



# KB1200

KLIK Boks HUB  
OWNER'S MANUAL

ENGLISH



V2.1  
FIRMWARE VERSIONS 4.2+



Copyright © 2024 KLIK Boks™ – All Rights Reserved

## 1. IMPORTANT SAFETY

### INSTRUCTIONS

**Read instructions** - All the safety and operating instructions should be read before the product is operated.

**Retain instructions** - The safety and operating instructions should be retained for future reference.

**Heed Warnings** - All warnings on the product and in the operating instructions should be adhered to.

**Follow Instructions** - All operating and use instructions should be followed.

**Cleaning** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a dry cloth for cleaning.

**Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.

**Water and Moisture** - Do not use this product near water-for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

**Accessories** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

**Cart** - A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

**Ventilation** - Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

**Power Sources** - This product should be operated only from the type of power source indicated on the marking label and connected to a MAINS socket outlet with a protective earthing connection. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

**Power-Cord Protection** - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

**Mains Plug** - Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

**Outdoor Antenna Grounding** - If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

**Lightning** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

**Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

**Overloading** - Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

**Flame Sources** - No naked flame sources, such as lighted candles, should be placed on the product.

**Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

**Headphones** - Excessive sound pressure from earphones and headphones can cause hearing loss.

**Damage Requiring Service** - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

When the power-supply cord or plug is damaged.

If liquid has been spilled, or objects have fallen into the product.

If the product has been exposed to rain or water.

If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.

If the product has been dropped or damaged in any way.

When the product exhibits a distinct change in performance-this indicates a need for service.

**Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

**Battery Disposal** - When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.

**Safety Check** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

**Wall or Ceiling Mounting** - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

## WARNING

THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS

THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT

OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

#### CAUTION REGARDING PLACEMENT

To maintain proper ventilation, be sure to leave a space around the unit (from the largest outer dimensions including projections) than is equal to, or greater than shown below.

Left and Right Panels: 10 cm

Rear Panel: 10 cm

Top Panel: 10 cm

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

The apparatus should only be used in moderate climates.

#### FCC STATEMENT

This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio TV technician for help.

#### CAUTION

Changes or modifications to this equipment not expressly approved by KLIKBooks for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1 this device may not cause harmful interference, and
- 2 this device must accept any interference received, including interference that may cause undesired operation.

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

- 1 This device may not cause interference.
- 2 This device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

- 1 The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the

potential for harmful interference to co-channel mobile satellite systems;

- To prevent electric shock, match wide blade of plug to wide slot, fully insert.
- Marking and rating plate can be found at the rear panel of the apparatus.
- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on apparatus.
- Mains plug is used as disconnect device and it should remain readily operable during intended use. In order to disconnect the apparatus from the mains completely, the mains plug should be disconnected from the mains socket outlet completely.
- Battery shall not be exposed to excessive heat such as sunshine, fire or the like.
- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.
- Operating temperature: 0~35 degrees

### RESPONSIBLE PARTY

KLIK Communications Inc.  
1207 N Landing Way, #1182  
Renton WA 98057  
USA  
[klik@klikboks.com](mailto:klik@klikboks.com)

### MPE REMINDER

To satisfy FCC/IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure

compliance, operations at closer than this distance is not recommended.

### IF IN DOUBT CONSULT A COMPETENT ELECTRICIAN.

This product is manufactured to comply with the radio interference requirements of EEC DIRECTIVE 2004/108/EC.

### NOTES ON ENVIRONMENTAL PROTECTION

At the end of its useful life, this product must not be disposed of with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment. The symbol on the product, user's manual and packaging point this out.

The materials can be reused in accordance with their markings. Through re-use, recycling of raw materials, or other forms of recycling of old products, you are making an important contribution to the protection of our environment.

Your local administrative office can advise you of the responsible waste disposal point.

INFORMATION ABOUT COLLECTION AND DISPOSAL OF WASTE BATTERIES (DIRECTIVE 2006/66/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF EUROPEAN UNION) (FOR EUROPEAN CUSTOMERS ONLY)

Batteries bearing any of these symbols indicate that they should be treated as "separate collection" and not as municipal waste. It is encouraged that necessary measures are implemented to maximize the separate collection of waste batteries and to minimize the disposal of batteries as mixed municipal waste.

End-users are exhorted not to dispose waste batteries as unsorted municipal waste. In order to achieve a high level of recycling waste batteries, discard waste batteries separately and properly through an accessible collection point in your vicinity. For more information about collection and recycling of waste batteries, please contact your

local municipality, your waste disposal service or the point of sale where you purchased the items.

By ensuring compliance and conformance to proper disposal of waste batteries, potential hazardous effects on human health is prevented and the negative impact of batteries and waste batteries on the environment is minimized, thus contributing to the protection, preservation and quality improvement of the environment.

## 2. CONTENTS

1. Important Safety Instructions.....	2
2. Contents .....	7
3. KB1200 Overview.....	12
1) Key Hardware Features .....	12
2) Key KLIKConnect Features .....	13
3) What's in the Box .....	13
4) Installation Considerations.....	13
a) Power .....	13
b) USB Peripherals.....	13
c) Connecting a Mouse .....	13
d) Mounting & Ventilation .....	13
4. Quick Start Guide.....	14
1) Connections.....	14
a) Display.....	14
e) Network .....	14
f) Power .....	14
g) Mouse & Keyboard .....	14
2) Power On.....	14
a) Startup.....	14
h) Standby Screen.....	14
3) Operation .....	14
a) Network Connection .....	14
b) Screen Mirroring .....	14
5. Hardware Setup.....	15
1) Connections & Indicators .....	15
c) Front Panel.....	15
i) Rear Panel .....	15
2) Connecting to a Display.....	15
3) Network Connectivity.....	15
a) Ethernet .....	15
b) Wi-Fi.....	16
c) Hotspot.....	16

4)	Connecting an HDMI Input source .....	16
5)	Connecting USB Peripherals .....	16
a)	Human Interface devices (HID) .....	16
b)	Video Capture Devices .....	16
c)	Audio Systems .....	16
d)	Mass Storage Devices .....	16
6)	Startup .....	16
a)	Standby Screen .....	16
b)	Display Panel .....	17
c)	Hardware System Menu .....	17
d)	Screen Share Settings .....	17
7)	Hardware Configuration .....	17
a)	Hardware Settings Menu .....	17
b)	Wi-Fi Settings .....	18
c)	Ethernet Configuration .....	18
d)	Setting the Device Name .....	19
e)	Hotspot Setup .....	19
f)	Display Settings .....	19
g)	Storage & USB .....	20
h)	Date & Time .....	20
6.	Screen Share Settings .....	20
1)	OSD Controls .....	20
a)	Settings Panel .....	20
2)	General Settings .....	20
a)	Device Name .....	20
b)	User Password .....	21
c)	Theme Settings .....	21
d)	Do Not Disturb Function .....	22
e)	Thumbnail Refresh .....	23
f)	Firmware Version .....	23
g)	Serial Number .....	23
h)	Expiry Date .....	23
i)	Connect To .....	24
j)	Network Priority .....	24



- k) Enable UFHD .....24
- l) KLIKStream Enabled .....24
- m) Admin Password.....24
- n) KLIK Knkt Pairing.....25
- 3) Live Settings.....26
  - a) Platform .....26
  - b) Resolution .....26
  - c) Bit Rate.....26
  - d) RTM URL & Stream Key .....26
- 4) Record Settings.....27
  - a) Record Target.....27
  - b) Record To .....27
  - c) Resolution .....28
  - d) Bit Rate.....28
- 7. Operation.....29
  - 1) Standby Screen .....29
    - a) Device Name .....29
    - b) Password .....29
    - c) KLIKStream Address .....29
    - d) Guest Wi-Fi Hotspot.....29
    - e) Firmware Version .....29
  - 2) On Screen User Interface.....30
    - a) USB Touch-back .....30
    - b) Record Session .....30
    - c) Live Stream.....30
    - d) System Settings .....30
    - e) HDMI Input Selection .....30
    - f) Annotation & Whiteboard .....30
    - g) Stop All Streams .....30
    - h) Moderator Mode .....31
  - 3) Default Mode.....31
    - a) Split Screen Display .....31
    - b) Resizing Screen Share Panes .....32
    - c) Show Information .....32

d)	Login Code.....	33
4)	Moderated Mode .....	33
a)	Enable/Disable Moderator Mode .....	33
b)	User Requirements .....	33
c)	Content Preview & Selection .....	34
d)	Push Content to Screen.....	34
e)	Add Content.....	34
5)	Annotation & Whiteboard.....	35
a)	Launch Annotation.....	37
b)	Annotation Toolbar .....	37
c)	Pen Tool .....	37
d)	Highlighter.....	37
e)	Shapes .....	38
f)	Type Tool.....	38
g)	Erase & Delete.....	38
h)	Undo & Redo.....	38
i)	Add & Navigate Pages .....	38
j)	Capture & Save.....	39
k)	Annotation Settings .....	39
l)	Pause & End .....	39
m)	Hide Toolbar.....	39
6)	Session Recording.....	39
a)	Recording Settings .....	39
b)	Start & Stop Recording.....	39
c)	Copy Recordings.....	39
7)	Session Streaming.....	40
a)	Live Settings .....	40
b)	Start & Stop Streaming.....	40
c)	Viewing a Live Stream .....	40
d)	Live Stream Recordings .....	40
8)	KLIKStream Remote Viewing .....	40
a)	How it Works.....	40
b)	IP Address.....	40
c)	Port Number .....	40

- d) Password .....40
- e) Using the KLIKStream Feature.....40
- 9) Screen Still Capture .....41
- 10) Applications.....41
- 11) Guest Wi-Fi Connectivity.....41
  - a) Hotspot SSID.....41
  - b) Password .....41
  - c) Hotspot Provisioning.....41
- 8. Frequently Asked Questions.....42
- 9. Specifications.....44

### 3. KB1200 OVERVIEW

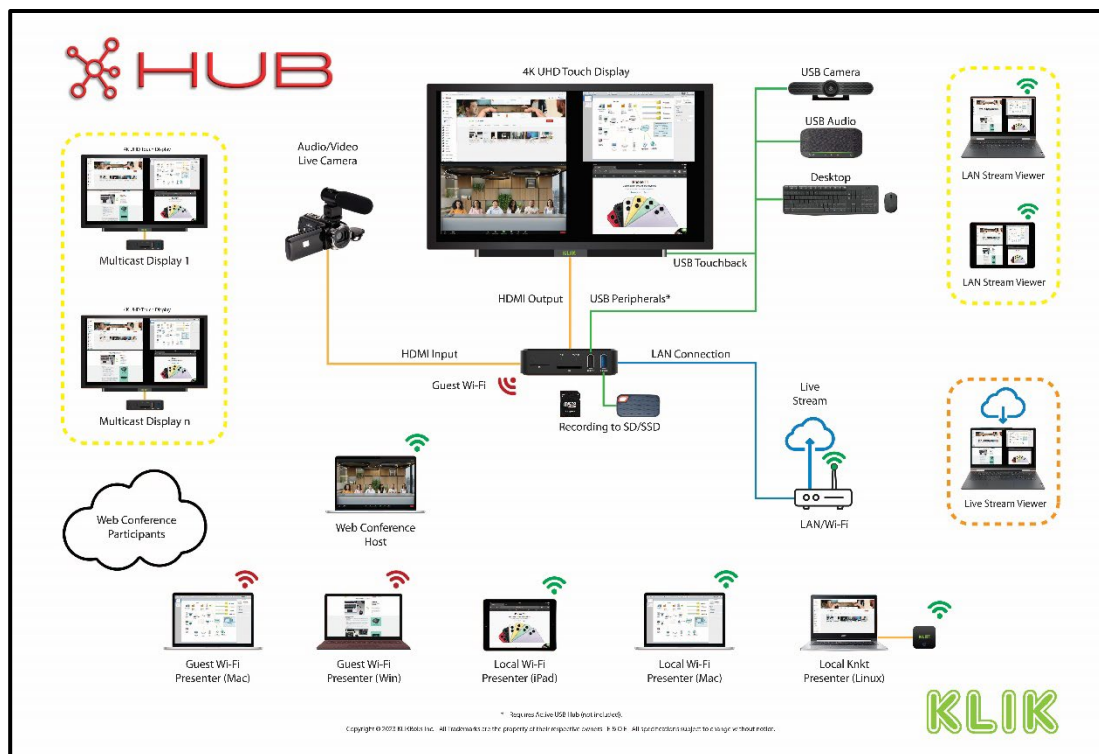


FIGURE 1 THE KB1200 IS THE HUB OF YOUR MEETING & COLLABORATION TECHNOLOGY

#### DESCRIPTION

The KB1200 Wireless Collaboration System integrates several functions essential to digital collaboration with both in-person and remote participants. This includes wireless USB connectivity for use in video conferencing, wireless screen sharing, video capture and live streaming, local multicasting, and more.

Compatible with PCs, Tablets and Smartphones, the KB1200 can be used with the native streaming utilities found on Windows, Mac, iOS, Android and Chromebook devices, or with the KLIKConnect™ software application for added features & benefits. (See <https://www.klikboks.com/klikconnect> for more information and free downloads of the KLIKConnect app for Windows & Mac PCs.).

#### 1) KEY HARDWARE FEATURES

- BYOM video conference support with wireless USB connectivity to cameras, audio systems and HID control devices.

- 4K UHD multi-screen sharing, with the ability to display 4 HD streams simultaneously
- Supports full screen mirroring from Windows, Mac, iOS, Android & Chromebook devices
- Live-stream content, in real time, to RTMP private or public channels, or record locally
- Fully optimized for touch displays, with on-screen content thumbnails for content selection
- Ethernet & Wi-Fi network connectivity, Guest Access Point (AP), and support for 802.1x Radius Wi-Fi authentication
- Supports Open Access, Password Access & Moderated Access operating modes
- Built-in Annotation & Whiteboard application with multi-page support
- USB Touchback for use with touch displays or with shared HID pointing device
- HDMI input for connection of additional video source devices
- Rebroadcast feature allows audience to view and capture presentation in a browser

## 2) KEY KLIKCONNECT FEATURES

- Integrated Wi-Fi and Device Discovery interface
- Wireless USB connectivity for use of KB1200-attached Audio & Video devices with video conferencing applications
- Wireless screen sharing (mirroring) from PC in full-HD (1080p)
- Simultaneous Multicasting to multiple KB1200 devices in any combination.
- KLIKStream™ remote viewing capability with screen capture across LAN
- Peer-to-peer file sharing utility
- PC-based annotation and whiteboard application with screen capture capability

## 3) WHAT'S IN THE BOX

- KB1200 Wireless Presentation System
- 5V/2A Universal Power Adapter & USB to barrel jack Power Cable
- 1.5m HDMI Cable
- Quick-start Guide

## 4) INSTALLATION CONSIDERATIONS

### a) POWER

The KB1200 is supplied with an AC-DC power adapter rated at 5V/2A. To ensure proper operation and stability do not operate the KB1200 with any adapter other than the supplied unit.

