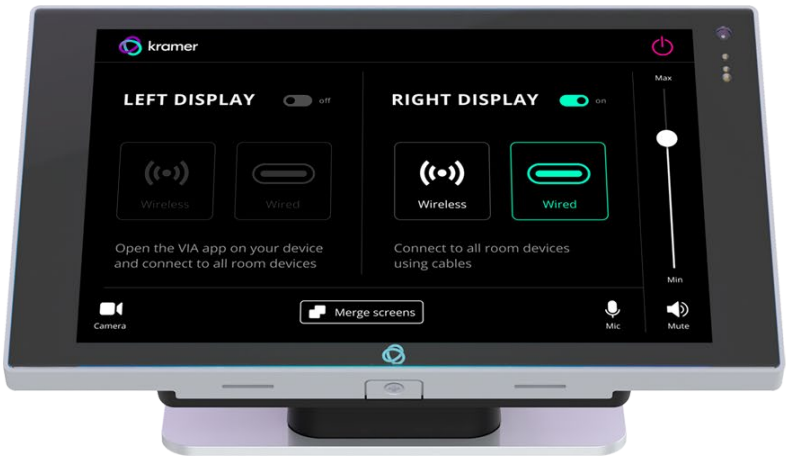
# USER MANUAL

## MODEL:

## KT-2010SH
## 10" Touch Panel with Secure Hardware




# Contents

# Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

## Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment.
- Review the contents of this user manual.

Go to www.kramerav.com/downloads/KT-2010SH to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

### Achieving Best Performance

- Use only good quality connection cables (we recommend Kramer high-performance, high-resolution cables) to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables).
- Do not secure the cables in tight bundles or roll the slack into tight coils.
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality.
- Position your Kramer **KT-2010SH** away from moisture, excessive sunlight and dust.

### Recycling Kramer Products

The Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring it to be collected and recycled. To comply with the WEEE Directive, Kramer Electronics has made arrangements with the European Advanced Recycling Network (EARN) and will cover any costs of treatment, recycling and recovery of waste Kramer Electronics branded equipment on arrival at the EARN facility. For details of Kramer's recycling arrangements in your particular country go to our recycling pages at https://www.kramerav.com/social-responsibility/environment/.

# Safety Instructions

This unit is intended to be supplied by:

- UL / IEC 62368-1 certified PoE output power supply suitable for use at an ambient temperature of 40°C and altitude of 5,000 m whose output meets ES1, and is rated 44-57V DC, minimum 0.4 A.

- UL / IEC 62368-1 certified Class II power adapter suitable for use at an ambient temperature of 40°C and altitude of 5,000 m whose output meets ES1, and is rated 12V DC, minimum 1.5 A.

**Caution:**

- This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.
- For products with relay terminals and GPI\O ports, please refer to the permitted rating for an external connection, located next to the terminal or in the User Manual.
- There are no operator serviceable parts inside the unit.
- Risk of explosion if the battery is replaced by an incorrect type. Wait one-half hour after switching off before handling parts.

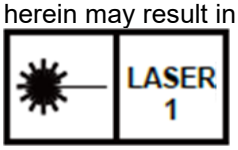
**Warning:**

- If not using PoE, use only the optional power cord that is supplied for the unit.
- Do not open the unit. High voltages can cause electrical shock! Servicing by qualified personnel only.

**Laser Safety:**

- This product complies with FDA performance standards for laser products except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.
- Date of manufacture: The date code at the bottom of the product label represents the manufacturing date of this laser product.


**Caution:** Invisible laser radiation when open. Avoid exposure to beam. Class 1 laser product. This system must be opened only by qualified technicians to prevent accidents caused by the laser beam.
**Caution:** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.




The ambient light sensor can automatically adjust panel brightness based on the environment.
See Display Settings to enable automatic brightness.
The Laser proximity sensor will detect nearby motion to wake the panel up without requiring a touch.

# Overview

Congratulations on purchasing your **Kramer KT-2010SH 10" Touch Panel with Secure Hardware.**

**KT-2010SH** is a new powerful, 10-inch, IPS, multi-touch, touch panel with 1920x1200 resolution. Elegantly designed for decorative room integration, this portable touch panel can be deployed either on a tabletop or wall and is specially designed for deployments requiring high levels of security.

The touch panel is easy to assemble, using elegant wiring, secured mounting, reliable operation and flexible deployment.

**KT-2010SH** is a touch panel that is ideal for any 24/7 Kramer-supported commercial AV or control application and features a user-friendly, fully customizable graphical user interface configured by Kramer software.

## Security

- Secured Operation – Highly secured applications using password protection, hidden control buttons and more.
- Secured Deployment – Flexible locking options to prevent unwanted panel-mount removal, elegantly designed to remain out of site.

## Exceptional Quality

- Elegant Design – Smooth integration with room furniture, either on tables or walls, with flexible panel cabling and locking design options.
- Superior User Experience – IPS 1920x1200 hi–resolution screen with ±80° horizontal and vertical wide viewing angles, built–in lighting sensor for auto–adaptable brightness, and advanced 10 multi−touch points and 2–finger gesture capabilities.
- Powerful Processing – i.MX8M Plus Quad Core A53, 4GB RAM, 32GB ROM processing performance, smoothly running complicated media and graphics−rich applications, such as H.265 video, audio streams encoding and decoding, and seamless hi–resolution 5Mp FF camera operation.
- Flexible Services – Latest Android 11 operating system.  Advanced and User-friendly Operation
- Easy Installation – Powering and connectivity via a single Ethernet cable.
- Flexible Mounting – Including table or wall mounts.
- Reliable Networking – with wired networking
- Versatile Powering Options – PoE and power adapter (sold separately).
- Auto Sensing – Optimized performance and operation according to automatically detected LAN speed.
- Firmware Upgrade – Define automatic updates on a predefined time of the day or update manually using USB port.

# Typical Applications

The **KT-2010SH** is ideal for deployments of a control user interface where security requirements prohibit the use of any wireless connectivity like Wi-Fi, Bluetooth or NFC and where microphones, speakers and cameras are not allowed.

# Defining KT-2010SH 10" Touch Panel with Secure Hardware

This section defines **KT-2010SH**.

