the participant can select an image file from your device for submission.
4.2 Video Clips and YouTube Streaming

This feature allows you to smoothly stream your local video clips or YouTube to NovoPRO.

Please note that only the presenter in full-screen projection is able to use this feature. (Presenters in 4-to-1 projection are not able to do so.)

4.2.1 Streaming local video files

1. From the “Tools” menu, click on button “Video & YouTube”.

2. When the “Video Clip” panel shows up, click the Browse button to locate the video clip on your computer.

3. Select the video clip and click on the PLAY button to start the playback.
4.2.2 Streaming YouTube video

1. From the “Tools” menu, click on and launch the “Video & YouTube” tool.

2. When the video player bar open, paste or type the URL for the YouTube video you wish to play in the window.

5. Click on the PLAY button to start the playback.
4.2.3 Video controls

: Start/Pause/Resume playback

: Stop playback

: Progress bar. You can skip forward/backward by moving its control knob.

4.3 File Sharing

This feature allows the moderator and participants to share resources (like files, screenshots, and webpage links) between their devices. The moderator can send resources to all participants while a participant can only send resources to the moderator.

4.3.1 File Sharing in Desktop Streamer

1. To open the File Sharing feature, click the tools tab. The File Sharing tool is labeled as “Share”.

   Note: The file sharing button will only be activated when there is at least one other participant connected to the session besides the moderator.

2. Clicking on this button will bring up five options

   a. **Share a File**: Select a file for sharing

   b. **Send Desktop Screenshot**: Send the current desktop screenshot for sharing.

   c. **Share a Webpage**: Send a webpage link for sharing.

   d. **Browse “GroupShare” Folder**: Open the default folder at “C:\Users\<username>\GroupShare”

   e. **Browse Webpages Received**: View the webpage links received from others.
4.3.1.1 Sending

Share a File

1. To share a file, click on “Share File” to bring up a file explorer. Select the desired one to continue. You will be prompted with the following dialog on the left. If you click on “Yes”, a status dialog (on the right) will appear. You have the option to click on “Cancel” to abort the transfer.

2. When a transfer is active, the will appear next to the “Share” tool button. Clicking on it will bring up the transfer status dialog, as shown in previous item.
3. If you start sending a new file while the previous one is still in progress, you will be prompted with the following warning.

**Share Desktop Screenshot**

1. To send the current desktop screenshot, click on “Share Desktop Screenshot” to start the process. A dialog box will appear after a few seconds, as shown below.
2. Click on “Yes” to start the transfer.

**Share a Webpage**

1. To send a webpage link, click on “Share a Webpage...” to start the process. A dialog box will be prompted for the user to enter the webpage link, as shown below.

![Share Webpage Dialog Box](image)

2. Click on “Yes” to start the transfer.

### 4.3.1.2 Receiving

Once your computer receives a file, a desktop screenshot, or a webpage link, you will be prompted with a notification dialog, as shown below. (“File Received” is used as an example here.)

![File Received Dialog Box](image)

You have the options of opening the storage folder or opening the webpage link with your default browser.

*Note: The file is named after “sender-name_original-filename”.*

### 4.3.2 File Sharing in NovoPresenter App

Folder “GroupShare” is dedicated to this feature, which is used to store received files. You can locate it in “Documents” tab.
4.3.2.1 Sending

Share a File/Image

To send a file or an image, long-press on the item until a popup menu shows up.

- As the moderator, you can send it to all participants
- As a regular participant, you can send it to the moderator only.

Then follow the on-screen instructions to start the transfer process.
Share a Screenshot
Click on button “Send Screen” to start the transfer process.

Share a Webpage
There are two ways to initiate sharing a webpage link.

- Long-press on a webpage bookmark in “My Bookmarks”
- In the browser screen, click on “Share” button, as highlighted in the following figure.
Notes: When sending a file, the system will check to make sure any prior file transfer is completed. If not, an error message will pop up. You will have to resend the file when the current transfer is completed.

4.3.2.2 Receiving

Upon receiving a file, a screenshot, or a webpage link, you will be prompted with a notification dialog, such as the following.

4.3.3 Troubleshooting and rules about File Sharing

1. If you attempt to share a file while nobody else is in the session, you will be prompted with message: “No recipient. Nobody else is online.”