### b) USB PERIPHERALS

The KB1200 accepts connection of video webcams, audio systems (speakerphones) and HID control devices (keyboard, mouse, graphics tablet...) as well as USB touch display interfaces.

The device is provisioned with two USB Type-A ports; one supporting USB 2.0 and the second supporting USB 3.0 devices. Either port may be used for low data-rate devices such as audio, video and control devices, whereas the USB 3.0 port is recommended for high data-rate applications such as SSD connections for recording.

For installations that require more than the provided 2 outlets, a USB hub may be added to increase the number of connection ports. A compatible 2x4-port USB hub is offered by KLIK as an optional accessory (see <https://www.klikboks.com/klik-boks-hub>) or a standard USB 2.0 or USB 3.0 active (powered) hub may be added.

### c) CONNECTING A MOUSE

Access to KB1200 setup and operating menus requires the connection of a USB mouse; a wireless keyboard/mouse combination is highly recommended. The keyboard may be removed after setup is completed, but it is recommended that a mouse remain connected as a convenience for accessing several of the KB1200's features.

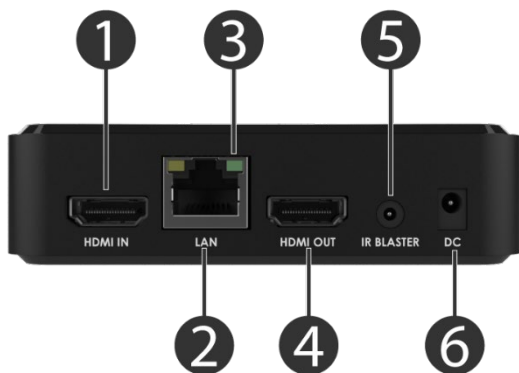
A mouse or Touch Screen interface is required when using the KB1200 in Moderator mode, without a moderator PC.

Connect a USB mouse or wireless desktop by inserting the USB cable or dongle into either of the two USB connectors on the front panel.

### d) MOUNTING & VENTILATION

The KB1200 may be placed on any flat surface, or alternatively, wall mounted. If wall mounting, orient the KB1200 so that the side vents are facing up on one side and down on the other. Recessed mounting tabs aid in wall mounting. KB1200 is equipped with a "Kensington-style" lock perforation on the right side of the enclosure.

## 4. QUICK START GUIDE



### 1) CONNECTIONS

- 1 HDMI Video Input
- 2 Ethernet LAN Port
- 3 Network Activity Indicator
- 4 HDMI Video Output
- 5 Infrared Signal Output (Future)
- 6 5V/2A DC Power Input

#### a) DISPLAY

Connect the KB1200 HDMI Output to the Display using the HDMI cable supplied.

#### e) NETWORK

If available, connect an Ethernet network cable to the KB1200 LAN socket from your network.

#### f) POWER

Connect the supplied AC adapter to the KB1200 and plug the adapter into an AC outlet.

#### g) MOUSE & KEYBOARD

A mouse is required for setup using the On-screen Display (OSD) menus. A keyboard is also recommended.

### 2) POWER ON

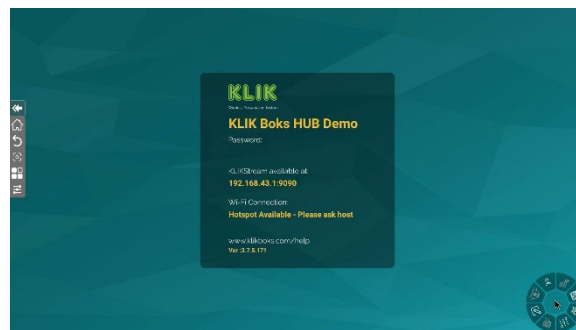
#### a) STARTUP

The KB1200 starts automatically when power is applied. On first start, the KB1200 will attempt to connect to the cloud server for authentication. If a

network connection is not available, the device will default into trial mode. Once authenticated, you will be prompted to accept a dialog authorizing the recording of screen content.

#### h) STANDBY SCREEN

By default, the KB1200 will display the Basic Mode standby screen on first start.



### 3) OPERATION

#### a) NETWORK CONNECTION

The KB1200 offers a variety of features and functions, some of which require a network connection and/or Internet access. Key considerations are how clients will connect to the KB1200, and whether those clients require access to network or Internet resources while connected to the KB1200.

When the KB1200 is connected to a network, users must also be connected to the same network segment in order to discover and use the device. Refer to the Hardware Configuration (5.2) guide for instruction on connecting the KB1200 to a Wi-Fi network or activating the Hotspot function for additional connectivity options.

#### b) SCREEN MIRRORING

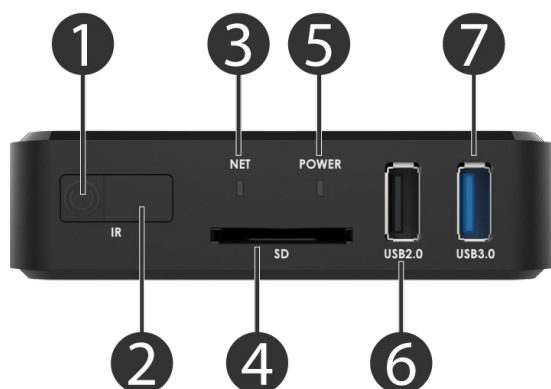
Start a screen mirroring session by installing the KLIKConnect application (Win/Mac/Chrome) or by using AirPlay (Mac/iOS), or Google Cast (aka Chromecast) from the Chrome browser. Select the KB1200 by name to start a screen mirroring session.

## 5. HARDWARE SETUP

### 1) CONNECTIONS & INDICATORS

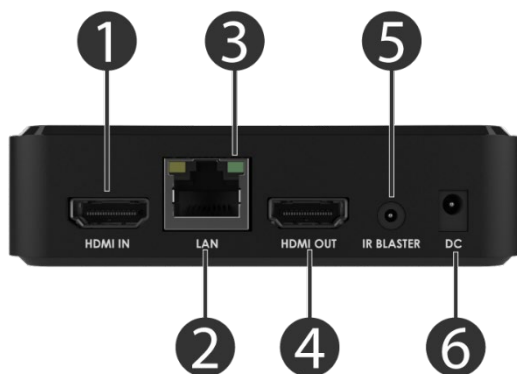
#### c) FRONT PANEL

- 1 System Power Button
- 2 Infrared Receiver Window
- 3 Network Activity Indicator
- 4 SD Memory Card Slot
- 5 Power Status Indicator
- 6 USB 2.0 Type A
- 7 USB 3.0 Type A



#### i) REAR PANEL

- 1 HDMI Video Input
- 2 Ethernet LAN Port
- 3 Network Activity Indicator
- 4 HDMI Video Output
- 5 Infrared Signal Output (Future)
- 6 5V/2A DC Power Input

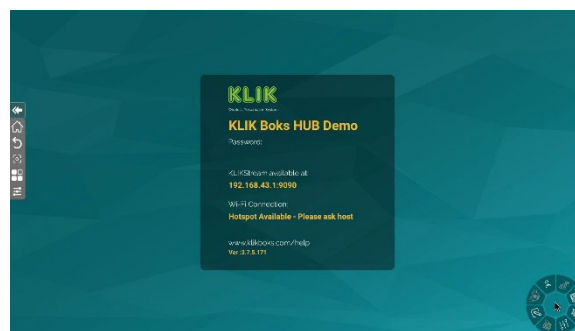


### 2) CONNECTING TO A DISPLAY

- Ensure that the KB1200 power adapter is disconnected and the Video display is

powered off before attempting a connection.

- Plug one end of the supplied (or existing) HDMI cable into the KB1200 and the other end into the display.
- Power on the display and ensure that the correct input has been selected.
- Power on the KB1200 by connecting the power adapter. The KB1200 will power on automatically.
- The KB1200 will perform a power-on-startup sequence. Once complete, the default Standby screen will appear. Standby screens may be customized using the Themes feature.



### 3) NETWORK CONNECTIVITY

A network connection with Internet access is required for license validation of the KB1200. Once validated, the Internet connection is only required for Internet Live Streaming (see Section 7 Operation, 6) Session Streaming), otherwise it may be disconnected.

A network connection is required for the KB1200 to be shared by users across an organization. This network connection may be wired, using the Ethernet connection point, or wireless, using the Wi-Fi station connection method described below.

#### a) ETHERNET

To connect the KB1200 to an Ethernet network, simply connect a suitable Category cable terminated to an RJ45 connector, to the KB1200's Ethernet port located on the rear panel. The KB1200 comes preconfigured with DHCP enabled, so IP address allocation will be automatic, providing that the network offers a DHCP server. To manually set the IP

address or make other Ethernet network changes, see Section 7 Hardware Configuration > c) Ethernet Configuration.

#### b) Wi-Fi

To connect the KB1200 to a Wi-Fi Access Point (AP), first gather the AP name and password credentials. See Section 7 Hardware Configuration > b) Wi-Fi Settings for details.

#### c) HOTSPOT

The KB1200 can act as a Wi-Fi Hotspot, allowing users to connect directly to the unit, instead of making a network connection first. The Hotspot can be provisioned with network access if the KB1200 is also connected to the LAN using the Ethernet connection. Hotspot is not available when the KB1200 is connected to a network over Wi-Fi. See Section 7 Operation > 7) Guest Wi-Fi Connectivity for more details.

### 4) CONNECTING AN HDMI INPUT SOURCE

The KB1200 can accept up to 1080p/60 HDMI signal source on the HDMI input. The signal source may originate from a Video Camera, Media Player, Document Camera, or any other compatible device, including a PC.

Note that a connected HDMI source will be detected only when the source is active, otherwise the HDMI selection icon will remain dimmed.

### 5) CONNECTING USB PERIPHERALS

The two supplied USB Type-A ports on the front face of the KB1200 are designed to accept a variety of USB devices commonly used with the KB1200. Devices that meet the latest USB standards will be recognized by the system with zero configuration required. The following device types are accepted:

#### a) HUMAN INTERFACE DEVICES (HID)

Touch-screen displays, Mouse, Keyboard, Graphics Tablet, Game Pads, etc.

#### b) VIDEO CAPTURE DEVICES

Webcam, Video Camera equipped with a USB interface, USB Document Camera, USB Video Capture device, etc.

**⚠ Note:** USB Webcams are supported for video only, integrated microphones are not supported. Integrated Camera/Microphone/Speaker systems are supported.

#### c) AUDIO SYSTEMS

Integrated Speakerphones, USB Audio Interfaces, USB Microphones, USB Speakers, USB Mixers, etc.

**⚠ Note:** Recommended that USB audio devices support both input and output signals.

#### d) MASS STORAGE DEVICES

Solid State Drives, USB Flash Drives, Hard Drives (self-powered), USB Card Readers, etc.

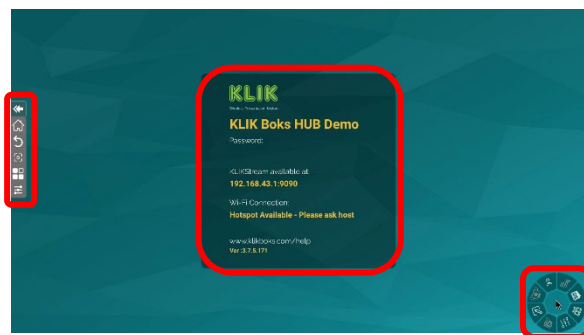
For installations where more than 2 USB ports are required, an active USB hub may be added to either or both USB 2.0 and 3.0 native ports. See <https://www.klikboks.com/klik-boks-hub> for hub options from KLIK.

## 6) STARTUP

Once power is connected, the KB1200 will start automatically, displaying the Standby screen.

#### a) STANDBY SCREEN

The Standby screen is displayed when no screen sharing activity is taking place. In the center of the screen, the display panel provides information that is required by users. In addition, there are two menus that provide access to both device and user settings.





## b) DISPLAY PANEL

The Display panel contains information about the configuration of the KB1200.

- **Device Name** – This is the friendly name assigned to the device and is used to locate and connect to the device across the network.
- **Password** – The password is enabled by default and is used to restrict access to the KB1200 by users/
- **KLIKStream Address** – The KLIKStream feature allows users to view the screen sharing session on their own device, across the network. The address includes the IP address, Port Number, and Password, when enabled.
- **Wi-Fi Connection** – Displays the network to which users may connect to, or the Hotspot name when enabled.
- **Firmware Version** – Displays the currently installed system operating system.

## c) HARDWARE SYSTEM MENU

The System Menu is located on the left side of the screen and provides access to several functions, including Hardware Configuration, System Navigation, Screen Capture and Applications.



## d) SCREEN SHARE SETTINGS

A control panel located in the bottom-right corner provides access to screen share settings and controls. The panel is hidden by default, and opens when clicked.

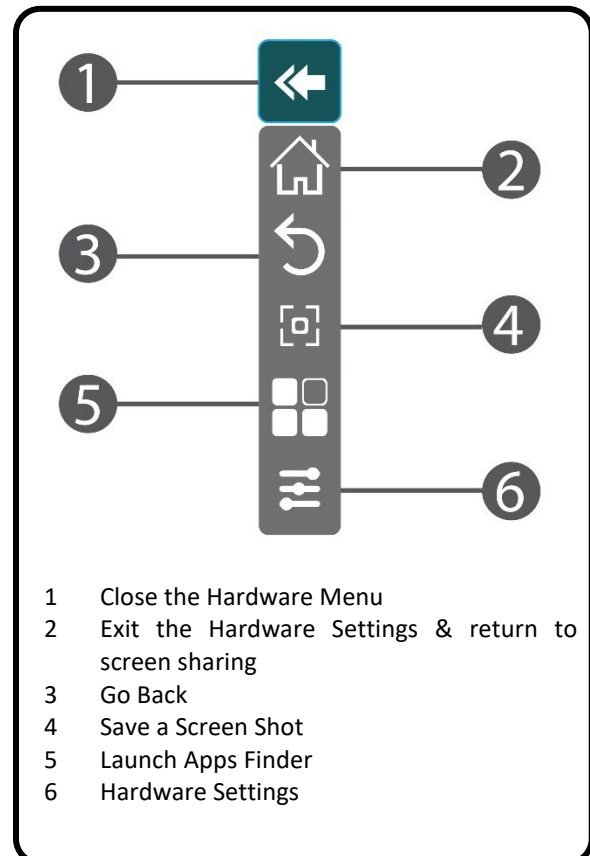


## 7) HARDWARE CONFIGURATION

The first step in the setup process is hardware configuration, using the On-Screen Display (OSD). All hardware settings have default values and only require changes if they are needed for the application.