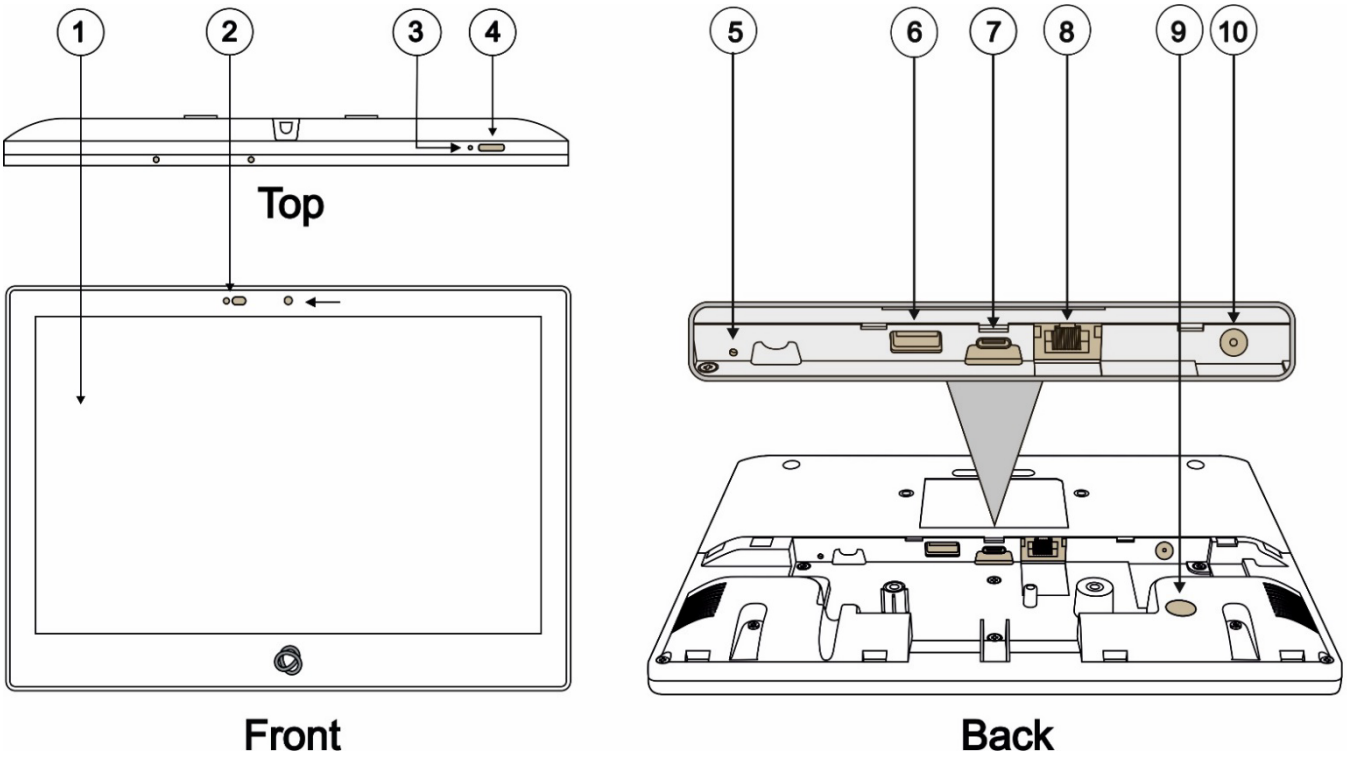



Figure 1: **KT-2010SH** 10" **Touch Panel with Secure Hardware**

| # | Feature | Function |
|---|---|---|
| 1 | Display | Touch panel |
| 2 | Proximity Sensor | Automatically adjusts the screen brightness according to the room lighting conditions. |
| 3 | Reset | Located on the topside. Insert a pin and hold for a few seconds to restart. |
| 4 | Home Button | Press to wake up / darken the screen. |
| 5 | Restore Factory Reset Button | Insert a pin and hold for 22 seconds to reset the device to factory default values. |
| 6 | USB 3.0 Port | Multipurpose port for external connection. |
| 7 | USB Type-C Port | Multipurpose port for external connection. |
| 8 | LAN 1G(PoE) RJ-45 Port | Connect to the LAN for network communication.<br>**KT-2010SH** are powered by PoE (power over ethernet) delivered through the LAN port. Optionally, you can connect the power adapter too (as backup). |
| 9 | Kensington Lock | Anti-theft security slot for locking the device. |
| 10 | 12V/2A DC Connector | Connect to the power adapter (optional, purchased separately). |

# KT-2010SH Tabletop Mount

This section defines the **KT-2010SH tabletop mount**.

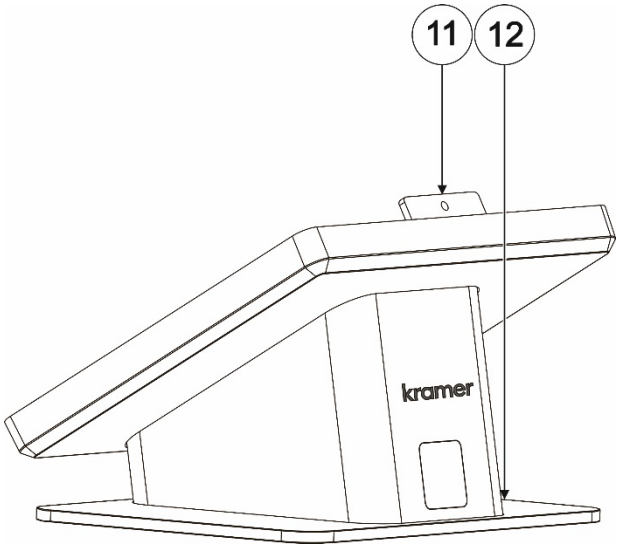



Figure 2: Tabletop Mount Rear View

| # | Feature | Function |
|---|---|---|
| (11) | Screw Opening | For securing the **10" Touch Panel with Secure Hardware** to the tabletop mount using the supplied M3 screw. |
| (12) | 2 x 5/32” Screw Opening | Optional: For safely securing the tabletop mount to the table from underneath. |

# KT-2010SH On-Wall Mount

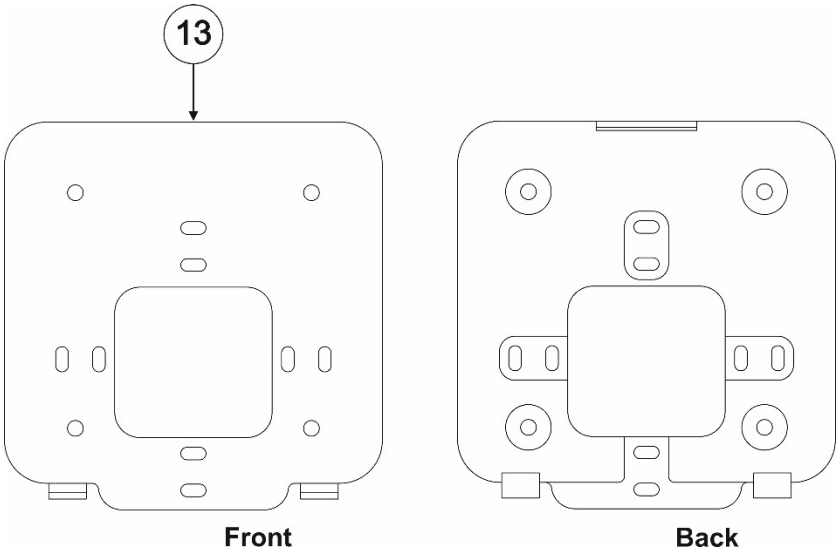



Figure 3: Wall mount bracket

| # | Feature | Function |
|---|---|---|
| (13) | Wall mount bracket | For securing the **10" Touch Panel with Secure Hardware** to the wall mount bracket using the supplied M3 screw. For measurements see the image in Mounting KT-2010SH on a Wall on page 11. |

# Mounting the KT-2010SH

The **KT-2010SH** package is for mounting the touch panel on a table and the **KT-2010SH** package is for mounting the touch panel on a wall.

Always be careful when attaching or removing the **10" Touch Panel with Secure Hardware** from a mount.

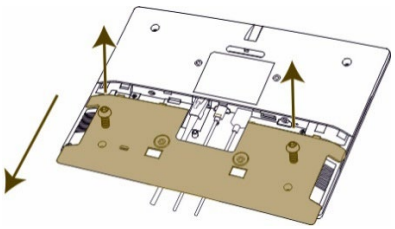
## Mounting KT-2010SH on a Table

Mount **KT-2010SH** on a table using one of the following options:

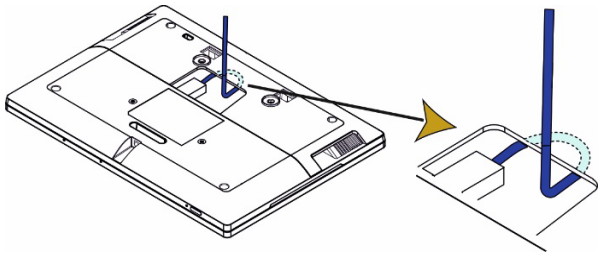
- **Moveable Mount**: Place the tabletop mount on the table. Connected cables remain visible and the table remains intact.
- **Secure Mount**: Bolt the tabletop mount into the table. Connected cables are hidden through a hole in the table.

### Moveable Mount

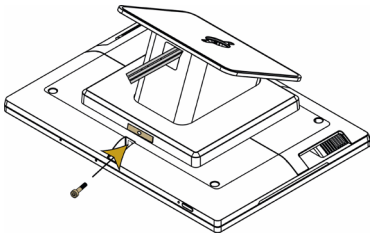
1. Remove the I/O cover:
   - Take out the 2 M2 screws.
   - Insert fingers into the two slots and slide the cover down.
2. Connect any necessary cables, running them through the table stand to the **KT-2010SH**.



3. Replace the I/O cover, taking care to prevent pressure on the RJ-45 cable:
   - Use a cable without a hood.
   - Curl the cable under the cover.
4. Close the cover with the 2 M2 screws.



5. Lay the **KT-2010SH** face-down and mount the table stand on it.
6. Insert and fasten the provided M3 screw that secures the bottom of the **KT-2010SH** to the table stand (see 12 in KT-2010SH Tabletop Mount on page 8).

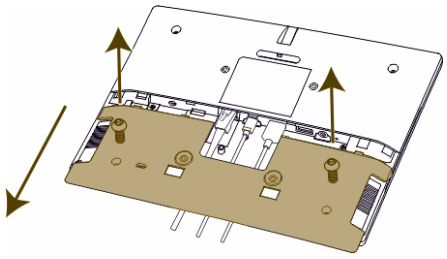


The table stand and touch panel are now ready for use.