2. If you attempt to start a file transfer when a prior transfer is still in progress you will be prompted with message: “System is busy. Please try again later.”

3. File transfer is limited to 10 MB. If the transfer size exceeds this limit, you will be prompted with message: “Failed to Send; file exceeds size limit (10 MB).”
4.4 User groups

This feature allows the moderator to organize and monitor participants.

4.4.1 Organizing a Group

A Group consists of a group name, the moderator, and some members.

- Group name and moderator are self-explanatory.
- A member’s entry has two fields, Name and Device
  - Field “Name”: member’s name
  - Field “Device”: device’s name or some sort of number (like student ID)

There are two ways to organize a group.

1. **Use Member Name**

   In the following figure, “Device” fields are left empty. Participants will use their name to connect to a NovoPRO session. In this case, only participants with a matching name can connect successfully.

2. **Use Device name**

   In the following figure, “Device” field is filled. For a classroom teacher, the “Device” field could be student ID or a series of numbers, such as Tablet-01, Tablet-02, etc.
In this case, *participants* will use these IDs to connect to a NovoPRO session. The *moderator* will use this group feature to turn them into “human-readable” names (Emily, Jerry, etc.) instead of Tablet-01 & Tablet-02 in the *participant* list.

Only devices with matching name can connect successfully.

![Image of NovoPRO User Group](image)

### 4.4.2 Creating User Group

*Notes: This feature is available to NovoPRO PC/Mac software but not Chromebook/tablet/phone Apps.*

1. Open the *NovoPRO Desktop Streamer* application and expand “Settings” tab. Click on button “Edit” to add, change, and delete user groups.
2. Click on button “Create” to add a new user group.

3. A new window, “Edit User Group”, will pop up. In this window, you will be able to edit group name, moderator information, and member information.
4. Once you have finished adding members to a group, click “Save” and “Done” to return to the “User Groups” list. This new group should appear in the list of user groups.

4.4.3 Managing Existing User Group
Click on one of the user groups and three action buttons will become visible on the right.
4.4.4 Applying User Group

Windows/Mac

1. When you connect to a NovoPRO device, the Group will be displayed as “Not Selected”.

2. Click on “Not Selected” to display list of available groups, and then select the desired group and press button “OK”.

3. A user list will be displayed for the group you selected. Tabs “All”, “Online”, and “Offline” are a quick sorting based on participants’ status.
4. To de-select this group, click on icon 

**iPads**

1. Copy the user group files (*.xml) to NovoPresenter App.
   - These User Group files are generated by using the Export function on the PC/Mac software.
   - Refer to Section 3.2.2.3 on how to copy files to iPad
2. Launch NovoPresenter. Go to “Settings” → “User Groups” → “Refresh” to import the User Group files you just copy.
3. After connecting to the NovoPRO device, the Group will be displayed as “Not Selected”.

4. Click on “Not Selected” to display list of available groups, and then select the desired group and press button “OK”.

5. A user list will be displayed for the group you selected. Using tabs “All”, “Online”, and “Offline” is a quick way to sort users based on their status.

6. To de-select this group, click on icon 

**Android Tablets**

1. Connect your Android tablet to your computer.

2. Copy User Group files (*.xml) to tablet’s folder “<home>/NovoPresenter/UserGroups”.

The rest of the operation is the same as the iPad’s.
5. Configuring NovoPRO

As described in Section 1.3, you can configure a NovoPRO device from its home screen. On the other hand, you can also configure the device using Desktop Streamer Application or via a MicroSD card.

5.1 Configuring NovoPRO using Desktop Streamer

You can remotely configure your NovoPRO device through *Novo Desktop Streamer*. Click the button after launching *Novo Desktop Streamer*, and select “Device Manager”.

![Desktop Streamer screenshot](image)

Follow the steps below to access various configuration functions.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Reset**         | Perform quick or full reset to NovoPRO device.  
|                   | - Click on **Quick Reset** to do a soft reset (restarting the software on NovoPRO).  
|                   | - Click on **Full Reset** to do a hard reset (restarting the NovoPRO device) |
5.2 Configuring NovoPRO via a MicroSD card

This function allows users to create and install a custom configuration file to automatically configure NovoPRO’s settings via a microSD card.