## a) HARDWARE SETTINGS MENU

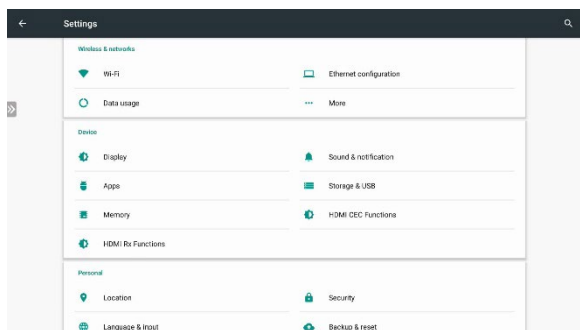
- The hardware settings menu is accessed by clicking on the floating menu icon found on the left side of the Standby Screen. This icon can be repositioned vertically on the screen.



- 1 Close the Hardware Menu
- 2 Exit the Hardware Settings & return to screen sharing
- 3 Go Back
- 4 Save a Screen Shot
- 5 Launch Apps Finder
- 6 Hardware Settings

- Select the Settings icon at the bottom of the menu to enter the Hardware Settings interface.
- Once the Settings menu is displayed, navigate to the function that is to be modified by selecting it.
- Most controls in the Settings menu may be left with their default settings. Follow the instructions below to modify recommended settings.



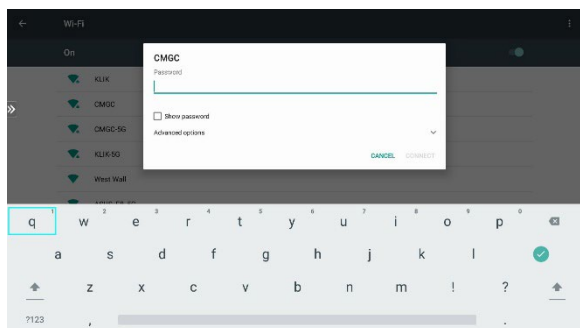


## 2 HARDWARE SETTINGS MENU

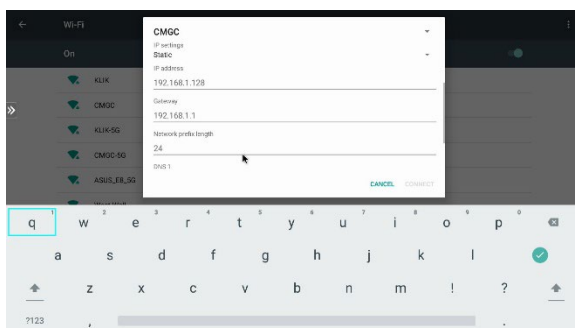
### b) WI-FI SETTINGS

The KB1200 may be connected to a network using Wi-Fi.

**⚠ Note:** Wi-Fi connection disables Hotspot feature.

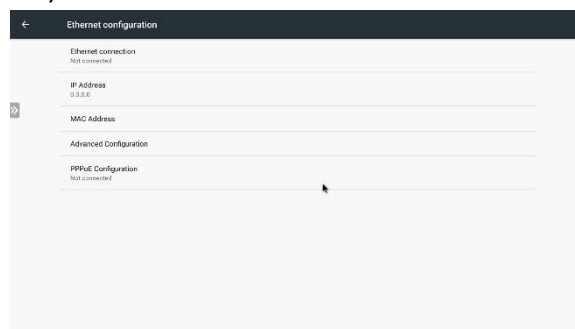


- Navigate to Settings>Wi-Fi.
- Turn Wi-Fi on to scan for available WLAN by clicking on the switch in the top-right corner of the screen. **⚠ NOTE:** Enabling Wi-Fi connection will disable the Hotspot function (see Section 5 Hardware Setup > 2) Network Connectivity > c) Hotspot for more details)
- Select the wi-Fi Access Point the KB1200 is to be connected with.
- Enter the Wi-Fi password.



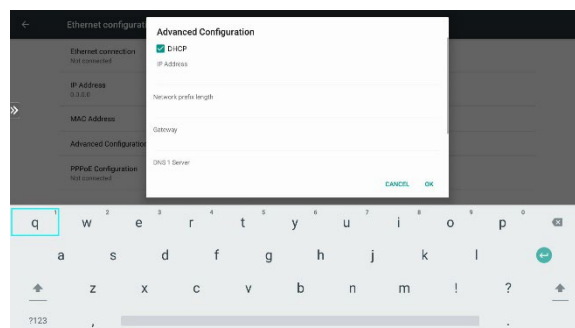
- Select Advanced Options to change Proxy and DHCP settings.
- Proxy settings may be set to None, Manual or Proxy Auto-Config. Consult with your network administrator for details on how to change the proxy settings.
- IP settings may be set to DHCP (default) or Static. Select Static if the network requires manual setting of IP address, Gateway and DNS.

### c) ETHERNET CONFIGURATION



The KB1200 may be connected to a local area network using the Ethernet connection point.

- Navigate to Settings>Ethernet configuration.
- Note the status of the Ethernet connection at the top of the page. Ensure that a live network connection is made in order to view the current IP address and device MAC address.
- DHCP is enabled by default.



- To set a static IP address, click on Advanced Configuration and de-select the DHCP switch.

- Enter the IP address, Network Prefix Length, Gateway address and DNS1&2 Server addresses. Click OK to save settings.

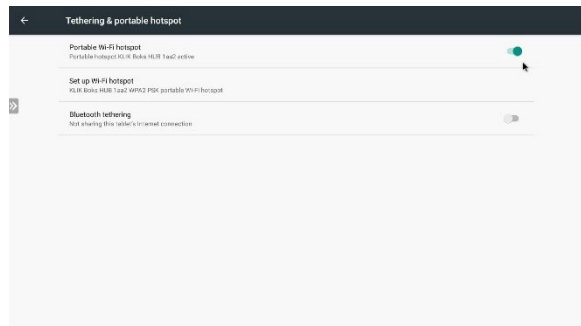
#### d) SETTING THE DEVICE NAME

The KB1200 name can be customized in two different places, for two different purposes. In this section, the Device Name is used by the KB1200 for remote maintenance and is also displayed on the Standby screen as the Wi-Fi Hotspot SSID. To prevent possible conflicts, ensure that the selected name is available and not already in use as a Wi-Fi SSID by another access point.

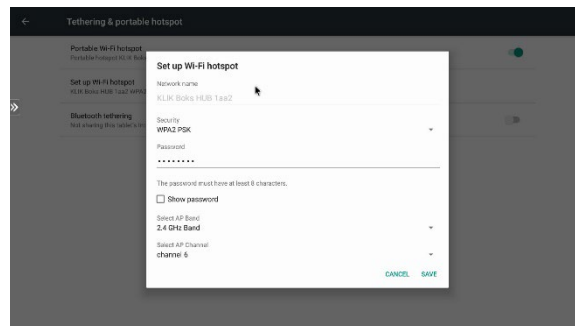
- Navigate to Settings>More>Set Device Name
- Select the Device Name Field by clicking on it, then use the on-screen (or attached) keyboard to first erase the current entry using the backspace key.
- Enter the new device name that will be displayed on the standby screen using up to 32 characters.
- Select OK to accept the new name and exit the settings screen.

#### e) HOTSPOT SETUP

The Hotspot function allows users who might otherwise not have network access to make a direct Wi-Fi connection with the KB1200 using its own SSID.



Note that the Hotspot function is automatically disabled when Wi-Fi is enabled, as is the case when the KB1200 is connected to the network over Wi-Fi. Note also that even if the KB1200 is actually connected to the network over Ethernet, and not Wi-Fi, activating Wi-Fi will disable the Hotspot.

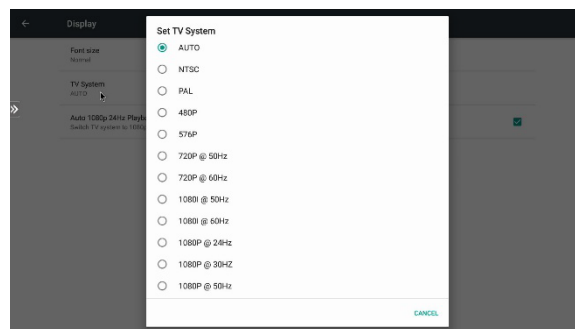


To enable and configure the Hotspot function, follow these steps:

- Navigate to Settings>More>Tethering & portable hotspot.
- Select Set up Wi-Fi hotspot to assign a unique name to the Hotspot. This name will be displayed on the KB1200 Standby screen and will also serve as the Hotspot's SSID.
- Select the network security between WPA2 PSK and None.
- When WPA2 PSK is selected, enter a password using at least 8 alphanumeric characters (default is 12345678). Users will need to enter this passkey to connect to the Hotspot. This passkey is not the same as the user password for screen sharing.
- Select an alternate Wi-Fi channel if needed.
- Click Save to save settings.

#### f) DISPLAY SETTINGS

The KB1200 is set to auto-detect the display and set its output resolution to match, by default. This may be changed if needed.



- Navigate to Settings>Display>TV System.

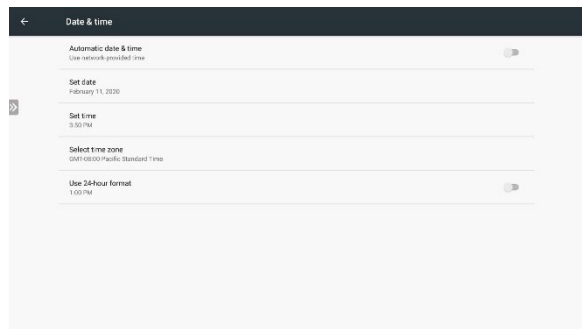
- Select the new display setting. The KB1200 will switch to the new resolution immediately.
- Accept the resolution change within 15 seconds by clicking on Yes. Otherwise, the KB1200 will revert to its previous setting.

### g) STORAGE & USB

Locate, copy and paste files, images and recordings between Internal and Removable storage by accessing the Storage & USB controls.

- Navigate to Settings > Storage & USB > MyFolder (where MyFolder is the location of the file to be copied)
- Select the file to be copied with a long mouse click. A check mark will indicate that the file has been selected.
- Select multiple files by performing the same action with each file.
- To select all files inside a storage folder, first select one file, then tap or click on the Menu icon (●●●) and choose Select All.
- Tap or click on the Menu icon (●●●) in the top right and select Copy to...
- Navigate to the storage location that the file will be copied to and select Copy.

### h) DATE & TIME



The KB1200 receives date and time data from the network by default. To change this setting:

- Navigate to Settings>Date & time.
- Turn off automatic date & time by clicking on the switch near the top-right corner.
- Select Date, Time, Time Zone and Format.

## 6. SCREEN SHARE SETTINGS

### 1) OSD CONTROLS

KB1200 screen sharing features are configured and operated from an on-screen user interface called the “DAISY”. At startup, the DAISY is positioned near the bottom-right of the Standby screen and is in the “minimized” position. Click or tap on the icon to expand the DAISY menu.



### a) SETTINGS PANEL

Click or tap on the Settings icon to open the settings panel.



The settings panel will open with the main settings tab selected by default.



The settings panel provides access to various screen sharing settings grouped by Basic, Live and Record features.

### 2) GENERAL SETTINGS

#### a) DEVICE NAME

Enter the name of the KB1200 that will be displayed on the Standby screen and that users will select to connect with.

Up to 32 alphanumeric characters may be used, including spaces.

Click Apply to save the settings changes.

### b) USER PASSWORD

The KB1200 can be configured to restrict access to its screen sharing function by enabling a password that is displayed on the screen.

There are three password options available:

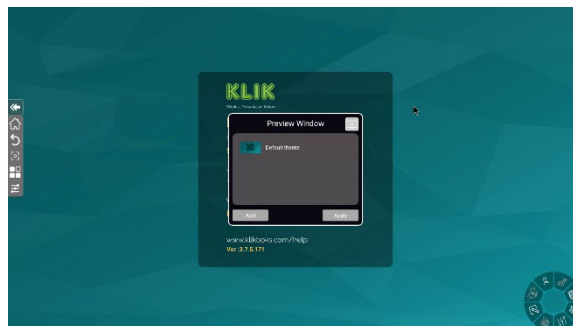
- Off – No password is required for connection to the device.
- On – A fixed password is required to be entered by the user. Select this option and enter a fixed password in the Login Code field.
- Random – A randomly-generated password will be displayed and users must enter this password to connect to the KB1200.
- Select the option, then Click Apply to save the settings changes.

### c) THEME SETTINGS

The KB1200 has two operating modes; Basic and Moderator. Each of the modes can have a distinct screen wallpaper loaded. Pairs of screen wallpapers are combined into Themes, which can be set and recalled from the Settings Panel.

On power-up, the KB1200 loads the KLIK Default Theme. Additional themes may be created and any theme may be designated as the default to load when the KB1200 starts.

Open the Theme Settings panel by clicking on the “Theme” button in the Basic Settings menu.



The Theme Settings panel shows all themes currently stored on the device. Change to another theme by selecting it and clicking Apply. To create a new theme, click on the Add button.



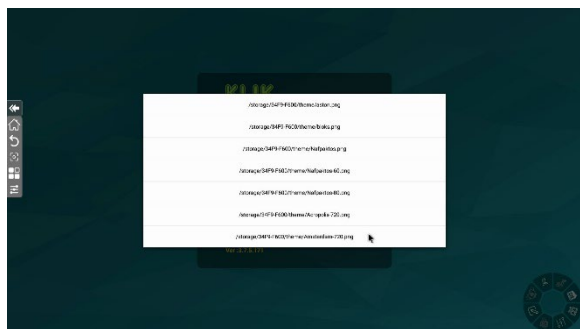
To create a new theme, click on the Add button.



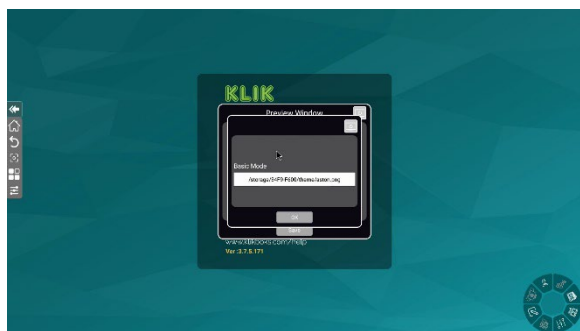
Type a name for the new theme and press enter.



To add images to the theme, first prepare a USB flash drive by creating a folder named theme at the root of the drive. Copy the images to that folder, then insert the drive into the KB1200. Select each of the images for the new theme by clicking on the (+) button.



The File Manager will open the named folder and display the image files stored there.



Select the desired image file, then click OK.



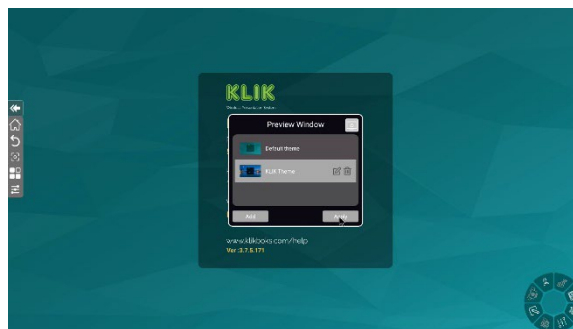
The image file will be loaded and immediately displayed in the thumbnail window, the desktop simulation and the Standby screen.