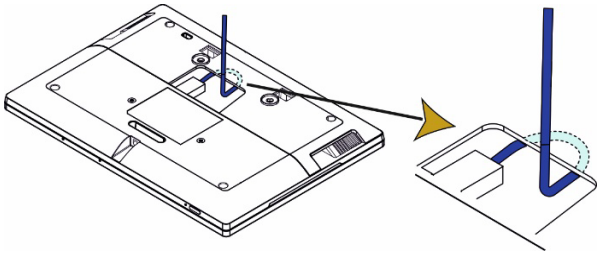
# Secure Mount

If you want to pass cables from underneath, you may need to cut an opening in the table.

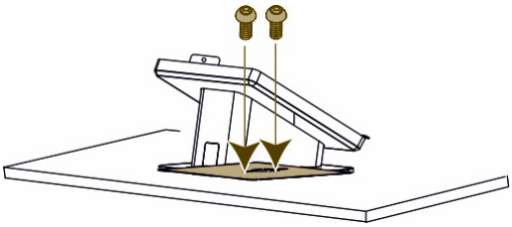
1. Remove the I/O cover:
   - Take out the 2 M2 screws.
   - Insert fingers into the two slots and slide the cover down.
2. Connect any necessary cables, running them through the table stand to the **KT-2010SH**.



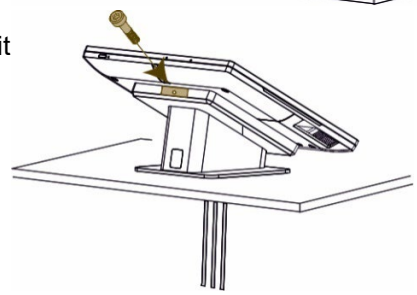
3. Replace the I/O cover, taking care to prevent pressure on the RJ45 cable:
   - Use a cable without a hood.
   - Curl the cable under the cover.
4. Close the cover with the 2 M2 screws.



5. Lay the **KT-2010SH** face-down and mount the table stand on it.
6. Secure the stand to the table using the two provided 5/32” screws (see 12 in KT-2010SH Tabletop Mount on page 8).



7. Mount the **KT-2010SH** on the stand and secure it with the provided M3 screw (see 11 in KT-2010SH Tabletop Mount on page 8).



The table stand and touch panel are now ready for use.

# Mounting KT-2010SH on a Wall

Install **KT-2010SH** safely on a wall using a standard single Gang in-wall junction box. The cables are passed inside the wall and then connected to the rear side of the on-wall mount unit.

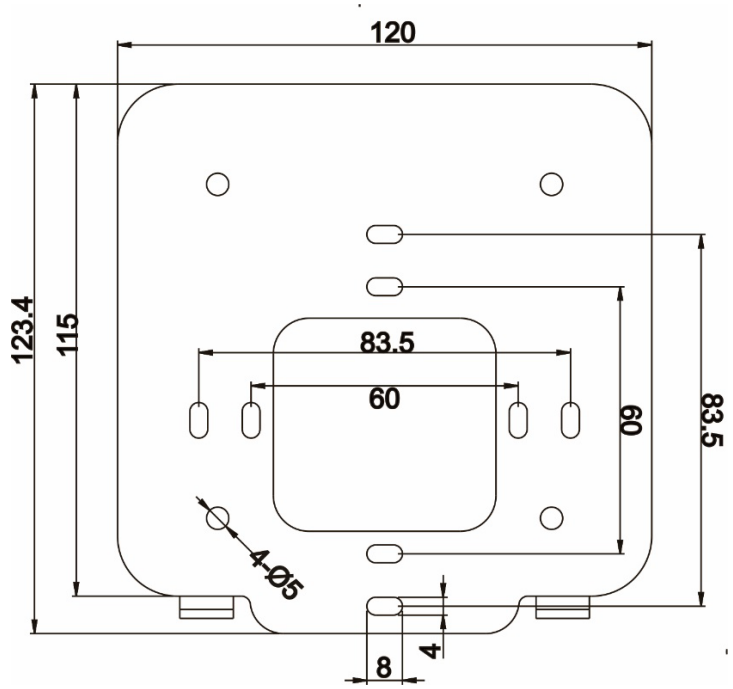
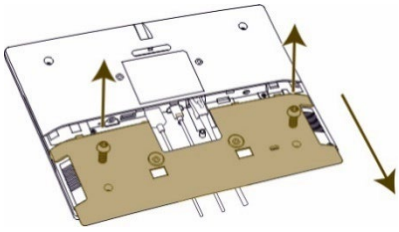


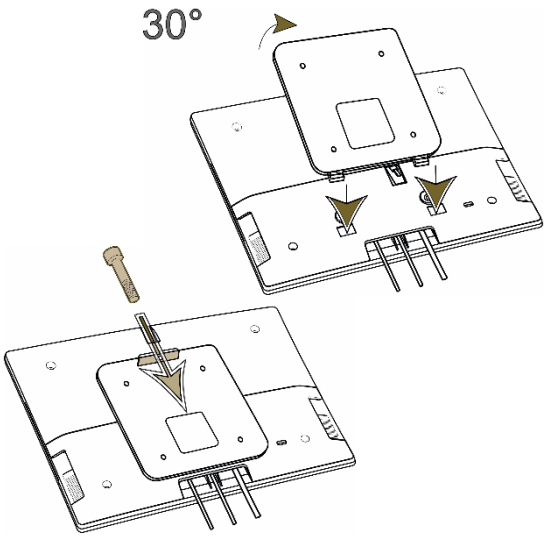

Figure 4: The on-wall mount's measurements

## Inserting the On-Wall Mount Unit

### To mount the device on a one-gang box:



1. Remove the I/O cover:
   - Take out the 2 M2 screws.
   - Insert fingers into the two slots and slide the cover down.
2. Connect any necessary cables to the **KT-2010SH**.
3. Replace the I/O cover, and close with the 2 M2 screws.




4. Click the wall bracket (see 13 in KT-2010SH On-Wall Mount on page 8) onto the back of the I/O cover (push the bracket into place while holding its top slightly outward).

**Note:** The bracket may look slightly different and have additional screw holes.

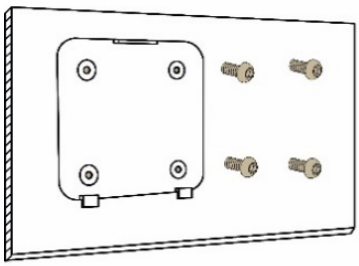
5. Secure the wall bracket to the touch panel cover using the M3 screw.

   The touch panel is mounted.

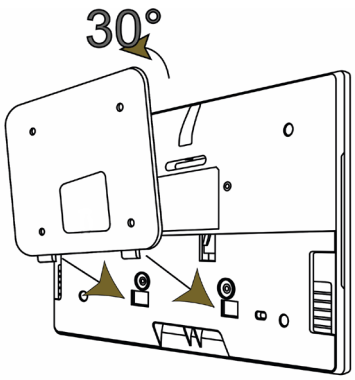
**To mount the device on a secured wall bracket:**

1. Mount the wall bracket (13 in KT-2010SH On-Wall Mount on page 8) on the installation point (screws not provided).

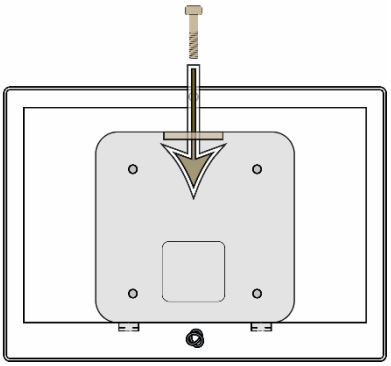
   The bracket may have additional screw holes not shown here.



2. Connect the touch panel to the wall bracket (lift it into place while holding the top of the touch panel slightly outward).




3. Use the provided M3 screw to secure the touch panel to the wall bracket and back cover.



   The touch panel is mounted.

# Connecting Options

**You can power the KT-2010SH using any or all of the following options:**

1. Connect the PoE-enabled LAN RJ-45 connector to your local area PoE-enabled network.
2. Connect the power adapter to the 12V DC connector on the rear side. The DC power supply is optional: It can be purchased separately.

When both PoE and the power supply are connected to the Touch Panel, the unit is powered by the power supply.