Download and open NovoAutoConfig.xml template file

1. Visit Vivitek website (http://www.vivitekcorp.com) and download the zip file “SD Configuration”. Extract the “NovoAutoConfig.xml” file from the zip archive.
2. Using either WordPad or another XML editing program, open the file “NovoAutoConfig.xml”.
3. If you are using WordPad, follow these steps. Otherwise follow the procedures of your preferred XML editor.
4. Launch WordPad and open the template file. Use the view “All Documents” option when the Open File window appears.
Fill in the values of some settings:

1. When opened, the text will look like this:

```xml
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <NovoPRO>
    <edition>CORP or EDU</edition>
    <wifi-ssid>example_wifi</wifi-ssid>
    <wifi-password>example_wifi_password</wifi-password>
    <remote-manager-ip-address>0.0.0.0</remote-manager-ip-address>
    <remote-manager-port-number>20142</remote-manager-port-number>
  </NovoPRO>
</configuration>
```

2. Change appropriate setting value according to your setup environment, and delete the ones you don’t need. The following table describes each setting in details.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value (example)</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>edition*</td>
<td>CORP or EDU</td>
<td>Edition value. It has to be either CORP or EDU. Refer to Section 1.4 for more details about these two editions.</td>
</tr>
<tr>
<td>wifi-ssid</td>
<td>(example_wifi)</td>
<td>Wifi network SSID name</td>
</tr>
<tr>
<td>wifi-password</td>
<td>(example_wifi_password)</td>
<td>Wifi network password</td>
</tr>
<tr>
<td>remote-manager-ip-address*</td>
<td>(0.0.0.0)</td>
<td>IP address of Remote Manager software</td>
</tr>
<tr>
<td>remote-manager-port-number*</td>
<td>20142</td>
<td>The port number used by Remote Manager software to listen to device reporting. 20142 is the default number. You need change it to match your Remote Manager’s setting.</td>
</tr>
</tbody>
</table>

*Note: Settings marked with “*” are supported in NovoPRO software release V2.2 and above.*
3. Save your changes to the template.

**Copy and install files**

1. Copy NovoAutoConfig.xml file to a microSD card.
2. Insert the microSD card in the NovoPRO device.
3. Press the “reset” button to reboot the NovoPRO device.
4. After the reboot, those settings will be applied to the NovoPRO device.
6. Managing NovoPRO Devices

“Remote manager” is a stand-alone Windows/Mac application that enable system administrators to manage multiple NovoPRO devices from a single PC, making it ideal for corporations, schools or other large institutions.

6.1 Software setup

1. Download the installation package from the Vivitek website (http://www.vivitekcorp.com).

2. Click on the installation package and follow the on-screen instructions.

6.2 Adding/Removing/Grouping devices

Adding a device

1. To add a new device to the device list, click on the “+ Device” button at the top of the screen.

2. This will open the “Create New Device” window. Enter the device’s ID, description (such as location), and IP address. You can also select a group (optional) from the group list pull-down menu. Click “OK” to complete adding the new device.
3. When the new device is successfully added it will appear in the device list.

4. If the device is currently connected, the connection indicator will become green. Otherwise, it is in red.

**Connected**

**Disconnected**

**Removing a device**

1. To remove a device from the device list, click on the device you wish to remove from the list then click the icon.
2. A confirmation dialog will pop up. Click “Yes” to confirm or “No” to cancel.

**Refreshing device list**

To refresh the list of devices in Remote Manager, click the “Refresh” in the upper left of the program screen.

**Grouping devices**

Click the “+ Group” button to add a new group, and then give a group name, description and add devices into the group.
Once the group is defined, you can click the group name to view group device list and apply the settings to the group. In addition, you can click the button and to change and delete group respectively.

6.3 Managing device settings

1. By selecting a device and clicking the device settings button you will be taken to the device settings management screen. From there you will be able to remotely view and/or configure the settings for each NovoPRO device on your network.
   a. **Editable fields** are Device Name, Display Setting, Language, and Password (for Settings Protection).
   b. **View-only fields** are Model, Edition, App Version, Build Version, Wi-Fi Mode, SSID, Wi-Fi IP, and LAN IP.
2. To edit the editable settings, click on button edit to start.