Proceed by adding the second image file to the Conference Mode wallpaper. The same image may be used, although it must be selected separately. Click Save when finished.



The Preview Window now shows the newly-added theme along with the default theme.



Select the new theme and click Apply to set it as the default.

#### d) DO NOT DISTURB FUNCTION

The KB1200 can be configured to prevent new users from over-riding the streaming sessions of existing users through the Basic Mode Overwrite function.

Turn the function 'On' to prevent new users from "bumping" existing users off the system.

Turn the function 'Off' to allow new users to "bump" existing users off the system.

Click 'Apply' to save the settings changes.

### e) THUMBNAIL REFRESH

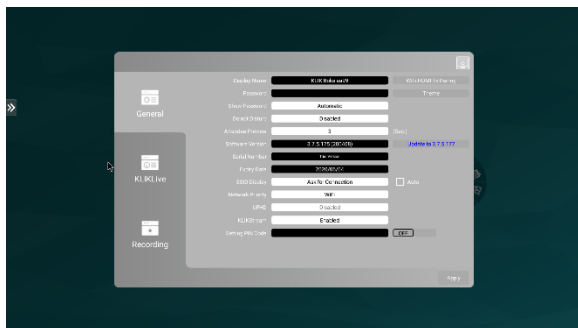
When used in Moderator Mode, the KB1200 can display thumbnails of connected users' content on-screen before committing the content to the main screen.

- This control sets the screen refresh rate of user content in the on-screen thumbnail preview window.
- Select '0' for no refresh after initial display.
- Select '1' for a screen refresh every second (consumes network resources)
- Select '60' for a screen refresh every 60 seconds.
- Default setting is 3 seconds.

Click Apply to save the settings changes.

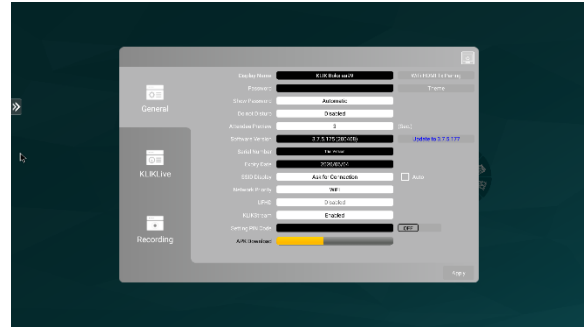
### f) FIRMWARE VERSION

The KB1200 may be updated from time to time with new software, adding features and resolving issues. The Version field displays the installed firmware version.

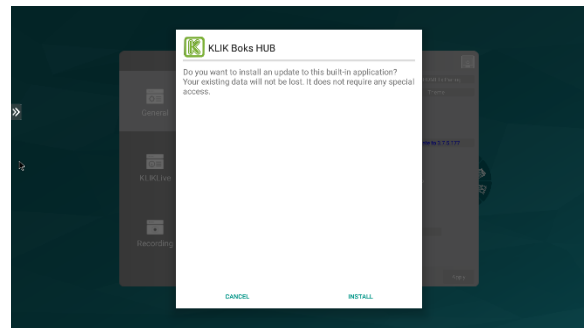


When a later firmware version is available, the control to the right of this field will indicate availability. Clicking on the control will initiate the installation of the latest firmware.

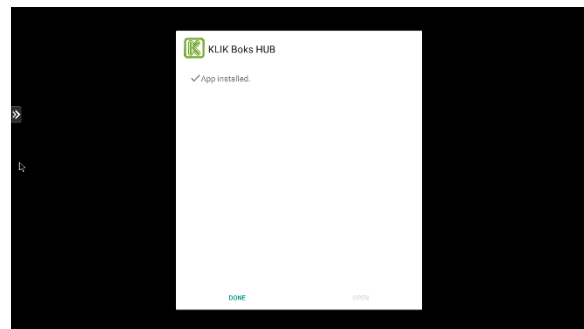
**⚠ Note:** Online firmware updates require Internet access.



Click on the indicated new firmware version to start the update process. A progress bar appears at the bottom of the window, indicating download progress.



Click Install to accept the new firmware and initiate the update process. Do not turn off or disconnect the power during this process.



Click Done to accept the completed installation and restart the KB1200. The firmware update is complete. Consult the release notes for details about the new firmware installation.

### g) SERIAL NUMBER

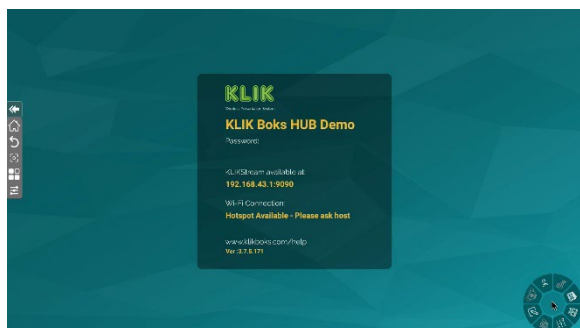
Each KB1200 contains an embedded electronic serial that is used for license and security management. This serial number may be required for technical support.

### h) EXPIRY DATE

This field contains that expiration date of the latest authentication. Devices not yet activated may display the remaining time of a 30-day trial period.

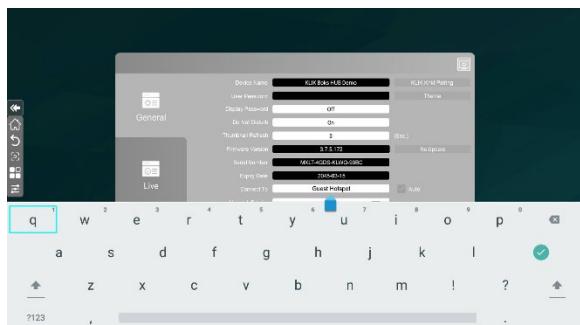
#### i) CONNECT TO

The KB1200 displays a message on the Standby screen that advises users about which network they need to be connected to, in order to access the device.



By default, this message will display the Hotspot SSID, if the Hotspot is enabled.

To direct users to connect to a different network, enter a custom message in this field.



Click Apply to save the settings changes.

#### j) NETWORK PRIORITY

Future feature. Not currently enabled.

#### k) ENABLE UFHD

Future feature. Not currently enabled

#### l) KLIKSTREAM ENABLED

The KB1200 includes a feature that allows members of the audience to view the presentation inside a browser tab, on their own device.

Users navigate to the displayed IP address of the KB1200 in order to initiate the viewing session.

When the Login Code Password is enabled, the viewer must append the password to the IP address as shown on the screen.

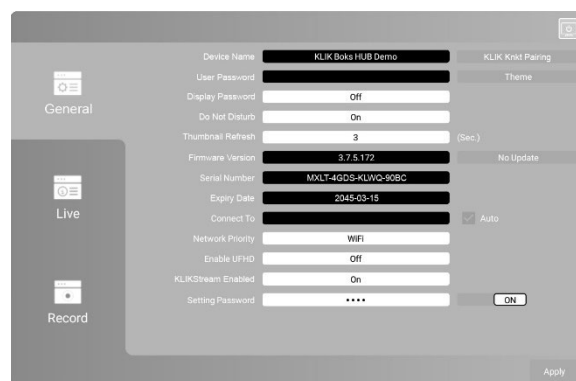
To enable this feature, select On from the menu.

To disable this feature, select Off from the menu.

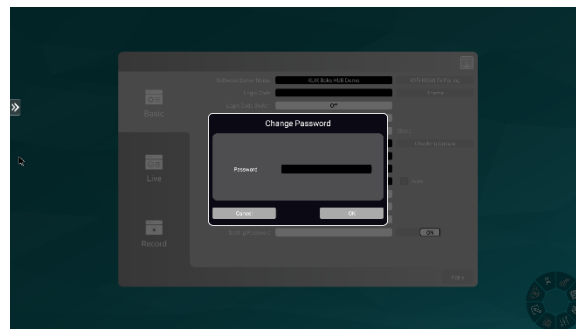
Click Apply to save the settings changes.

#### m) ADMIN PASSWORD

Access to both Android and KLIK menus is restricted by means of an Administration Password. The Admin Password is enabled by default. The default password is 1234.

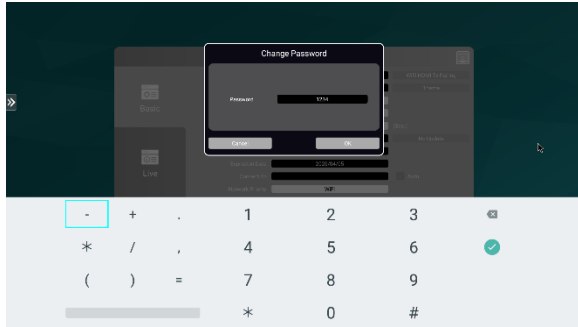


To change the default password, first click on the 'On' button to open the 'Change Password' dialog.



Click in the 'Password' field to open the virtual keypad, enter the new password and click 'OK'.





Click 'Apply' to restart the app and apply the new password.

To disable the Admin password, click on the 'On' button to open the 'Change Password' dialog.

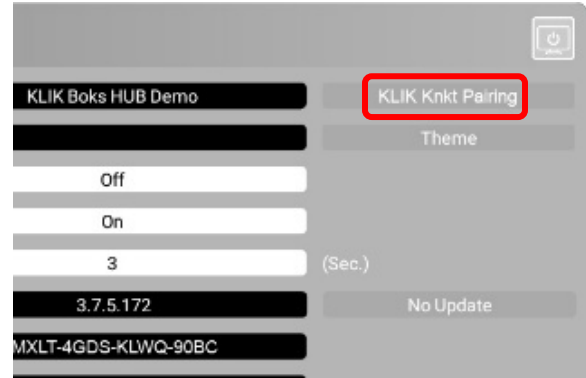


Click 'Apply' to restart the app and disable the Admin Password requirement.

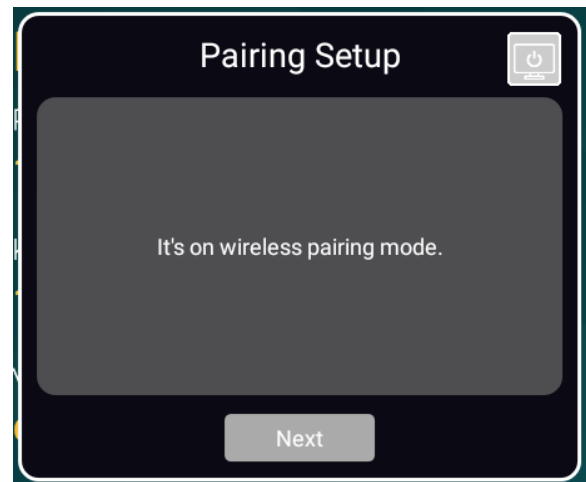
#### n) KLIK KNKT PAIRING

The KB1200 is compatible with the KB400 (KLIK Knkt HDMI Sender) accessory device. The KB400 connect to any HDMI-equipped video source device, such as a PC, Document Camera, Blu-ray Player, and allows that device to stream to the KB1200 wirelessly.

- To start pairing a KB400 tap or click on the 'KLIK Knkt Pairing' button in the General Settings menu.

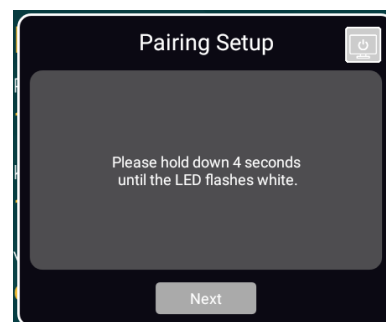


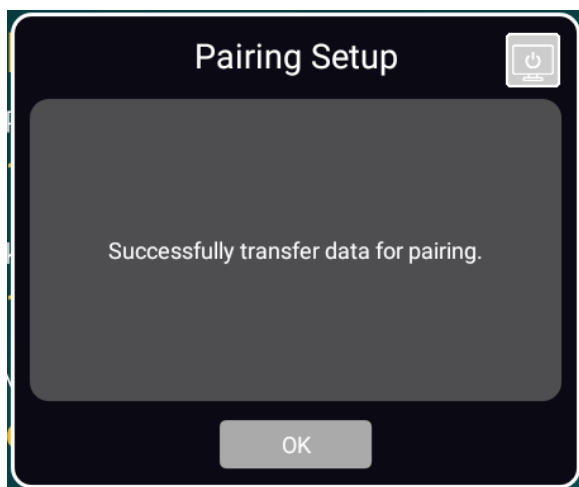
- Tap or click next to continue.



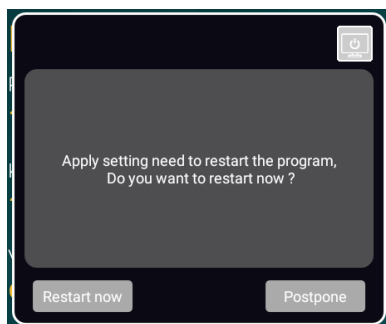
- Press and hold the button to initiate pairing mode on the KB400. Release the button when the LED flashes White and tap or click Next to continue.

- Confirm the SSID of the Wi-Fi Access Point and the password. Tap or click Pairing to continue.





- The pairing success message will appear when the pairing data is successfully transferred.



- Apply the settings and restart the Screen Sharing app.

### 3) LIVE SETTINGS

The KB1200 offers a Live Streaming feature that allows all screen content, including annotations and whiteboard content, to be streamed in real time to a YouTube channel.

Select the LIVE tab to reveal the settings panel that configures the Live Streaming feature.

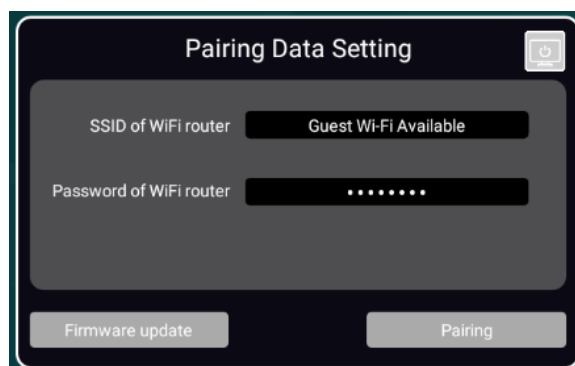


#### a) PLATFORM

Select the streaming platform to which the stream will be sent. Currently, only YouTube is supported.

#### b) RESOLUTION

The resolution setting determines the pixel density of the streamed image.



Select the desired stream resolution from the supported modes.

#### c) BIT RATE

The bit rate determines the frequency with which the streamed image is refreshed.