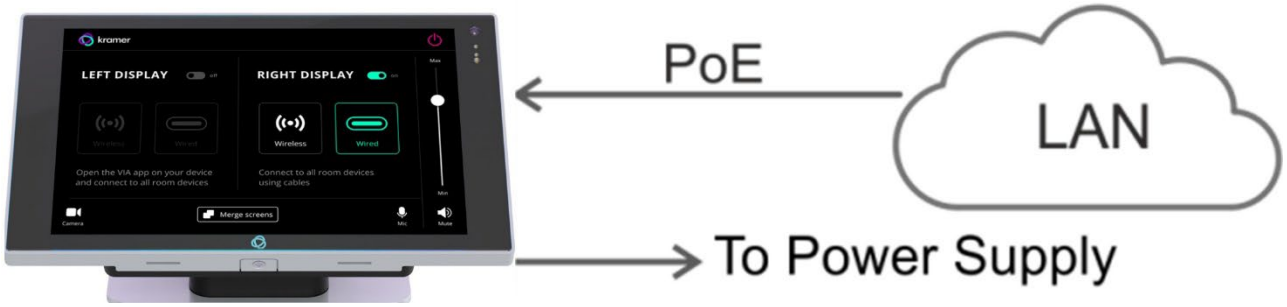



Figure 5: Powering the Touch Panel

# Controlling KT-2010SH

## Using Navigation Buttons or Gestures

By default, **KT-2010SH** runs the Kramer Control app and displays its login screen at start-up. If available, you can use the navigation buttons displayed at the bottom of the screen. You can also set up your device to use gestures-based navigation.

### Using navigation buttons

Swipe a finger upwards from the line at the bottom of the screen and release to see the navigation buttons:

- **Back** – Returns to the previous screen (or opens the home page if there is none).
- **Home** – Opens the home page, see Using the Home Page on page 15.
- **Recent apps** – Scroll between the active apps.

### Changing the navigation system

By default, navigation buttons are used, however the touch panel can be set up to use navigation gestures instead. To change the navigation method:

1. On the Home page, press **Settings**. The device's **Settings** menu opens.
2. Select **Advanced settings > System**.
3. In the System menu, press **Gestures** and then **System navigation**.
4. Select **Gesture navigation** or **3-button navigation**. If you are using Gesture navigation, the sensitivity is adjustable.

### Using Gesture navigation

- **Back** – Drag a finger inwards from the left or right edge of the screen.
- **Home** – Swipe a finger upwards from the line at the bottom of the screen and release.
- **Recent apps** – Swipe a finger upwards from the line at the bottom of the screen and hold.

### Hiding the Navigation Bar

To hide/unhide the navigation bar:

1. On the Home page, press the **Settings** button. The device's **Settings** menu opens.
2. In the Settings menu, open **Player settings** and enable **Fullscreen mode**.

# Using the Home Page

Swipe a finger upwards from the Kramer icon at the bottom of the screen and release to see the navigation buttons. A PIN may be required (default 9428).

- **Home** – Opens the home page.

The Home page contains the following icons:

 - Chromium browser

 - Touch panel settings

 - Kramer Control agent

# Exiting or Starting the Kramer Control app

**KT-2010SH** comes with a **Kramer Control agent** (icon  ) pre-installed app. The role of this app is to display an interface that you defined in Kramer Control.

When the touch panel starts, the Kramer Control agent runs automatically. To exit the Kramer Control agent, enter the PIN (default 9428). If the PIN button is not displayed, swipe up from the Kramer icon at the bottom of the screen to bring up the PIN entry pop-up.

To re-open the Control Agent click the  icon on the Home page.

During initial installation the k-agent app may need to be started manually the first time.

# Basic Settings of KT-2010SH

## Essential First Steps

To exit the Kramer Control agent, enter the PIN (default 9428). If the PIN button is not displayed, swipe up from the bottom of the screen to bring up the PIN entry pop-up.

To open the Control Agent click the  icon on the Home page.

The following are essential first steps in using the touch panel:

1. Set the device date and time; Setting the Date and Time on page 16.
2. Setup the Ethernet connection; Connecting to Ethernet on page 17.
3. Consider changing the time that the system checks for firmware (OS) updates; Changing the Automated Firmware Update on page 18. By default, this is set to midnight, change it if you have no internet access at midnight or prefer another time.
4. Consider changing the time that the system checks for Kramer Control (APK) updates; Changing the Automated Kramer Control agent update on page 20. By default, this is set to midnight, change it if you have no internet access at midnight or prefer another time.
5. Setup the Kramer Control agent's Launch URL; See Using the Kramer Control agent (connecting to Brain) on page 22.
6. Change the display language (if necessary); Setting the Display and Keyboard Language on page 21.

## Setting the Date and Time

The device arrives preset to New York time and you will need to set the correct time region.

To adjust the date and time settings:

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. On the Home page, press the **Settings** button  . The device's **Settings** menu opens.
3. Select **Date & Time > Time zone**.
4. Set the correct **Region**. The time will display correctly.

# Connecting to Ethernet

Connect an Ethernet cable to the device.

If you are using 802.1X authentication, do Installing an 802.1X Certificate on page 32, before you connect to the internet.

## Connecting Ethernet

Ethernet connections must be plugged into the back of the device, see ⑧ in Defining KT-2010SH 10" Touch Panel with Secure Hardware on page 7. By default, the IP address of the device is set automatically by a DHCP server.

### Enabling 802.1X authentication

1. Do Installing an 802.1X Certificate on page 32.
2. In the **Settings** screen, select **Network & Internet > Ethernet**.
3. Make sure the **Ethernet** is disabled and then enable **Security.**

   802.1X authentication cannot be applied to active Ethernet connections

4. Select **802.1X settings** and input the **EAP** (Extensible Authentication Protocol) information.

### Using a static IP address

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen.
3. In the Settings screen, select **Network & Internet > Ethernet**.
4. Press **Ethernet IP mode** and select **Static**.
5. Enter the IP information and press **Connect**.

The static IP address is setup.

# Changing the Automated Firmware Update

**KT-2010SH** arrives preset to check for firmware (touch panel OS) updates at midnight every day. If an update is found, the device will download the update file and install it. If you prefer to run manual updates, you must manually download the update file and then install it in the touch panel.

## Changing the time of the automated firmware check

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen .
3. Select **Firmware update** and then select **Remote firmware upgrade URL**.

   **Remote firmware upgrade URL** is the site from which the firmware is downloaded.

   The upgrade URL (case sensitive):

   https://cdn.kramerav.com/web/apk/transformer-Kramer-AndroidR.xml


Figure 6: The Firmware update page

4. A pop-up opens, inviting you to set the check time:


Figure 7: The Remote firmware upgrade URL page

5. To change the time that the system checks for updates, press **Set check time** and select a new time.
6. Press **OK** to close the window and then press **SET**.

**Changing (or clearing) the URL will disable the updates.**

# Manually updating the firmware

Manual firmware updates require a downloaded firmware file from Kramer.

The firmware upgrade process requires:

- An empty USB flash drive to store the firmware file.
- A micro-USB OTG (on the go) cable to connect the USB flash drive to the touch panel.
- Access to the back of the touch panel.
  You may need to remove the touch panel from its mount for this purpose. The touch panel should remain connected to a power source such as PoE or the optional power adapter.

### To upgrade the firmware

1. Download the firmware update file from the Kramer website at https://www.kramerav.com/product/KT-2010SH#Tab_Resources.
   - Verify that you are using the correct **KT-2010SH** firmware file as there maybe more than one firmware file available.
   - Do not unzip the firmware update file.
2. Copy the firmware file to an empty USB flash drive.
3. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
4. On the touch panel, open the **Settings** screen  .
5. Select **Firmware update** and then select **Firmware update** (again).
6. Plug the USB flash drive into a micro-USB OTG cable and connect the cable to the back of the touch panel.
7. Click **START FIRMWARE UPDATE**.

The firmware update will then begin.

# Changing the Automated Kramer Control agent update

**KT-2010SH** arrive preset to check for Kramer APK (Android Application Package) updates at midnight every day. If an update is found, the device will download the update file and install it.

## Changing the time of the automated APK update check

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen .
3. Select **Remote APP upgrade URL**.

   **Remote APP upgrade URL** is the site from which the APK is downloaded.

   The upgrade URL (case sensitive) is:
   https://cdn.kramerav.com/web/apk/remote_app_update.xml
4. A pop-up opens, inviting you to set the check time:


Figure 8: The Remote APP upgrade URL page

5. Press **Set check time** to select a new time.
6. Press **OK** to close the window and then press **SET**.

**Changing (or clearing) the URL will disable the updates.**

# Setting the Display and Keyboard Language

To set your preferred interface language:

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen  .
3. Select **Language & input**.
4. Press **Add a language** to select a language.
5. If you are using multiple languages, the order in which they are listed represents the priority assigned to them, change the order by dragging languages.
6. Press **On-screen keyboard** to select keyboard languages.

The keyboard language has been set.