3. Click “Refresh” to update the settings information.

4. Click “Firmware Upgrade” to check for the latest device firmware. If an upgrade package is available, the upgrade process will be triggered.

5. Click “Quick Reset” to reset the application.

6. Click “Full Reset” to reboot the device.

7. Click “Go Back” to return to the main screen.

### 6.4 Customizing Home Screen

The top-right region in NovoPRO Home Screen is a slideshow area that you can customize with your pictures and videos. Follow the steps below to do so.

1. Click on button “Home Screen Config”

2. Then a configuration dialog pops up, with two sections, “Preload” and “User-defined.”
   a. **Section “Preload”:** the built-in content. It has two video clips and 3 pictures. You can enable/disable their playback as well as adjust their playback duration.
   b. **Section “User-defined”:** the customization content. Users can edit the “playlist” for this slideshow area. The “playlist” consists of any numbers of pictures and videos.
3. Click on button “Sync” to commit the changes to the NovoPRO device (including uploading the content.)

6.5 Updating firmware

Remote Manager allows you to initiate firmware upgrade for multiple NovoPRO devices by clicking on one button.
1. Click “Firmware Update” on the home screen to go the Firmware Update screen.

2. A list of connect devices will be displayed with check boxes in the left column. Select the device or devices you wish to check for updates, or click “Select All” to check all devices on the list. Click “Unselect All” to remove all checks.
3. Once you have selected the devices to update, click “Update Now.”

6.6 Setting moderator credentials

When using NovoPRO, the first connected user is assigned as the meeting moderator by default. However, this may not be the intended result in real world as the “real” moderator may not be the first user to join the session. The feature “Moderator Credentials” is designed to address this issue.

Here is how it works:

1. Moderator Credentials, consisting of a list of moderators and the corresponding passwords, are stored on NovoPRO units. (Moderator Credentials are managed via software Remote Manager.)

2. When a user device connects to a NovoPRO unit, the user device send its moderator password (if any) to the NovoPRO unit. If the password matches the one stored on the NovoPRO unit, the user device will be assigned as the moderator, regardless it is the first device to connect or not.

The picture below illustrates the process.

Setting up Moderator Credentials in Remote Manager:

1. To set moderator credentials for a device, select the device from the device list and click “Set Moderator.”
2. This will open the Moderator Credentials window. Note: For changes to take effect, make sure the green connection indicator is lit in the upper left of the screen.

3. Enter the moderator name and password in the corresponding windows.

4. Use the buttons to add or delete moderators from the list.

5. Click “Save” to save the moderator credential file to the local PC.

6. Click “Upload” to upload the new moderator credential file to the device.

7. Click “Load from Device” to download a file saved on the device.

8. Click “Load” to load a moderator credential file stored on local storage.

9. Click “Remove (Device Side)” to remove moderator credentials currently stored on device.

Note: Moderator credential files will be stored in the XXXX.NCMC file format.
7. Remote Controller

![Remote Controller Diagram]

- **Power On/Off**
- **Volume Down**
- **Return** (return to previous page)
- **Keyboard**
- **Cursor Keypad**
- **Mouse On/Off**
- **NovoPRO Home Screen**
- **Android Task List**
- **Android Home Screen**
- **Play/Pause** (resume or pause slideshow playback)
- **Page Up**
- **Page Down**
8. Specifications

<table>
<thead>
<tr>
<th>Hardware Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power Supply</strong></td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
</tr>
<tr>
<td><strong>Output Resolutions</strong></td>
</tr>
<tr>
<td><strong>CPU (SoC)</strong></td>
</tr>
<tr>
<td><strong>Memory</strong></td>
</tr>
<tr>
<td><strong>Storage</strong></td>
</tr>
<tr>
<td><strong>Wi-Fi</strong></td>
</tr>
<tr>
<td><strong>Input/Output</strong></td>
</tr>
<tr>
<td><strong>LED Indicator</strong></td>
</tr>
<tr>
<td><strong>Button/Switch</strong></td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
</tr>
</tbody>
</table>