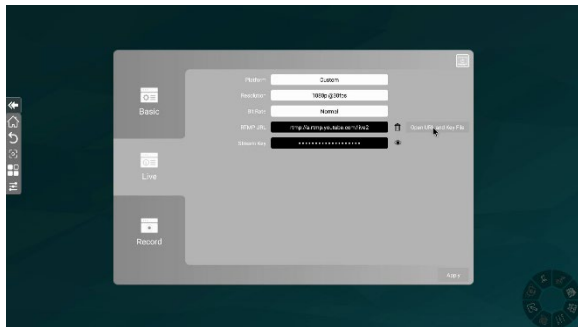
Select the desired bit rate from the supported modes.

#### d) RTM URL & STREAM KEY

These fields contain the information required to direct the live stream to the correct server, and to properly authenticate the source with the server.

Server URL and Stream Key are found in the YouTube streaming page settings panel:

Credentials may be entered manually or imported electronically.



To import the streaming credentials, follow this procedure:

- Copy the Server URL from the YouTube page.
- Create a new text file named rtmp.txt and paste the copied URL into the first line.
- Copy the Stream Key and paste into line 2 of the rtmp.txt file.
- Save the rtmp.txt file to a USB flash drive and insert into the KB1200.
- Click on the Open URL and Key File button to the right of the RTMP URL field to populate the fields with the data from the USB.

```
File Edit Format View Help
rtmp://a.rtmp.youtube.com/live2
xxxx-xxxx-xxxx-xxxx
```

Click Apply to save the settings changes.

#### 4) RECORD SETTINGS

The KB1200 offers a session recording feature that captures all on-screen activity and saves it to an MP4 video file.

Select the Record tab to reveal the settings panel that configures the Recording feature.

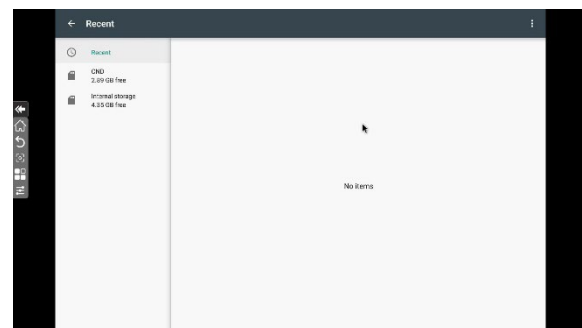


##### a) RECORD TARGET

Not enabled in this firmware version.

##### b) RECORD TO

Select the media and folder where the recording will be saved.

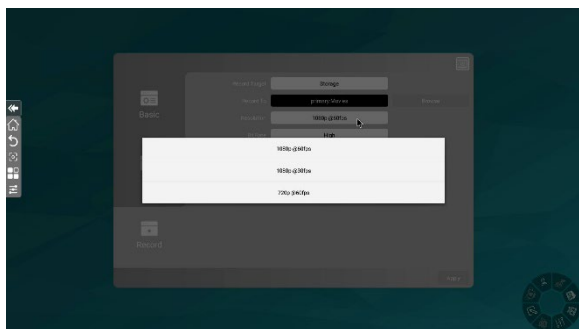


- Tap or click on the Browse button to open the finder.
- Select a storage location by first selecting the Internal Storage or removable media if installed.
- **⚠ Note:** It is not possible to create new folders in the selected storage location. Create any new folders needed on removable storage prior to connection to KB1200.
- Tap or click on SELECT to save recordings to the selected storage location.

Click Apply to save the settings changes.

### c) RESOLUTION

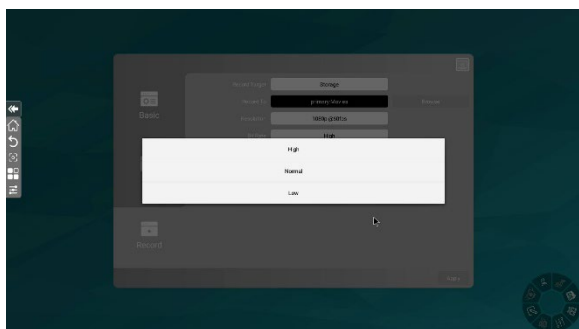
Select the resolution at which the content will be recorded.



- Click on the display field to select a setting from the available modes.

### d) BIT RATE

Select the bit rate for the recording. A higher bit rate will render a more fluid recording. Lower bit rates conserve storage space.



- Click on the bit rate display field to select a setting from the available modes.

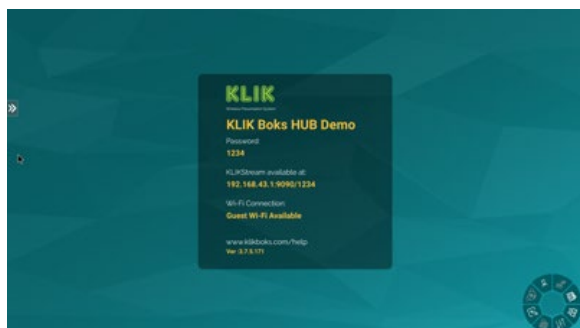
## 7. OPERATION

The KB1200 is designed to adapt to several different use-cases and combinations of related hardware such as displays, keyboard & mouse combinations and Touch-screen displays.

In addition, the KB1200 may be used in unattended, or Basic mode, or under the control of a moderator, in Conference mode.

### 1) STANDBY SCREEN

On powerup, the Standby screen is displayed. This is the starting point for any use of the KB1200, as it displays vital information and contains several controls that aid in setup and operation of the device.



#### a) DEVICE NAME

The device name is displayed on the Standby screen. Users will look for this name to start a screen sharing session when using the KLIKConnect application on their device. This name is also displayed in the list of devices on iOS devices when using AirPlay.

## KLIK Boks HUB Demo

#### b) PASSWORD

When enabled, users must enter a password in order to join a screen sharing session or to view the session across the network. Depending on settings, the password may refresh randomly, may be a fixed value, or may be switched off. Consult with your system administrator for further information.

Password:

**1234**

#### c) KLIKSTREAM ADDRESS

The KLIKStream feature allows users to view the screen sharing session on their own device, across the network. For further information on the KLIKStream feature, see Section 7, Operation > 8) KLIKStream Remote Viewing.

KLIKStream available at:

**10.0.0.38:9090/1234**

#### d) GUEST WI-FI HOTSPOT

The KB1200 offers a Wi-Fi Hotspot which when enabled, allows users to connect directly to the device, using Wi-Fi. The hotspot may have a password enabled. Check with your system administrator for further details.

Wi-Fi Connection:

**Guest Wi-Fi Available**

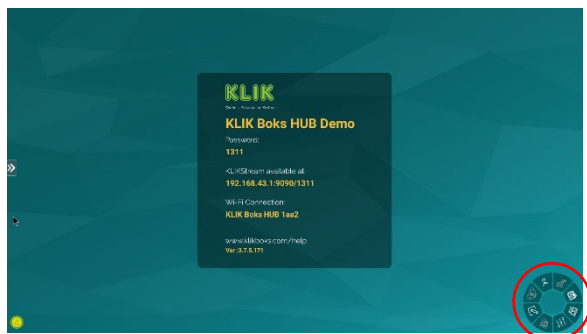
#### e) FIRMWARE VERSION

The currently installed operating system version number is displayed on the screen. This is for troubleshooting issues only.

In addition, a URL is provided for users to obtain information and assistance with the KLIK device.

## 2) ON SCREEN USER INTERFACE

KB1200 screen sharing features are configured and operated from an on-screen user interface called the “DAISY”. At startup, the DAISY is positioned near the bottom-right of the Standby screen and is in the “minimized” position.



Click or tap on the icon to expand the DAISY menu. Click or tap again to minimize the DAISY. The menu may be moved to any part of the screen by clicking and dragging.



### a) USB TOUCH-BACK

The KB1200 includes a USB Touch-back feature that allows HID control data to be sent to the presenting PC from a touch-screen, mouse or keyboard.

Enable the Touch-back feature by clicking on the icon displaying a single mouse. The feature is active when the dual-mouse icon is displayed.



### b) RECORD SESSION

Click or tap on the Record icon to initiate session recording to local media. Click or tap a second time to terminate recording.



### c) LIVE STREAM

Click or tap on the Live Stream icon to initiate a session stream to YouTube. Click or tap a second time to terminate streaming.



### d) SYSTEM SETTINGS

System settings include the KB1200 display name, password status and more. Access the System Settings panel by clicking on the Settings icon.



### e) HDMI INPUT SELECTION

Click or tap on the HDMI Selection icon to enable the HDMI input. Click or tap a second time to terminate HDMI input selection.



### f) ANNOTATION & WHITEBOARD

KB1200 includes an Annotation & Whiteboard application built in. Open the annotation and whiteboard application by clicking on the icon.



### g) STOP ALL STREAMS

As a convenience, all current screen sharing streams may be terminated at one time. End all client streams in Moderator mode by clicking on the icon.



### h) MODERATOR MODE

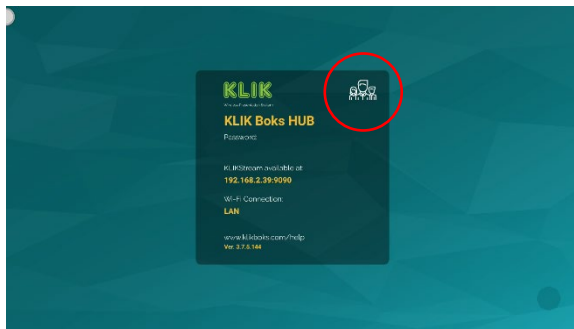
The Moderator Mode button toggles the KB1200 between Basic and Moderator Modes.



When Moderator Mode is active, the Moderator Mode button changes to indicate its status.



In addition, the Moderator Mode icon is displayed on the Standby Screen:



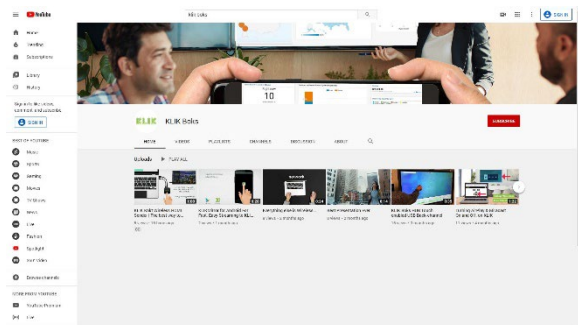
**Note:** Moderator Mode may also be initiated inside the KLIKConnect application, displaying the Moderator Mode icon.

### 3) DEFAULT MODE

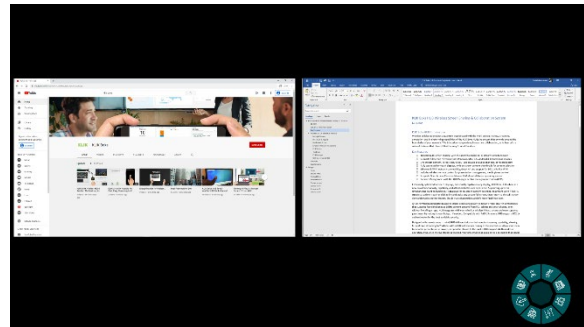
Default Mode assumes that there is no moderator managing users, or access to the shared screen display. Users can initiate a screen sharing session from their device without intervention of a facilitator.

#### a) SPLIT SCREEN DISPLAY

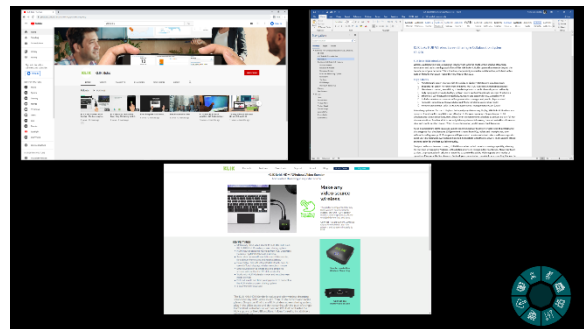
The first screen share occupies the entire screen area.



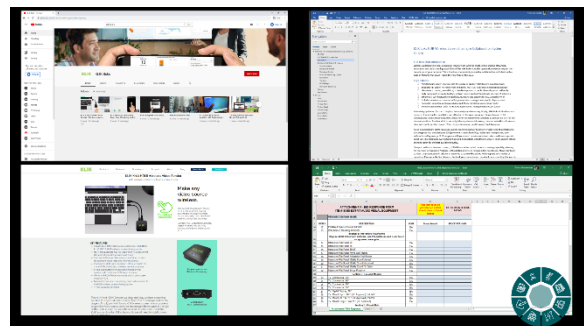
A second screen share causes the screen to split into two panes, displaying both screens, side by side.



A third screen share causes the screen to split into three panes, displaying all three screens simultaneously.

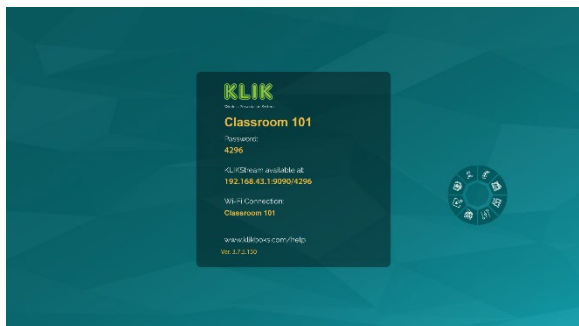


A fourth screen share causes the screen to split into four panes, displaying all screens simultaneously in a 2x2 grid.



As individual users exit the screen sharing session, the screen split reverses order, until one screen share fills the entire screen area.

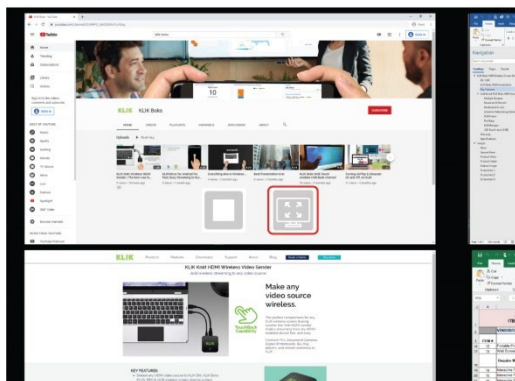
When all users exit the screen share, the display returns to the Standby screen.



### b) RESIZING SCREEN SHARE PANES

When 2 or more screen shares are occurring simultaneously, any of the shared screens may be expanded to fill the entire screen. A mouse or touch-enabled display is required for this feature:

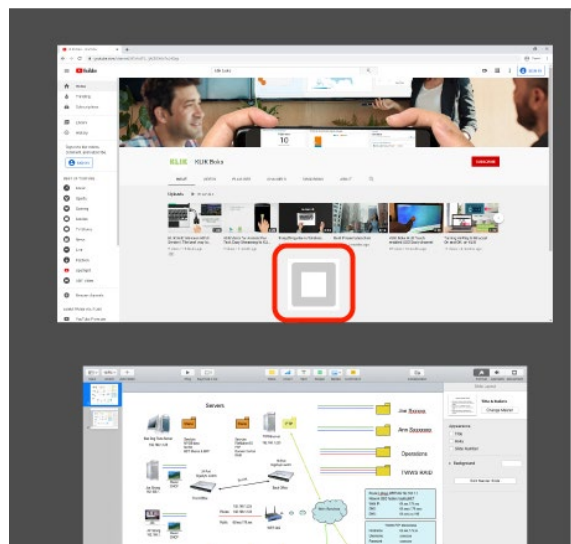
- Hover or Click on any of the displayed screen panes to reveal the Maximize button.