# Using the Kramer Control agent (connecting to Brain)

The KT-2010SH touch panel contains a **Kramer Control agent** (an app), that downloads and displays a user-designed customized interface from **Kramer Control Brain**.
The customized interface can control all aspects of the meeting space. For more information about **Kramer Brain**, see www.kramerav.com/product/KT-2010SH.

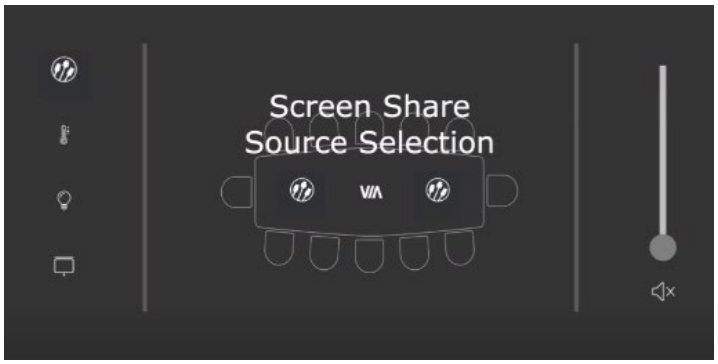



Figure 9: Example of a touch panel interface menu

When the touch panel starts, the **Kramer Control agent** runs automatically (it is pre-installed on KT-2010SH). If an interface has been defined, it will be displayed. If not, it will display the Kramer Agent welcome screen where you can enter the interface's IP.

## Entering the Control Interface IP & Port Number

On the first run, the Kramer Control app requests the IP & port number of the customized Brain interface to be displayed. The hardware section of the builder's Brain Info contains the URL (in the format IP**:**port#) of the customized Brain interface. If more than one interface is defined in the Brain, the Brain's IP and port must be followed by two parameters: /?Interface=<interface ID>&page=<page ID>. See also Methods of Setting the Control Interface URL on page 27.

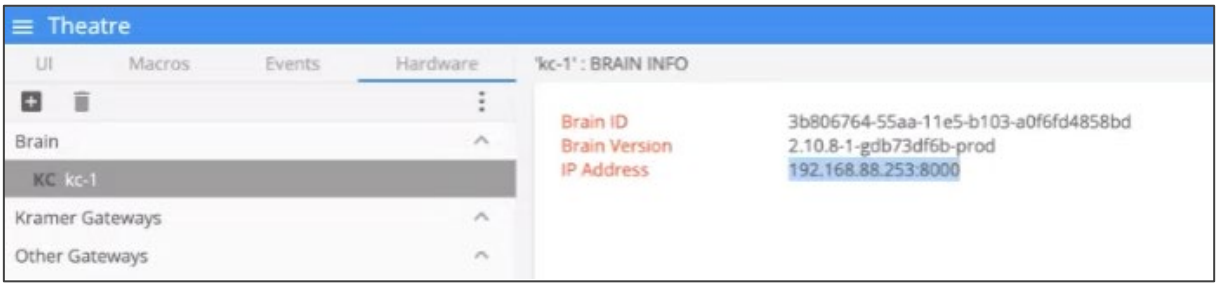



Figure 10: Interface IP Address

### Kramer Control Brain port numbers

The IP and port number (and a code on SL-240 / SL-280) are entered in the format IP**:**port#.

1. **Kramer SL-240 or SL-280:** Port 8000.
2. **KC-Virtual Brain 1:** Port 8000.
3. **KC-Virtual Brain 5:** Ports 8000 – 8005 (KC-Virtual Brain 5 can define up to 5 different touch pad control interfaces, each will use a different port).

# The Kramer Control Agent Settings

By default, the Kramer Agent's Welcome screen (Settings) appears the first time the touch panel runs.

**To open the Settings:**
Slide your finger from the top to the bottom of the screen or vice versa.

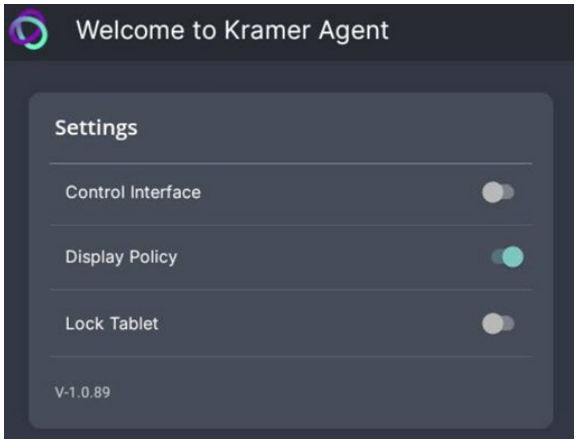


Figure 11: Kramer Agent Welcome screen

The Kramer Agent has 3 settings:

1. Control Interface
2. Display Policy
3. Lock Tablet

- Press each setting to see more options (described below).
- Use the sliders to enable/disable a setting.
- These settings can also be set by API calls. See Using the Kramer Agent's API on page 25.

### 1. Control Interface

Press **Control Interface** to set the interface IP and Immersive mode.

- **Control Interface** (slider)
  After entering the IP of the Control Interface, move the slider to activate the interface and exit the pop-up.

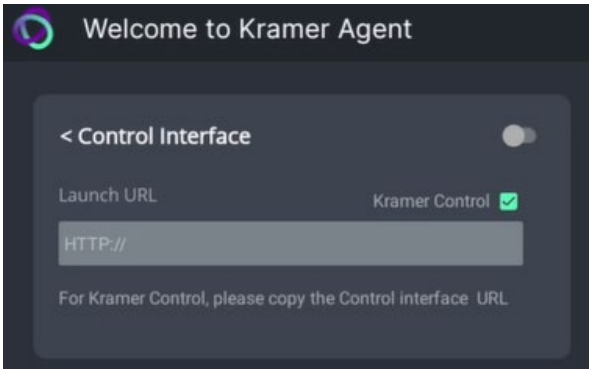


Figure 12: Control Interface options

**Launch URL**
Enter the IP of the Control Interface or a webpage URL you want displayed on the touch panel. For more options see Methods of Setting the Control Interface URL on page 27.

- **Kramer Control** (check box)
  By default, the Kramer Control box is checked, setting the tablet in **Immersive Mode**: In Immersive (full screen) mode, the system bars are hidden, and users must swipe up/down and enter a PIN to exit the Control Interface. If you are using a generic webpage (such as www.google.com), Immersive mode must be disabled.

### 2. Display Policy

Press **Display Policy** to view more options.

- **Display Policy** (slider)
  Move the slider to activate the policy.
- **Set Default Brightness Level**
  This is the % of maximum brightness that the touch panel will return to when the display is re- activated.

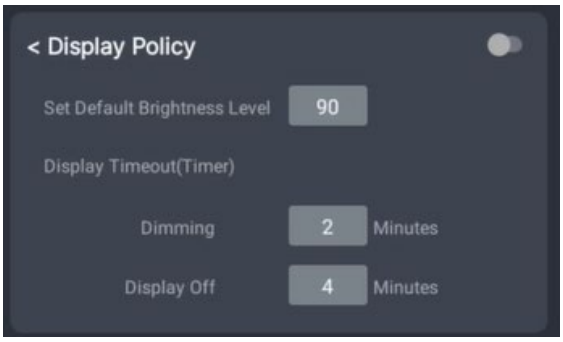


Figure 13: Display Policy options

- **Display Timeout (Timer)**
  **Dimming –** The minutes of inactivity, before dimming to 20% of maximum brightness.
  **Display Off** – The minutes of inactivity, before switching off the display (must be longer than the dimming timeout).

3. **Lock Tablet** (and USB)

   Enable/disable the PIN that restricts access to the Kramer Control agent and USB.
   Press **Lock Tablet** to change the PIN and view more options. USB locking is optional.

   - **Lock Tablet** (slider)
     Move the slider to activate the locking policy defined below.

   - **PIN to Unlock screen**
     9428 is the default value.
     Enter a new PIN to change the value.

   - **USB Lock –** Check this box for the tablet lock policy to also disable the tablet's USB port.

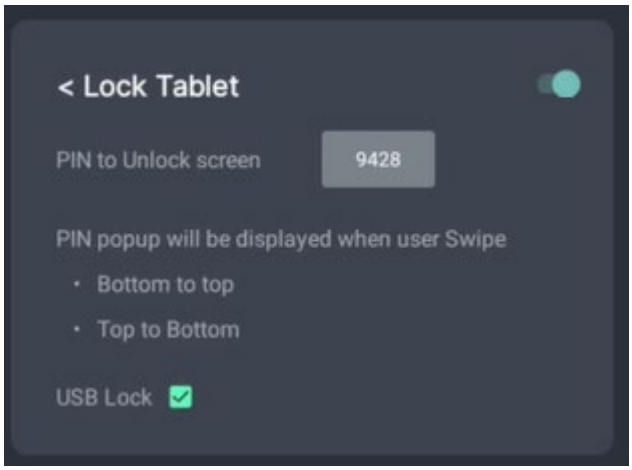



Figure 14: Lock Tablet options

# Using the Kramer Control Agent's API

The API changes Kramer Control agent settings remotely, without using the touch panel.