**PC/Notebook Application Requirements**

<table>
<thead>
<tr>
<th>CPU</th>
<th>Intel Pentium, 2GHz (Intel Core i3 and above are preferred)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating System</strong></td>
<td>Windows XP, Windows 7, Windows 8 /10 (32 bits and 64 bits), Mac 10.6 and above</td>
</tr>
<tr>
<td><strong>RAM</strong></td>
<td>4 GB</td>
</tr>
</tbody>
</table>

**Android Mobile Device Application Requirements**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Android 3.2 and above (Android 4.0 and above are recommended)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resolution</strong></td>
<td>1024x768, 1280x800, or higher are recommended</td>
</tr>
</tbody>
</table>

**iOS Mobile Device Application Requirements**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>iOS 5.1 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Device Type</strong></td>
<td>iPad, iPad 2, iPad 3, iPad 4, iPad mini, and iPad Air</td>
</tr>
</tbody>
</table>
9. Troubleshooting

Q: **NovoPRO does not power up or operate.**
A: Check if the proper DC power supply with the appropriate operating voltage and sufficient operating current (5VDC, 2A) is connected to the Micro-USB port of the NovoPRO.

Q: **My PC cannot link to NovoPRO wirelessly.**
A: For your PC to link to NovoPRO, your PC must either have a built-in a Wi-Fi module or an external Wi-Fi adapter, and Wi-Fi must be enabled. If the NovoPRO is set to Hotspot Mode (factory default mode), choose NovoPRO’s SSID from the available SSID list. If NovoPRO is set to Client Mode and is connected to a specific Wi-Fi AP, choose that AP’s SSID from the available SSID list.

Q: **The play/pause buttons do not work.**
A: These buttons are functional only for the current presenters.

Q: **I cannot connect to the Internet on NovoPRO.**
A: This is normal if the NovoPRO is set to Hotspot Mode, since NovoPRO by itself does not support WAN (wireless wide area network) access. To access the Internet for tasks such as Web browsing on NovoPRO, please set the Wi-Fi to Client Mode and connect to a Wi-Fi AP that that is connected to the Internet.

Q: **My PC or mobile device has failed to connect to NovoPRO.**
A: First, make sure that Wi-Fi is enabled on your device. If NovoPRO is set to Hotspot Mode (factory default mode), choose the NovoPRO’s SSID from the available SSID list. If NovoPRO is set to Client Mode and is connected to a Wi-Fi router, choose that router’s SSID from the available SSID list.

Q: **I cannot choose to present in full screen or in one of the split screens.**
A: Only the host has the authority to decide whether your presentation is to be seen in full screen or one of the split screens. You may be invited to be the host: 1) if the Reset button is clicked on the NovoPRO, 2) if the host explicitly hands over host control to you, or 3) if all other presenters have disconnected from NovoPRO.

Q: **I am the host, but I cannot preview other participants’ screens.**
A: To preview a participant’s screen before sending a presentation invitation, that participant must have screen preview enabled on his device.

Q: My device’s on-screen display looks stretched or compressed on NovoPRO’s screen output.
A: There may be an aspect ratio mismatch between the NovoPRO’s chosen output resolution and your device’s screen aspect ratio (e.g. your device’s screen has the 4:3 aspect ratio, and you have set NovoPRO’s output resolution to a 16:9 or 16:10 option). Try to set the display resolution on the NovoPRO so that it has an aspect ratio that either matches that of your device or is as close to your device’s screen aspect ratio as possible. You have the option of letting NovoPRO automatically determines the best output resolution by selecting Auto Config in the display settings.

Q: During the presentation, my PC/Mac computer’s cursor is flickering.
A: You can try a different screen resolution for your PC/Mac computer. You can also try different settings for Projection Mode, Visual Quality, and Screen Refresh Rate (which need to be set before you connect your PC/Mac computer to your NovoPRO) until the problem disappears or is minimized.
10. Safety Information

Refer to the manual and take note of the safety instructions before operating your device.

- Ensure that the power source’s output voltage matches your device’s operating voltage.
- To prevent the risk of electric shock, do not operate this device near water or in environments of high moisture.
- Do not disassemble or try to repair this device by yourself. Contact your local Delta service center for assistance.
- Keep the device’s plastic packages out of the reach of children.
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