- Tap or click the Maximize button to make the selected pane fill the display screen.

When 2 or more screen shares are occurring simultaneously, any of the shared screens may be stopped. A mouse or touch-enabled display is required for this feature:

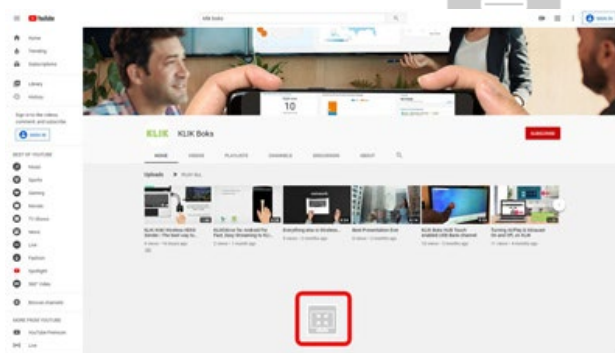
- Click on any of the displayed screen panes to reveal the Stop button.



- Tap or click the Stop button to terminate the selected screen share.

When a single screen share is maximized, and one or more additional screen shares are active but hidden, it is possible to return the maximized screen share to the split-screen layout. A mouse or touch-enabled display is required for this feature:

- Swipe up from the bottom of the screen to reveal the Minimize button.



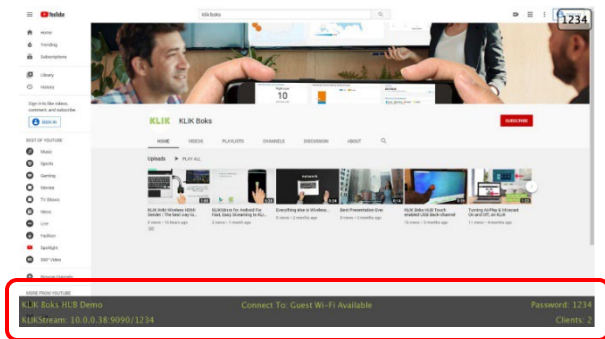
- Tap or click the Minimize button to send the selected screen share back into the split-screen view.

### c) SHOW INFORMATION

When screen sharing is active, the Standby screen is not displayed. As a consequence, those arriving after screen sharing has started, cannot see the device name and password to join the session.



The KB1200 offers a feature that displays the needed information in the form of a text overlay, near the bottom of the screen that contains this information.



Swipe up from the bottom of the screen to reveal the Information Panel. Information displayed is:

- Device Name
- Wi-Fi Hotspot or Network Connection
- Device Password
- KLIKStream Address
- Number of connected clients

d) LOGIN CODE

The KB1200 includes a password-access feature that may be enabled to restrict access to the device only to persons who have the required password.



The password is displayed on the standby screen, and is viewable before the start of any screen sharing sessions.

In addition, the password is displayed as an overlay in the top-right corner of the screen, while a screen sharing session is taking place. This allows users arriving after the start of the session to see and use the password to gain access to the device.

The on-screen password is contained in a rectangular graphic that may be moved across the top of the display screen for better visibility as needed.

4) MODERATED MODE

In Moderator Mode, one user (the moderator) controls access to the screen. While presenters can connect to the KB1200 and select the content they wish to share, they cannot initiate streaming sessions.

This feature is particularly effective in classrooms, public, multi-participant conferences, and any meetings where a moderator sets the pace and previews content for its suitability.

Moderator Mode may be enabled and controlled from the on-screen DAISY menu, or from a PC running the KLIKConnect application. The instructions below apply to Moderator Mode control only through the DAISY menu.

a) ENABLE/DISABLE MODERATOR MODE

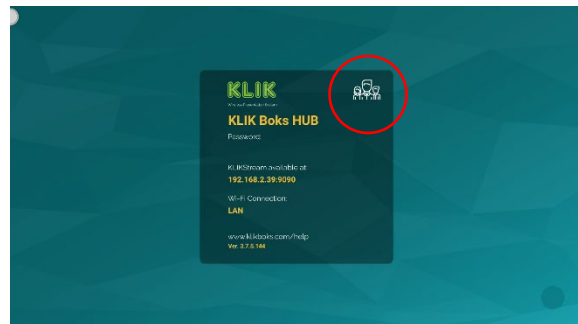


Moderator mode is enabled by clicking or tapping on the Moderator button in the DAISY.

When enabled, the Moderator mode button icon changes to indicate On status.



In addition, the Moderator mode On status icon will be displayed on the Standby screen:



b) USER REQUIREMENTS

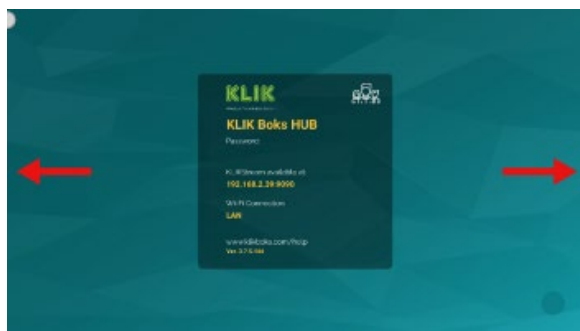
Moderator Mode requires Windows, Mac & Chrome users to install and run the KLIKConnect application.

Users of iOS devices can use AirPlay. Moderator Mode is not supported on Android devices.

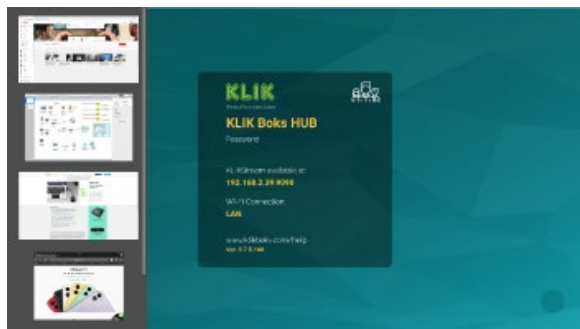
### c) CONTENT PREVIEW & SELECTION

User screen shares are not displayed on the screen until the Moderator selects and positively enables each of them in turn. This selection is performed by means of screen share thumbnails that are displayed in the Preview panel on-screen.

To reveal the Preview Panel, click or tap on the Standby screen near either the Left or Right edge:



Alternatively, the Preview Panel may be activated using the “User Selection” button on the DAISY. Click or tap on the button or on the left side of the screen to open the panel on the left.



Click or tap on the right side of the screen to open the Preview panel on the right.

### d) PUSH CONTENT TO SCREEN

With the Preview panel open, tap or click on the thumbnail of the content to be added to the screen. When the Play button is revealed, tap or click on it to push the content to the screen.



### e) ADD CONTENT

Follow the same procedure to add additional content to the screen. The screen will split to accommodate up to 4 content tiles at one time.

## 5) WIRELESS VIDEO CONFERENCING

The KB1200 supports many third-party videoconferencing applications by providing a wireless link between a host PC running the application and the audio and video peripherals that are connected to the KB1200. Access to this feature requires the use of the KLIKConnect application, Version 4.2+.

### a) SUPPORTED PERIPHERALS

The wireless video conferencing feature supports peripheral devices such as individual cameras and speakerphones, or integrated camera/speakerphone systems.

**⚠ Note: Audio is not supported on cameras with integrated microphones, only on integrated camera/speakerphones.**

### b) CONNECTING PERIPHERALS

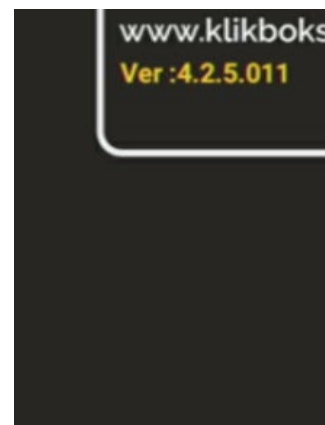
KB1200 offers two USB Type-A ports for peripheral connections; one USB 2.0 and one USB 3.0. In the event that additional USB ports are required for connection of peripheral devices including webcams, audio systems, storage devices and HID devices, a powered USB 2.0 hub may be required.

**⚠ Note: Only class-compliant USB devices such as Cameras, Integrated Speakerphones and Integrated Camera/Speakerphones are supported.**

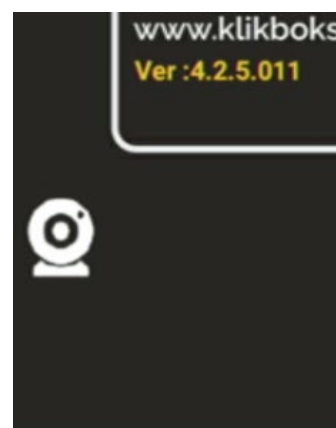
Connect peripheral devices using Type-A cables or Type-A to Type-C adapters as needed. Always provide external power to peripheral devices fitted with power ports.

### c) VERIFY CONNECTIONS

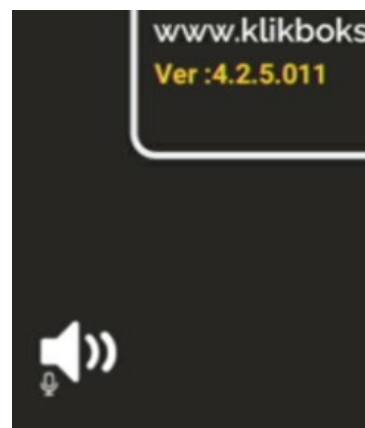
Power on the KB1200 and note the area directly beneath the firmware version number on the screen for the presence of connected peripheral devices.



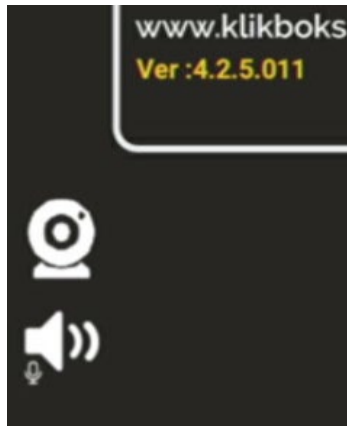
If there are no symbols displayed in this area, no devices have been detected. Ensure that devices requiring external power are connected to a power source and switched on.



When a camera is detected, the Webcam symbol will be displayed.



When a Speakerphone or Microphone with Audio Output capability is detected, the combined Speaker/Microphone symbols will be displayed.



When both the Webcam and Speaker/Microphone symbols are displayed, the KB1200 has detected the connection of either discrete video and audio peripherals, or an integrated system video/audio system.

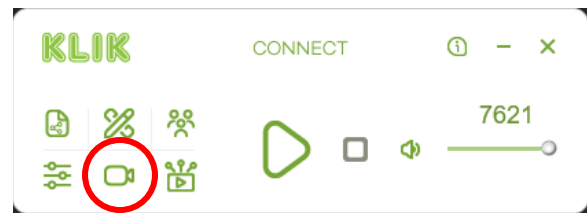
d) ADVANCED VIDEO & AUDIO CONNECTIONS

The KB1200 can be used with more advanced video and audio sources as may be required in larger or more specialized venues. In such cases the USB video camera and audio system may be replaced by a suitable AV to USB capture device that then connects to the KB1200. For example, a HDMI to USB capture device may be used to receive signals from external camera systems, including video switchers and effects generators, and complex audio capture and sound reinforcement systems. For further information and design support, contact KLIK Support.

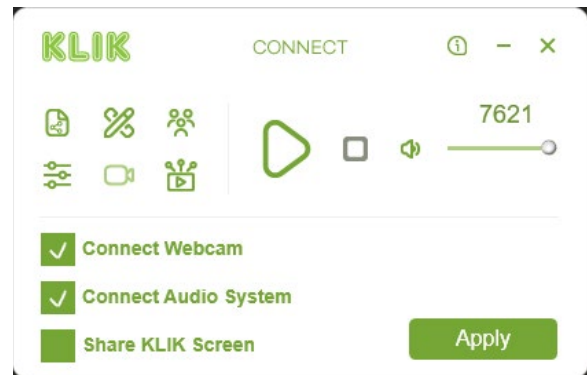
e) CONNECTING TO THE PERIPHERALS

Use of the connected AV peripherals requires the installation of the KLIKConnect application, available in Windows and Mac versions. Further information on the KLIKConnect application may be found at <https://www.klikboks.com/klikconnect>.

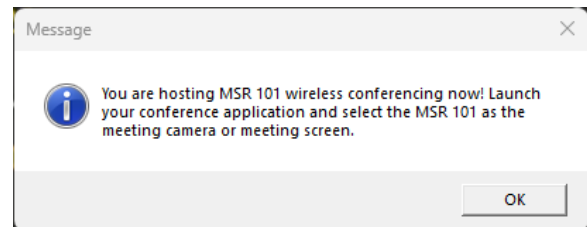
With the KLIKConnect application open, select the camera symbol to open the video conferencing dropdown.



Select the camera and audio systems by checking the appropriate fields in the dropdown and click Apply to close the window.



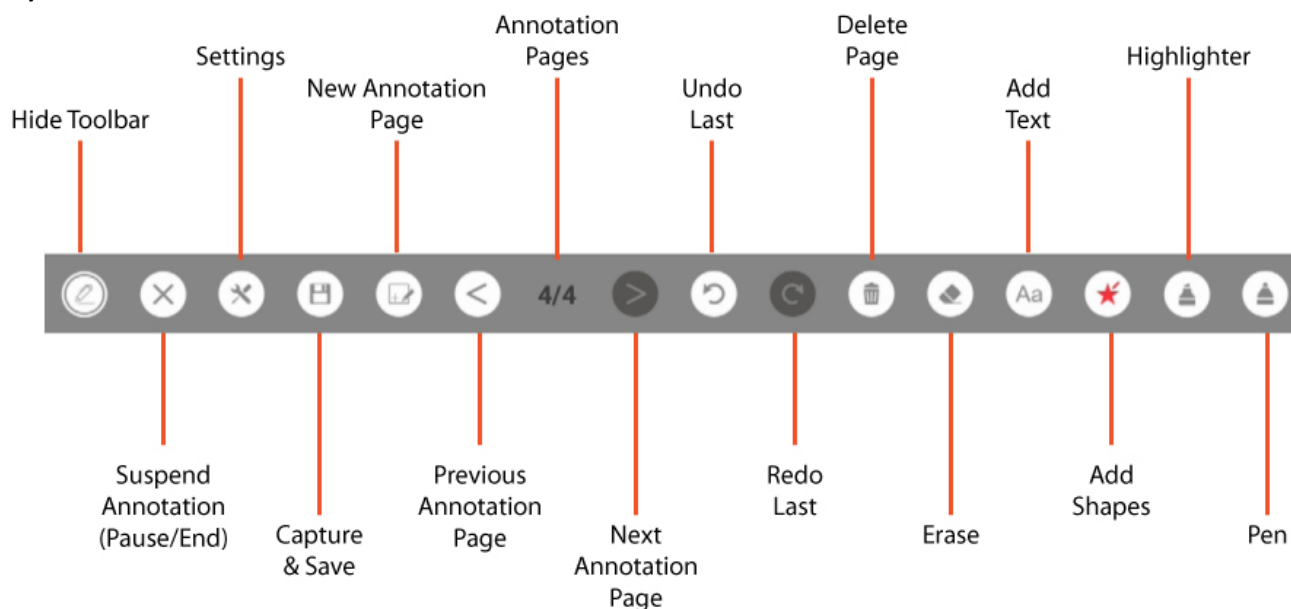
Click OK to on the pop-up to accept the assignment of the devices.