**Note:**

- The touch panel must be switched on and connected to the same LAN.
- If more than one interface is defined in the Brain, the Brain's IP and port must be followed by two parameters: /?Interface=<interface ID>&page=<page ID>. See example 2 below.

## Example: Setting the Launch URL in the Control Agent

a) Open a browser window on a computer connected to the same network as the touch panel.

b) Example: To set the Launch URL in the Kramer Control agent (on the touch panel), use the following format:

*https://<IP of the touch panel>**:**9804/launchkramerurl?<IP of the brain interface>**:**<port #>*

**Example 1** (single interface defined in Brain)**:**
If the touch panel IP is "192.168.0.56" and the Brain interface IP is "192.168.22.53:8000", enter **https://192.168.0.56:9804/launchkramerurl?*192.168.22.53:8000***

**Example 2** (multiple interfaces defined in Brain):
The URL must include the full interface ID and page. Touch panel IP is "192.168.0.56" and the Brain interface IP is "192.168.2.53:8000/?interface=e84f5fb8-c5a3-4675-9006-d79d3e6cfe59&page=5913c07a-9a41-4fac-9870-e87b1ef719df".
Enter
**https://192.168.0.56:9804/launchkramerurl?192.168.2.53:8000/?*interface=e84f5fb8-c5a3-4675-9006-d79d3e6cfe59&page=5913c07a-9a41-4fac-9870-e87b1ef719df***

**Note:** Use port 9803 if the touch panel uses http and port 9804 if it uses https.

After this command is sent, the touch panel will display the Brain-defined interface.

See the next page for a full list of API commands.

**The following API commands can be sent to the touch panel from a browser:**

| Function | Command structure | Status response (in browser) |
|---|---|---|
| Check if the Control agent is running | *https://<IP of the touch panel>:9804/**health/*** | "up" |
| Reboot the touch panel | *https://<IP of the touch panel>:9804/**reboot/*** | "Rebooting" |
| Pause the Control Interface and return to k-agent settings | *https://<IP...>:9804/**pauselaunchautourl/*** | "URL launched is paused, Move to Main View" |
| Resume the Control Interface | *https://<IP...>l:9804/**resumelaunchautourl/*** | "URL launched is resumed" |
| Clear the Control Interface's URL setting | *https://<IP...>:9804/**reseturl/*** | "URL is reset now" |
| Set the Control Interface URL (immersive mode). * | *https://<IP...>:9804/**launchkramerurl?<IP of the interface>:<port#>*** | "Browser will be launched with given URL." |
| Define a generic URL (touch panel display a non-Brain URL such as www.google.com | *https://<IP...>:9804/**launchurl?<full generic URL>*** | "Browser will be launched with given URL." |
| Enable/disable display control | https://<IP…>:9804/displaysettingon *(or **displaysettingoff**)* | |
| Set the timeout to turn off the display after 4 minutes inactivity | *https://<IP...>:9804/**setdisplayofftimevalue=4*** | |
| Set the timeout to dim the display after 2 minutes inactivity | *https://<IP...>:9804/**setdisplaydimtime=2*** | |
| Set the display brightness in % | *https://<IP...>:9804/**setdisplaybrightnessvalue=100*** | |

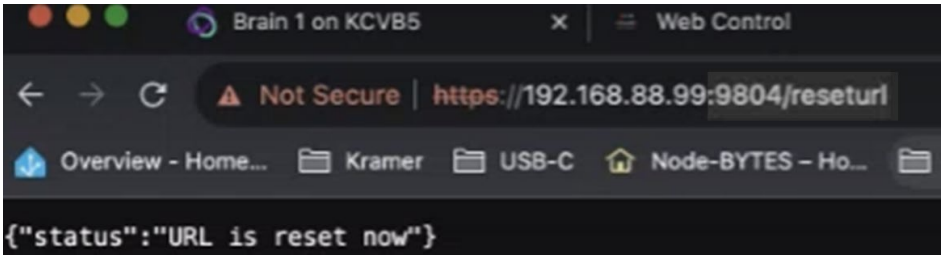



Figure 15: Example of a successful response message.

*If more than one interface is defined in the Brain, the Brain's IP and port must be followed by two parameters: /?Interface=<interface ID>&page=<page ID>.
For example:
https://192.168.0.56:9804/launchkramerurl?192.168.2.53:8000/?*interface=e84f5fb8-c5a3-4675-9006-d79d3e6cfe59&page=5913c07a-9a41-4fac-9870-e87b1ef719df*

# Methods of Setting the Control Interface URL

When the touch panel starts, the (pre-installed) **Kramer Control agent** runs automatically. You will need to set up its connection with the Kramer Brain, so that it can display the desired control interface.

**There are 3 possible methods of setting the interface IP in the Kramer Control agent:**

1. In the **Kramer Control agent** (on the touch panel screen).
2. **Using the API** (on a remote computer connected to the same network).
3. In the **Brain software** (setting up the touch panel in the Brain software).

Any one of these methods can load the interface URL into the touch panel's Kramer Control agent.

## 1. Entering the interface IP in the Kramer Control agent

a. Kramer Control agent opens automatically when the touch panel starts.
If no interface IP has been entered, the Kramer Agent's **Welcome** screen is displayed:

- If the touch panel is not displaying the Welcome screen, open the **Kramer Agent** app from the touch panel's Home page and it will be displayed.


Figure 16: The Kramer Agent Welcome screen

b. Press **Control Interface**; **the Launch URL** pop-up appears.

c. Enter the IP address and port of the interface that was defined in Kramer Brain, for example *http://192.168.88.180:8000*.

If more than one interface is defined in the Brain, the Brain's IP and port must be followed by two parameters: /?Interface=<interface ID>&page=<page ID>.

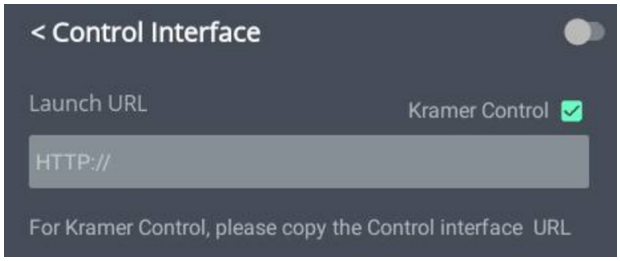



Figure 17: The Launch URL pop-up

See also Entering the Control Interface IP & Port Number on page 22 and Example: Setting the Launch URL in the Control Agent on page 25.

d. By default, the **Kramer Control** box is checked, setting the tablet in **Immersive Mode**: In Immersive (full screen) mode, the system bars are hidden, and users can only exit the interface by swiping up and entering a PIN. Immersive mode is recommended for the Kramer Control interface; Disable it if you are using a generic webpage (such as www.google.com).

e. Press OK and the touch panel will load your interface.

f. To exit the Control Interface and access touch panel controls, slide your fingers up from the bottom of the screen and enter the PIN (default 9428).

# 2. Controlling the Kramer Control agent by API call

This method of changing settings of the Kramer Control interface can be done remotely, without using the touch panel.
For more information see Using the Kramer Control Agent's API on page 25.

**Note:** The touch panel must be switched on and connected to the same LAN.

a) Open a browser window on a computer connected to the same network as the touch panel.

*b)* To set the IP of the Control Interface displayed by the Call the touch panel in the following format:

*https://<IP of the touch panel>**:**9804/launchkramerurl?<IP of the brain interface>**:**<port #>*

- **Example 1** (single interface defined in Brain)**:**
  If the touch panel IP is "192.168.0.56" and the Brain interface IP is "192.168.22.53:8000", enter **https://192.168.0.56:9804/launchkramerurl?*192.168.22.53:8000***
- **Example 2** (multiple interfaces defined in Brain):
  The URL must include the full interface ID and page. Touch panel IP is "192.168.0.56" and the Brain interface IP is "192.168.2.53:8000/?interface=e84f5fb8-c5a3-4675-9006-d79d3e6cfe59&page=5913c07a-9a41-4fac-9870-e87b1ef719df".
  Enter
  **https://192.168.0.56:9804/launchkramerurl?192.168.2.53:8000/?*interface=e84f5fb8-c5a3-4675-9006-d79d3e6cfe59&page=5913c07a-9a41-4fac-9870-e87b1ef719df***

After this command is sent, the touch pad will display the Brain-defined interface and a status response message returned to the sender.

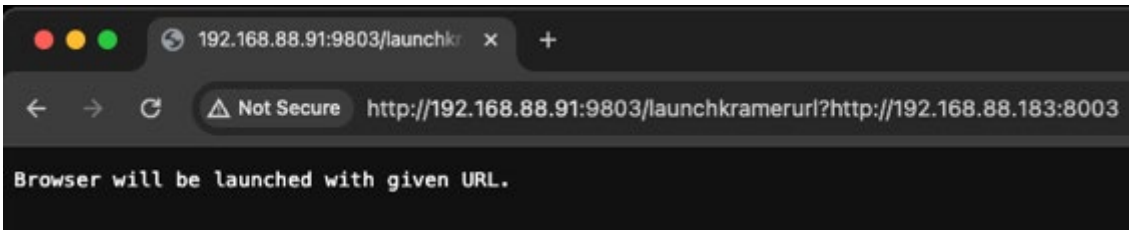



Figure 18: Example of a successful response message.

# 3. Setup the touch panel in the Brain Builder

The advantage of this method is that future changes to the interface are automatically uploaded to the tablet.

The following assumes that:

a) The interface is already setup in the Brain.

b) The touch panel is active and connected to the same network as the Brain.

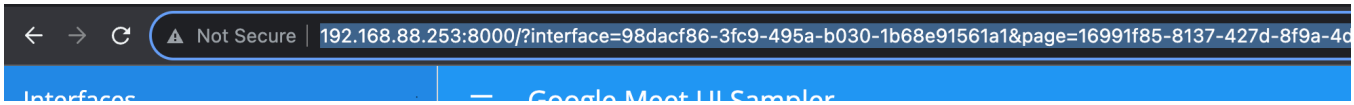
c) The IP of the touch panel is static and DHCP assigned.

1. Preliminary Setup: In the **Devices** tab of the Builder screen, add the **K-Agent** driver as a device. It must be assigned to the same network gateway as the touch panel.

2. Navigate to the Brain control page on your computer.

3. Select the interface that you want to use on the touch panel.

4. Copy the interface's URL from the address bar (see the image below).




5. Navigate back to the Builder, double click on the touch panel (in the **Devices** list) and paste the URL from the previous step to the **Kramer Control URL**. Assign it a **Friendly Name**.

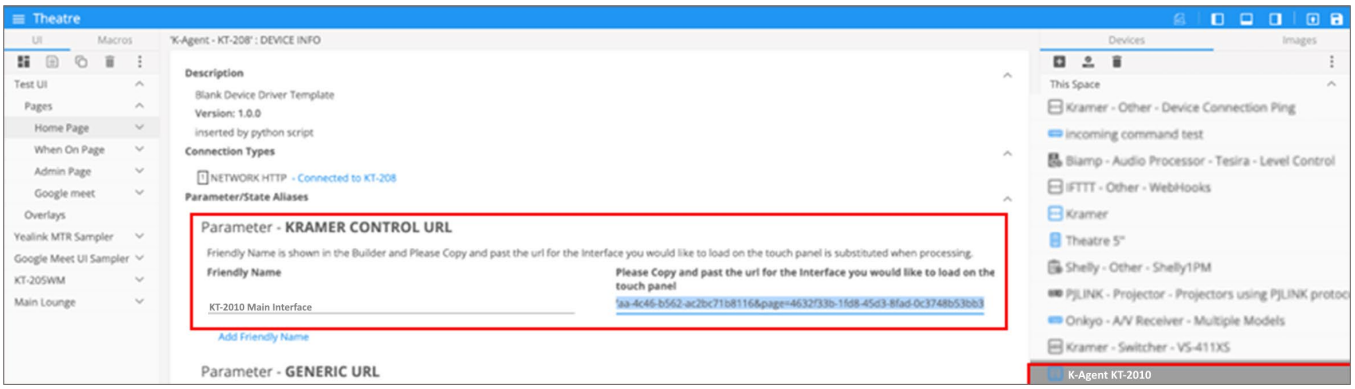



Figure 19: Kramer Control URL in the Builder

6. For the Brain to be able to automatically assign the user interface to the touch panel:

(see the image on the next page)

a) In the **Events** tab, click **System Events** and select "Initialization".

b) Drag the **Launch Kramer URL** command to the 'Initialization' ACTIONS area.

c) Select the **Friendly Name** (If only one interface is defined, it will be used by default).

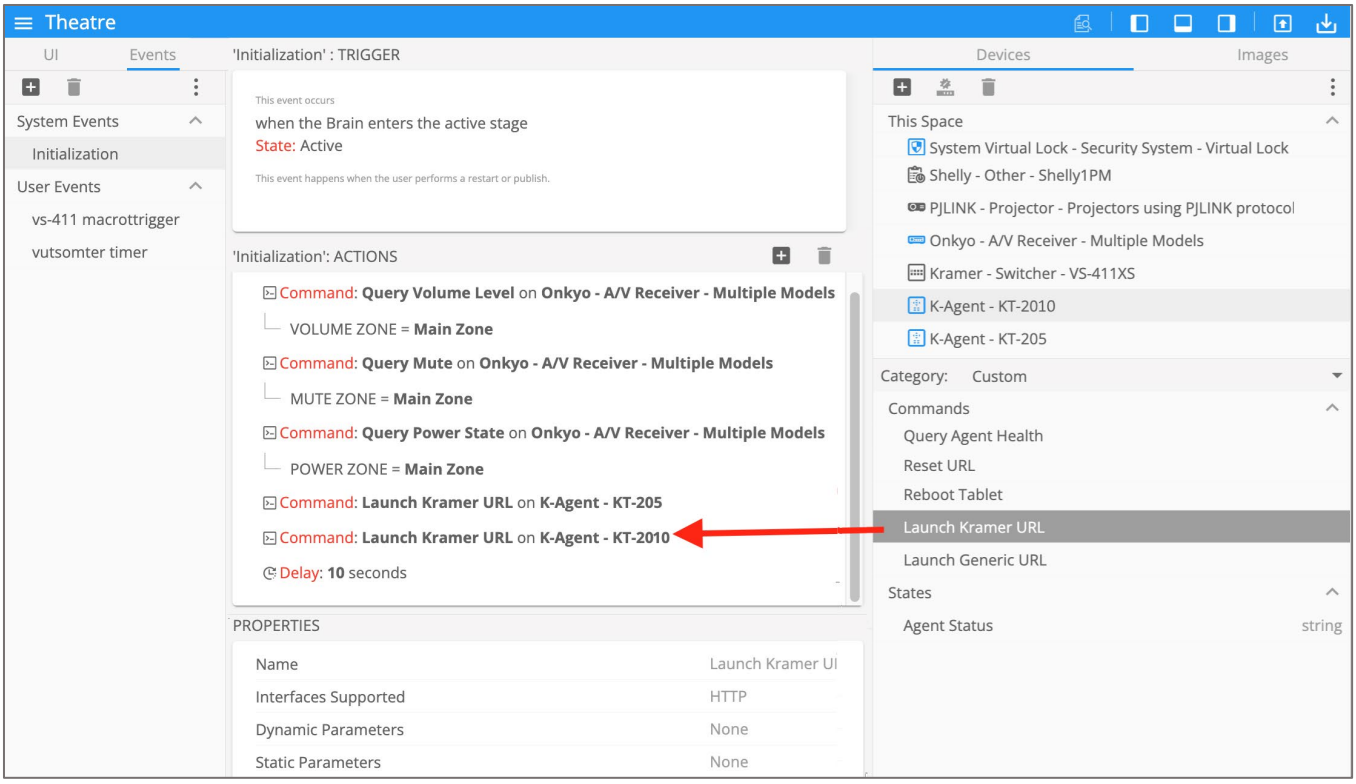



Figure 20: System Events window open on Initialization actions

7. Every time the Brain reboots or connects to the touch panel the interface will be updated.

# Advanced Settings

## Scheduling a Daily Reboot

A daily reboot is recommended to improve product performance and stability. The daily reboot option causes the device to reset itself every day and the set time (or within 30 minutes of the set time if it is in use).

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen  .
3. Select **Schedule Reboot** and set the reboot time.
4. Enable **Optimize Server Performance** to have the device reboot at a random time within 30 minutes of the scheduled time. If you are using multiple devices, then this prevents them from all rebooting at the same time.

The daily reboot is complete.