The KLIK screen will display a connection confirmation with the name of the connected device.



## 6) ANNOTATION & WHITEBOARD



- Adjust pen width with the slider tool.

### a) LAUNCH ANNOTATION

Tap or click on the Annotation icon in the Daisy control panel to launch the Annotation application.



To use the pen tool with a mouse, click and hold the left mouse button and move the cursor to draw on the screen. The pen tool allows for free-form markup across the screen.

### b) ANNOTATION TOOLBAR



The Annotation toolbar will be displayed along the bottom of the screen. The toolbar provides access to all of the annotation and whiteboard functions and remains active while annotation is enabled. The toolbar may be hidden from view as needed, then recalled, without terminating the annotation application.

### c) PEN TOOL

The pen tool is selected by default when the Annotation toolbar is first opened. Click on the Pen tool icon to open the tool settings panel.



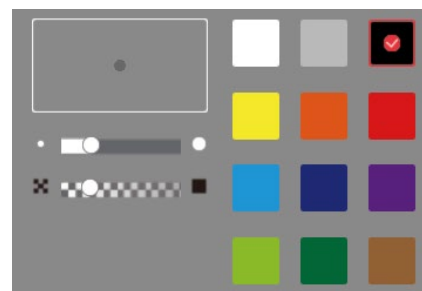
- Select pen color from the color palette.

### d) HIGHLIGHTER

Click on the Highlighter tool icon to select it and open the tool settings panel.



- Select highlighter color from the color palette.
- Adjust highlighter brush width with the size slider tool.
- Adjust the opacity of the highlighter color with the opacity slider tool.



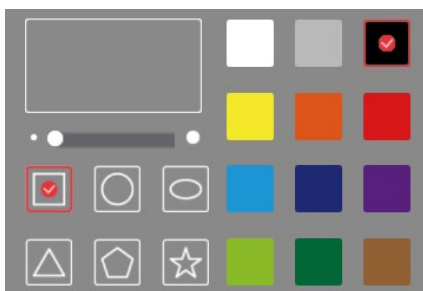
To use the highlighter tool with a mouse, click and hold the left mouse button at the start of highlight path, then drag the path to highlight an object on the screen. The highlighter tool allows for straight-line markups across the screen.

#### e) SHAPES

Select the Shapes tool and open the settings panel by clicking on the icon.



- Select the Shape outline width with the slider.
- Select the Shape Geometry by clicking on any one of the shapes.
- Select the Shape color.



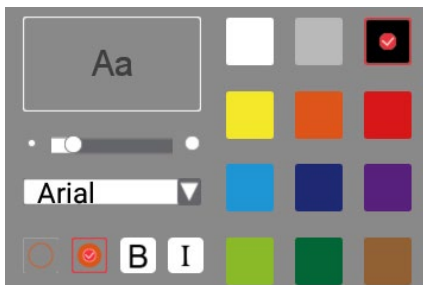
To use the shape tool with a mouse, click and hold the left mouse button at the start of shape path, then drag the path to draw the shape.

#### f) TYPE TOOL

Select the Type tool and open the settings panel by clicking on the icon.



- Select the font size with the slider.
- Select the Font from the drop-down.
- Select Fill or Outline, Bold & Italic.
- Select font color.



Click on the screen to select the starting point of the text. Enter the text using the on-screen or an attached keyboard, then click on the enter key to place the text.

#### g) ERASE & DELETE

The Erase (right) and Delete (left) icons permit editing and deletion of the currently-displayed annotation.



Tap or click on the erase icon to activate the erase tool. Drag the tool over the area to be erased while holding the left mouse button. Release the button to stop erasing. The tool remains active until disabled or selection of another tool.

Tap or click on the Delete icon to activate the tool. A prompt will be displayed asking to confirm deletion of the annotations. Confirm to delete all of the displayed annotations.

#### h) UNDO & REDO

The Undo (left) and Redo (right) icons step annotations backward



or forward from system memory, enabling the user to review prior markups without losing latter content.

Tap or click on the Undo (left) icon to go back one step.

Tap or click on the Redo (right) icon to go forward one step.

#### i) ADD & NAVIGATE PAGES

KB1200

supports  
creation and

display of multiple annotation pages that may be displayed one at a time.



Tap or click on the Create New (left-most) icon to Create a new annotation page. The exiting annotation page is simultaneously saved in the page store, and the display will increment forward, showing the new total number of annotation pages and the currently-displayed annotation page.

Tap or click on the Left Arrow icon to step back to a previous annotation page.

Tap or click on the Right Arrow icon to step forward to a latter annotation page.

All annotation pages are retained only for the duration of the meeting session; they are not saved. To save annotation pages, see the next section, j) Capture & Save.

#### j) CAPTURE & SAVE

Tap or click on the Save icon to capture a screen image of all contents, including annotations.



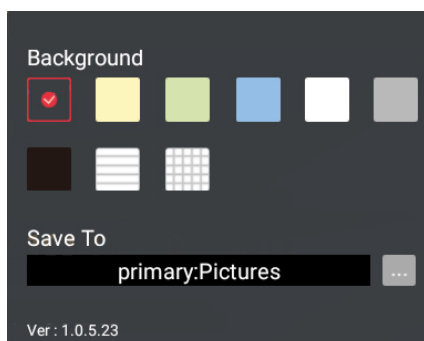
The image capture is stored on-board the KB1200 or in removable storage depending on the settings selected in Section 5 Hardware Setup > 3) Hardware Configuration > g) File Storage Locations.

#### k) ANNOTATION SETTINGS

Tap or click on the Settings icon to open the Settings Panel. Select between Background type and set the location for Screen Captures from this panel.



- Select between Transparent Background (default) and solid background by tapping or clicking on the thumbnails.
- Select the Screen Capture storage location by tapping or clicking on the browse icon to the right of the address field.



#### l) PAUSE & END

Tap or click on the End icon to Pause or End the annotation session. One tap or click will open the End menu and reveal both End and Pause icons.



Tap or click on the Pause icon to temporarily suspend annotation without closing the annotation session. All annotations are retained in active memory. Tap or click the icon again to reactivate annotation.



Tap or click on the End icon to end the annotation session. A prompt will ask for confirmation. All unsaved annotations will be discarded.



#### m) HIDE TOOLBAR

Tap or click on the Hide icon to temporarily hide the annotation toolbar. Tap or click again to reinstate the annotation toolbar.



### 7) SESSION RECORDING

All on-screen activity, including screen shares, annotation and whiteboard can be recorded directly to the KB1200 in MP4 video format. Recordings can be played back on the KB1200 or copied to removable storage for playback on another device.

#### a) RECORDING SETTINGS

Before commencing a recording, review the recording settings to confirm the location where the recording will be stored and the recording resolution.

For further details, see Section 4, Screen Share Settings > 6) Record Settings.

#### b) START & STOP RECORDING

Click or tap on the Recording icon to start recording the session.



The recording icon will change color (yellow) while recording is in progress.

Click or tap on the Recording icon to stop recording the session.

#### c) COPY RECORDINGS

When recordings are stored to internal storage, they may be copied to removable storage for playback on another device.

For further information about copying recordings from internal to removable storage, see Section 5, Hardware Setup > 4) Hardware Configuration > g) Storage & USB.

## 8) SESSION STREAMING

All on-screen activity, including screen shares, annotation and whiteboard can be streamed Live to an authorized RTMP streaming channel. Live streams may be Public, Private or Hidden, depending on the destination platform.

Find out more about streaming to YouTube by navigating to your YouTube Channel, then Creator Studio, Live Streaming.

### a) LIVE SETTINGS

Live Streaming settings contain important information about the hosting server, security key and the image quality of the stream. These settings must be configured before the Live Streaming feature can be used for the first time.

For further information about Live Settings, see Section 6, Screen Share Settings>3) Live Settings.

### b) START & STOP STREAMING

Click or tap on the Live Stream icon to start recording the session.



The streaming icon will change color (yellow) while streaming is in progress.

Click or tap on the Live Stream icon to stop streaming the session.

### c) VIEWING A LIVE STREAM

Distribute a link to the Live Stream session to viewers in advance of the session, along with date and time details. Viewers simply select the stream and view it as they would any other YouTube video, subject to the permissions set for the stream.

### d) LIVE STREAM RECORDINGS

After a Live Stream has concluded, YouTube will automatically store a recording of the stream to the channel it was broadcast on, with the same viewing permissions.

## 9) KLIKSTREAM REMOTE VIEWING

The KB1200 offers a network viewing feature called KLIKStream. Unlike Live Streaming, KLIKStream requires no advance setup and is available only to users on the same network as the device itself.

KLIKStream available at:  
**10.0.0.38:9090/1234**

### a) HOW IT WORKS

A user who wants to view the screen sharing session opens a browser tab on their device, enters the KB1200 IP address, port number and password (if enabled). The session is mirrored to the user's screen.

### b) IP ADDRESS

The displayed IP Address is dependent on the how the KB1200 has been configured. If the Hotspot feature is enabled, the IP address will be a fixed 192.168.43.1, which is the internal IP address of the Hotspot. If the Hotspot feature is disabled and the Wi-Fi function is enabled, the network address displayed will be that assigned to the KB1200. This address is used by all network devices to communicate with one another. The IP address is shown on the Standby screen

### c) PORT NUMBER

The Port Number is part of the address of the KLIKStream feature on the KB1200. This number does not change and is always shown as :9090.

### d) PASSWORD

When enabled, a password is required either to stream to the KB1200 or to view the stream remotely using KLIKStream. The password consists of a four-digit number and is appended to the KB1200 KLIKStream address in this form: /1234 (e.g. 192.168.43.1:9090/1234)

### e) USING THE KLIKSTREAM FEATURE

Prior to the start of the session, make a note of the KLIKStream address and password, to make it easier



to share. Once the session has begun, this information will no longer be displayed on the screen, so it will be helpful for participants to have it posted on a whiteboard.

- User opens a browser tab and enters the displayed address; e.g. 10.0.0.38:9090/1234.
- The KLIKStream window opens inside the browser.
- If the session has not yet started, the Standby screen is displayed.
- If the session has started, the shared content is displayed.
- The user may adjust the screen refresh rate from 1 sec to 60 sec, where the lower the number, the more frequent the refresh rate.
- The user may adjust the size of the displayed image to fit their screen or maximize the content.
- The user may capture screen shots of the content. Captures are saved to the Downloads folder as PNG image files.

## 10) SCREEN STILL CAPTURE

The KB1200 includes a screen capture feature that allows all currently displayed content to be captured and saved as a still image file.

- Access the screen capture control by first opening the Hardware menu on the left side of the screen.
- Tap or click on the screen capture icon to capture the screen image.
- The image is saved to the location set when the system is configured.



## 11) APPLICATIONS

The KB1200 offers access to installed applications, through the applications menu.

- Tap or Click on the icon to open the Application Navigator.

- Select the Media Browser app to find and play back Audio, Video or image files stored on internal or removable storage.



## 12) GUEST WI-FI CONNECTIVITY

The KB1200 contains a Wi-Fi Hotspot feature which may be enabled as a convenience for guest users who might not otherwise have access to the network and the device itself.

**Note:** Hotspot mode is disabled by default.

For further information about Hotspot Settings, see Section 5, Hardware Setup > 3) Hardware Configuration > e) Hotspot Setup.

### a) HOTSPOT SSID

When enabled, the Hotspot SSID (name) is displayed on the KB1200 standby screen, under the “Wi-Fi Connection” label. Users will select this SSID from the Wi-Fi settings panel on their device.

Wi-Fi Connection:  
**Guest Wi-Fi Available**

### b) PASSWORD

Access to the Wi-Fi Hotspot may be restricted through the assignment of a password. If the password feature is enabled, users must enter the password when selecting the SSID.

### c) HOTSPOT PROVISIONING

The Hotspot provides access to the KB1200 for screen sharing, and also provides access to network resources, including Internet access.

- Hotspot settings are found in the Hardware Configuration menu.
- Hotspot function is disabled when the KB1200 is connected to a network via Wi-Fi.

## 8. FREQUENTLY ASKED QUESTIONS

Question:	Answer:
1) Can the KB1200 be deployed without a network connection?	It depends on your application. If all you need is screen-sharing without Internet or network access, then simply have users connect to the Hotspot. If your needs are more complex, a network connection will likely be necessary.
2) Is Internet access required to use the KB1200?	Internet access is required once at first start to authenticate the KB1200. After that, Internet access is optional, depending on configuration and usage.
3) How many users can share content at the same time on the KB1200?	Up to 4 users can share simultaneously, while up to 64 users can be connected at the same time.
4) My PC can't find the KB1200 on our network; what's wrong?	<p>The most common issue is that your PC is connected to a different network or network segment. Check your network IP address and ensure it's in the same range as the address displayed on the KLIK screen.</p> <p>Another common issue is that either your connection to the network or the KB1200's connection may be on the Guest network or other segment where Network Discovery has been disabled.</p>
5) Which USB audio and video devices are supported on the KB1200?	Most leading brands of Webcam and Speakerphone devices are supported by the KB1200, as long as they are compliant with published USB standards.
6) Can I have multiple USB cameras attached to the KB1200 if I use a USB hub?	Yes, multiple cameras can be attached to the KB1200 through an active USB hub. Note however that only one camera can be selected at a time, and selection is also dependent on the client application in use. To prevent confusion on the part of users, it is recommended to connect only one camera at a time.
7) Are there any limitations to using the Hotspot for users to connect to the KB1200 instead of putting it on my network?	The Hotspot will support all features of the KB1200, even when it is not connected to a network. The key limitations in such configuration are the lack of access to network or Internet resources by users connected via the Hotspot, a limited number of clients can be supported, and Wi-Fi range is limited to 10m.
8) How do I turn off the password requirement for users?	There are three options for the user password login code, accessible through the Settings icon on the Daisy control panel. "Automatic" will enable, display and renew the password automatically, "Fixed" allows the selection of a static password that is enabled and displayed, and "Disabled" turns off the display and requirement for use of a password by users.
9) Can I lock the settings screen to prevent changes?	Yes, the Settings screen accessible from the Daisy control panel can be locked by enabling the function and entering a password.
10) Which streaming services can I use for Live Streaming?	KB1200 supports the most popular live streaming protocol, RTMP, for connection to streaming servers.

	Services such as YouTube, Facebook Live, Twitch, and others support RTMP. You can also use a restreaming service to multicast your live-stream to additional services all at the same time.
11) What does Multicasting do?	Multicasting allows individual users to select additional KB1200 units to share their content to, all at the same time or individually. For example, users can share content to a meeting room display, and also share to an additional display in an overflow area when needed.
12) Can I record or stream the Annotations and Whiteboard sessions?	All on-screen content is captured for recording and live streaming, including annotations and whiteboard sessions. In addition, whiteboard and annotation markups may be captured as still images as needed through the screen capture feature.
13) How do I stream live video and audio?	Connect your audio & video source(s) to the HDMI input, enable the input through the Daisy control panel and start streaming to the RTMP destination configured in the Settings menu.
14) I want to replace the standby screen image with our logo, how can I do that?	KB1200 supports multiple standby screens that are easily accessible as Themes. Create a custom theme by uploading two images to the KB1200 from a flash drive or SD card, then naming and selecting the desired theme to be displayed.
15) Can one KB1200 be used for two rooms with a movable partition wall?	If the two rooms require simultaneous KB1200 functionality, each will need its own KB1200. When used together as one room, users can share content to one or both screens. Otherwise, with only one KB1200, the same content will be displayed in both rooms.
16) How is the KLIKStream feature different from Live Streaming?	KLIKStream mirrors the image shown on the main display and makes it available to users to view inside a browser across the LAN. Live Streaming actually streams the displayed content to the Internet, on a service such as YouTube or Facebook Live.
17) How do I disconnect all users at the same time?	Simply tap on the “Disconnect All” icon on the Daisy control panel.
18) Our AirPlay users regularly experience dropouts? How can we fix this?	Often, mobile devices are set to disable the screen as a power-saving measure. Set the device screen time-out to “never” to prevent this condition.
19) Can we replace the supplied power adapter with a multi-point USB power supply?	Yes, if the alternate power supply can reliably deliver a minimum of 2 Amps of power at 5 Volts DC. Note that power supplies that cannot deliver this power may damage the KB1200 and void its warranty.
20) What is the SD card slot used for?	The SD card slot is used for local recording of collaboration sessions to an SD card. SD cards offer large storage capacity with high read/write speeds that make them an inexpensive alternate to more costly Solid State Drives (SSD), particularly when recording video.

## 9. SPECIFICATIONS

### Operational Specifications

Support for Native Streaming Utilities	AirPlay (Mac OSX, iOS devices), Google Cast (aka Chromecast)
KLIKConnect Streaming App Versions	Windows (7+), Mac OSX (10.1+), iOS (8.1+), Android (5.2+), Chrome OS (52+)
Full screen mirroring support	Windows, Mac, iOS, Android & Chrome OS
Operating Modes	Open Access (no password), Password Access, Moderator Mode
Number of simultaneous connected users	64
Number of simultaneous users on screen	4
Support for extended desktop display	Windows, Mac & Chromebook
Moderated Mode control	Via KLIKConnect app, Wireless Remote or Touch Screen Display
Customization options	Wallpaper, Device Name, Password, Do Not Disturb, AirPlay & Google Cast
KLIKStream Function	View the presentation in a browser, screen capture, no app required
Setup & Control options	On-screen Display, Cloud Management Portal (Q4-2023)
Touchscreen and Remote Compatibility	Wireless USB, Touchback, Compatibility with core USB for HID devices

### Hardware Specifications

HDMI Output x 1	NTSC, PAL, HDMI V 2.0, EDID, 4K 60Hz, 1080ip 50/60Hz, 720p, 576p, 480p
HDMI Input x 1	NTSC, PAL, HDMI V 2.0/1.4, EDID, 1080p 60Hz, 1080i 50/60Hz, 720p, 576p, 480p
Ethernet Port	IEEE 802.3, 10/100/1000Mbit, DHCP or Fixed IP, RJ45 Jack
Wireless Radio	IEEE 802.11AC, 2.4G/5G, WPA/WPA2, WPA-Enterprise (WPA-802.1x RADIUS)
Power Modes	Auto power On, Standby Mode accessible from power button & remote control
Power Supply	Universal 100-260VAC SMPS Adapter, USB Port, delivering 5VDC @ 2A, USB cable terminated to 3.5/1.3mm Barrel Connector
Remote Control	Wireless, IR multifunction remote control, onboard IR receiver
USB Port x 2	Type A, V2.0 (1), V3.0 (1), Webcam, Audio System, HID control interface, Firmware Update Port, Media Player Content
Indicators x 2	Front-mounted LEDs, Power, Network Activity indicators
Power Button	Front-mounted, alternate-action, Power Off, Restart

### Physical Specifications

Device Dimensions (W x D x H)	3.9 x 4.2 x 1.1 inches (100 x 106 x 27 mm)
Device Net Weight	0.5 lbs. (0.2 kG)
Included Accessories	5V/2A, Type A (US)/G (UK)/C(EU)/I (AU) plug tips, USB Power Cable, HDMI Cable, Quick Start Guide
Shipping Dimensions (W x D x H)	7.5 x 6 x 3 inches (188 x 152 x 80 mm)
Shipping Weight	1.2 lbs. (0.54 kG)
UPC /EIN Codes	643462960187/0643462960187

All specifications are subject to change without notice. Errors & Omissions Excepted. Copyright © 2023 KLIKBooks™ All Rights Reserved.

## 10. TECHNOLOGY REQUIREMENTS & RECOMMENDATIONS

### 1) NOMENCLATURE

#### a) KLIK TRANSMITTER & RECEIVER

Transmitter (Tx) and Receiver (Rx) refer to the two components of a KLIK wireless streaming system, whether they are in software-only or embedded software/hardware form. For instance, the KLIKConnect app for Windows is a KLIK Software Transmitter (Tx), and the KLIKLink HDMI Sender is a Hardware Transmitter (Tx). Likewise, the KLIKboks HUB for Android app is a KLIK Software Receiver (Rx), and the KLIKboks HUB is a Hardware Receiver (Rx). Similar nomenclature applies to Hardware and Software transmitters and receivers such as AirPlay® and Google Cast®.

### 2) SYSTEM AND HARDWARE REQUIREMENTS

#### a) KLIKCONNECT V4 CLIENT/USER DEVICE – TECHNICAL REQUIREMENTS

Clients – Laptops & Mobile Devices			
	Laptops & Tablet PCs	iOS Devices	Android Devices
Operating System	Windows 10 or newer Mac OS 10.15 or newer	iOS version 7.0 or later	Android 5.0 or later
Minimum Required	Intel Core 2 Duo, 2.3GHz, or AMD equivalent, 2 GB RAM	iPad 3 / iPhone 5 or newer	Phones/Tablets with Android 5.0 or newer
Recommended	Intel Core i5 with 2C/4T, 2.3GHz, or AMD equivalent, 6 GB RAM	iPad 3 / iPhone 5 or newer	Phone/Tablets supporting Android 5.0 or newer

## b) KLIKCONNECT WINDOWS SOFTWARE (SERVER) – TECHNICAL REQUIREMENTS

Host Computer for KLIKConnect Windows Software		
Operating System	Windows 10 or later KLIKConnect Windows Software is not supported in a virtual machine (VM) environment or while using terminal services.	
Minimum Required	Processor	Intel Core i5 with 2C4T 2.3GHz or higher, or AMD equivalent.
	Graphics	Direct X 11 or higher, Integrated Intel HD Graphics or Dedicated Graphics (i.e. AMD Radeon or NVIDIA GeForce)
	RAM	4 GB
	Network	Single NIC Card. Ethernet Connection

### 3) NETWORK CONFIGURATION AND REQUIREMENTS

#### c) INTRODUCTION

In large organizations it is most likely the case that the KLIK receiver and transmitter are connected to different subnets. If those subnets do not allow broadcasts or peer-to-peer connections between them, additional network configuration will be necessary to configure KLIK. KLIK makes use of three different network protocols:

- ⚠ UDP (ports 6618 and 6619) broadcast to let the transmitter discover any available receiver.
- ⚠ TCP (socket port 6619) for the stream from transmitter to receiver.
- ⚠ HTTP (port 9090) for the KLIKStream functionality.

The above information can be used to make some specific network configurations for KLIK.

#### d) AUTO-DISCOVERY OF THE KLIK RECEIVER

KLIK transmitters can automatically discover KLIK receivers by sending a directed UDP broadcast packet on port 6618 to the local subnet. On the same subnet, KLIK receivers will respond to this packet and make themselves available for connection. However, if the KLIK transmitter and receiver are in different subnets, the broadcast doesn't reach the receiver. This could be solved by configuring the network infrastructure to forward broadcasts to other network segments or specified hosts, i.e. by defining a custom IP forward protocol (UDP 6618) and defining an IP helper address on the relevant interface. The IP helper address would either: point to the IP address of the receiver, or the broadcast address of the destination network. As this procedure differs, (or might not be possible) depending on the brand of the network infrastructure, a certain level of network knowledge and admin level access is needed to accomplish this task.

#### e) MANUALLY ADDING THE KLIK RECEIVER

When network configuration is not feasible, it is possible to establish a connection by clicking the magnifying glass in the transmitter interface and entering an IP address. This approach doesn't require a broadcast between the transmitter and the receiver.

 To set this up, the receiver should ideally be configured with a fixed IP address.

It should also be noted that this solution will only work for Windows and macOS transmitters as it is currently not possible to enter the IP address of a receiver in the transmitter interface of the Android application.

#### f) KLIK TRAFFIC BETWEEN SUBNETS

In cross-subnet scenarios, it might be needed to set up the necessary ACLs in order to enable traffic between KLIK devices. The most generic solution would be to allow all network traffic between the subnets. However, in most cases, this will probably not be possible due to company policies. Traffic should still be allowed to just those protocols and ports required by KLIK to ensure a working setup.

When KLIK is deployed into the existing network, the host PC and the clients require wired or wireless network connection with a minimum bandwidth of 20 Mbps. When running HD content, increase the minimum bandwidth to 50 Mbps.

Like any network application, overall performance is dependent on available bandwidth. Internet access is required to activate the KLIK Windows or Android Software (server) and install software updates for KLIK Windows or Android Software (server). Internet access is also required to install and update the KLIK client apps for Windows, Mac, and Android.

#### g) AIRPLAY

##### h) 1. LOCAL TRAFFIC ONLY:

AirPlay applications use a direct connection method through the local network. Receiver (RX) is directly connected from Apple devices.

You must be on the same VLAN or subnet within the network to connect; Apple's AirPlay cannot cross subnets/VLANs natively, this is a limitation of Apple's AirPlay.

If you require the connecting devices to be on different subnets, then you may wish to have the IT department look into a Bonjour Gateway for the network. Some network hardware will have this functionality built-in and others may require a third-party solution.

The Bonjour Gateway and airplay proxy will allow AirPlay to cross subnets/VLANs so your devices may communicate. This, however, will show all AirPlay devices on the network, so the users may wish to change the broadcast name and add an AirPlay password as well.

i) 2. MULTICAST AVAILABILITY:

The local network must be allowed to run Bonjour, mDNS, and Multicast must be enabled. The Bonjour protocol consists of service announcements and service queries that allow devices to ask for and advertise specific applications, such as AirPlay. For our purposes, we are primarily concerned with AirPlay availability.

Each query or advertisement is sent to the Bonjour multicast address for delivery to all clients on the subnet. Apple's Bonjour protocol relies on Multicast DNS (mDNS) operating at UDP port 5353 and sends to these reserved group addresses:

⚠ IPv4 Group Address - 224.0.0.251

The addresses used by the Bonjour protocol are link-local multicast addresses and thus are only forwarded locally. Routers cannot use multicast routing to redirect the traffic because the time to live (TTL) is set to one, and link-local multicast is meant to stay local by design.

j) 3. REQUIRED PORTS:

AirPlay ports must be available on the subnet or VLAN being used to connect your devices as well. Here is the port list that AirPlay will use with our applications:

⚠ IPv4 Group Address 224.0.0.251 port 5353 (MDNS - Apple) (These ports are used for AirPlay detection on the network) TCP port 7000 (AirPlay protocol), and other dynamic TCP ports (for mirror) and UDP port (for RTP audio)

⚠ Receiver (RX) will also access TCP 80/443 for any directly connected videos (such as YouTube), and that should be the only external access the application uses.

Everything else will be local traffic with no need to access the internet.

k) 4. MULTICAST GROUPS:

Some networks may use a Multicast group to manage multicast traffic. When multicast is enabled, then all multicast traffic will flow to all connected clients in a subnet. Using a multicast group to limit the number of clients receiving the multicast data reduces the overall workload being placed on the network.

Using groups is typically not required, but it can help many AirPlay devices on the network. When creating multicast groups, there are 3 important factors to consider:

- Multicast groups must include the subnets or VLANs where AirPlay devices (and clients that may mirror those devices) are connected.
- All AirPlay devices and clients must be members of the multicast group.
- If using multicast groups, then IGMP Snooping must be enabled on the network to allow devices to listen to the multicast group. This allows the devices to see the multicast group traffic without affecting the rest of the network.



Using all of the above information contained in this guide, should ensure that any network is compatible with AirPlay and Bonjour services.

#### 4) GOOGLE CAST

Google Cast queries or advertisements are sent to the mDNS multicast address for delivery to all clients on the subnet (same network). It relies on mDNS operating at:

⚠️ UDP port 5353 (internal, not your NAT firewall) and each query or advertisement is sent to the following reserved group addresses:

⚠️ IPv4 Group Address – 224.0.0.251

The addresses used by the mDNS protocol are link-local multicast addresses and thus are only forwarded on the local L2 domain. Routers cannot use multicast routing to redirect the traffic because the time to live (TTL) is set to one, and link-local multicast is meant to stay local by design. If you are using a newer, higher-end router with wireless N and AC, some of these offer different network SSID (human readable network identifiers, i.e., ClassroomWiFi, MeetingWiFi, etc.) and also have a feature to separate the two on different but routable subnets. Unless you can permit these to traverse it, ensure you are on the same SSID and subnet for both.

Google Cast receiver uses the following ports:

⚠️ TCP: 8008, 8009-used to let devices offer media sources for the receiving device to play

⚠️ UDP: 5353-used to broadcast advertising packet for transmitter to discover.

## 5) LIST

KLIK		
Port	Type	Service
6618-6619	UDP	Discovery
6619	TCP	Streaming
9090	HTTP	KLIKStream
Airplay		
Port	Type	Service
7000	TCP	Streaming
5353	UDP	Discovery
Google Cast		
Port	Type	Service
8008-8009	TCP	Streaming
5353	UDP	Discovery