## Password Protecting Device Settings

Device settings can be protected with a password to prevent users from making any changes.

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen  .
3. Select **Security Password** to enable and enter the password.

# Installing an 802.1X Certificate

802.1X certificates enhance the security of network authentication. **KT-2010SH** supports .pem, .pfx and .p12 certificate formats.

Installing a certificate is a two-stage process: First import the certificate and then set it up:

## Importing an 802.1X certificate

1. Copy the certificate file to an empty USB flash drive.
2. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
3. From the Home page, open the **Settings** screen .
4. Select **Advanced settings > Security > Encryption & credentials.**

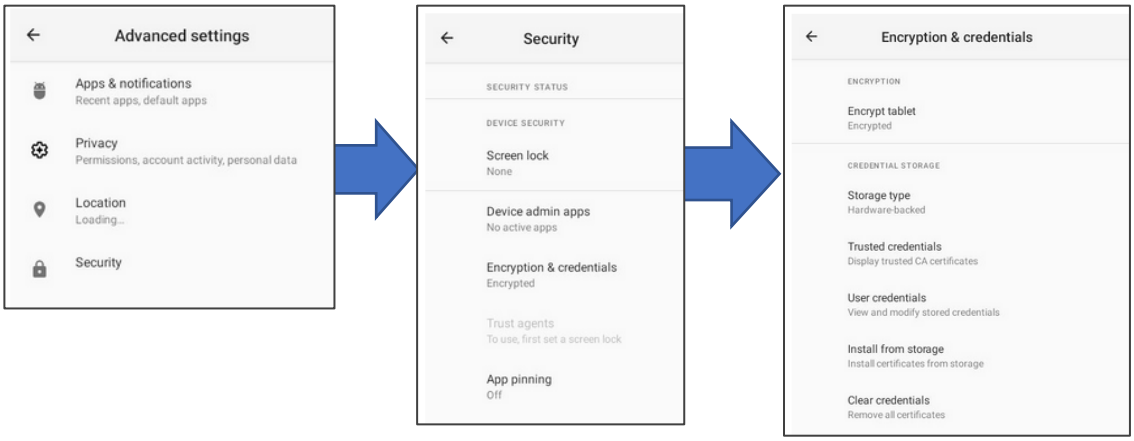



Figure 21: The path to Install from storage

5. In the Encryption & credentials screen, select **Install from storage**: The **Install a certificate** screen opens.
6. Select the **Wi-Fi certificate**: The **Recent** files screen opens.
   To browse to the file location, press the 3 lines ☰ at the top left of the screen**.**
7. Select the credentials file and install it, some certificates require you to know a password.

## Setting up an 802.1X certificate

8. In the Settings screen, select **Network & Internet > Wi-Fi**.
9. Select **Install from storage**: The **Install a certificate** screen opens.
10. Select **Wi-Fi certificate** (also for Ethernet connections): The **Recent** files screen opens.
    To browse to the file location, press the 3 lines ☰ at the top left of the screen**.**

After installing the certificates, see Connecting to Ethernet on page 17 for instructions on using the certificates. Ethernet must be disabled before setting-up Ethernet certificates.

# Factory Reset & Reboot

The **Settings > Reset** options menu enables you to perform a factory reset or to reboot the device, reset Wi-Fi or Bluetooth or reset app preferences.

## To reset to factory settings

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen  .
3. Select **Erase all data (factory reset)**.

Other options available: Reboot device, Reset Wi-Fi, mobile & Bluetooth and Reset app preferences.

## Resetting with the external reset button

Insert a pin into the pinhole on the back ⑤(see Defining KT-2010SH 10" Touch Panel with Secure Hardware on page 7) and hold for 22 seconds to reset the device to factory default values.

A second pinhole on the top, ③ can be used to restart the device by inserting a pin for a few seconds.

# Logging Activity

By default, the device does not log activity. Logging can be useful for debugging or monitoring use.

## Activating logging

1. From the Home page, open the **Settings** screen  .
2. Select **Log** and set the **Log Location**.

Logging is activated.

## Accessing an internally stored log file

A USB flash drive and OTG cable are required to copy an internally stored log file:

1. In the root directory of the flash drive, create a folder called ***"_dump_debug_log"***.
2. Connect the OTG cable to the micro-USB connection on the back of the device.
3. Connect the flash drive to the OTG cable.
4. The device will automatically download the log file to the USB device and issue a confirmation message "**Saved log file to USB storage**".

The log is accessed.

# Defining an auto-start playlist

The device can be set to automatically play the contents of a predefined folder. The folder can be internally defined or read from a flash device connected to the micro USB port or a Micro SD card inserted into the card reader (see Defining KT-2010SH 10" Touch Panel with Secure Hardware on page 7).

To setup a playlist:

1. Load the media you want to play onto an SD card or USB flash drive. Play order is set by the alphabetic order of the item's names.
2. Connect the drive or card to the device (for a flash drive use an OTG cable connected to the USB port).
3. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
4. On the touch panel, open the **Settings** screen  .
5. Select Player Settings and then select Instant Play.
6. Enable **Instant play**. If you check **Copy and play as internal storage,** the device will load the (external) folder contents into internal storage.
7. Press SELECT FOLDER.
8. If you copied external content to internal storage, then you can remove the external device.

The Content field in the Home page will be changed to the storage location of your content.

The home page's Content field defines the auto-start link to Kramer Control.

Changing the value in this field is not recommended as it will disable Kramer Control.

# Defining auto-start HTML or SMIL content

The device home page can be set to automatically run an HTML page or SMIL content.

1. Place your HTML content in a folder called HTML in the root of an SD card or flash drive and attach them to the device (for a flash drive use an OTG cable connected to the USB port).
2. When the USB drive is connected to the device, an automatic pop-up message will notify you that the copy is about to start.

The Content field in the Home page will be changed to the storage location of your content.

The home page's Content field defines the auto-start link to Kramer Control.

Changing the value in this field is not recommended as it will disable Kramer Control.

# Modifying Display Settings

The screen orientation can be customized, and the navigation bar can be hidden.

## Changing the screen orientation

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen .
3. Select Display and then press Screen Orientation.

Choose between 0 degrees (default), 90 degrees, 180 degrees and 270 degrees.

## Hiding the navigation bar

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen .
3. In the Settings menu, open **Player settings** and enable **Fullscreen mode**.

The Navigation bar is no longer accessible.

# Switching to Native Android Mode

Switching to native Android mode turns the device into a regular android device, allowing you full control of its content.

Changing to native Android will disable Kramer Control.

To make the switch:

1. If necessary, swipe up from the bottom of the screen to bring up the PIN entry pop-up and enter the PIN (default 9428).
2. From the Home page, open the **Settings** screen .
3. Select Player Settings and then press Native Android Mode.


Figure 22: The Player settings page

Native Android mode is restored.

# Technical Specifications

| | | |
|---|---|---|
| Ports | 1 USB Type C | On a female (ADB) connector |
| | 1 USB Type A | On a female connector |
| | 1 Ethernet | On an RJ-45 female connector, 10/100/1000M with PoE 802.3at |
| Platform | Operating System | Android Version 11 |
| | CPU | ARM Quad Core Cortex-A53 up to 1.8Ghz (64 bit) |
| Memory | RAM | LPDDR4 4GB |
| | Internal | 32GB eMMC (flash) |
| Display | Touch Panel Type | Capacitive multi-touch |
| | Size | 10.1” |
| | Resolution | 1920x1200 RGB pixels, 16:9 aspect ratio,<br>350cd/m2 brightness, 1000:1 contrast ratio |
| Video | Video Formats | H.264, H.265, VC-1, MPEG-4, VP8, VP9 |
| | Image Codecs | JPEG, BMP, GIF, PNG |
| | VESA | Metal−fittings mounting screw holes for 75x75mm VESA mount |
| Power | PoE | 44 to 57VDC 0.4A complies with IEEE802.3af and IEEE802.3at PoE standards |
| | Optional power adapter | 12V DC 1.5 A<br>Note: Operating Temperature: 0~40°C |
| Controls | Function button | On top |
| | Reset button | On top, recessed |
| | Factory reset button | On back, recessed |
| LED | Side-light | Can indicate room status (requires 3rd party integration) |
| Environmental conditions | Operating temperature | 0~40°C (32~104°F) |
| | Storage temperature | -20~60°C (−4° to 140°F) |
| | Operating Humidity | 5% to 85% |
| | Storage Humidity | 5% to 90% |
| Regulatory Compliance | Safety | CE, FCC, UL, UKCA |
| | Environmental | RoHs, WEEE |
| Dimensions | Touch panel (W, D, H) | 242 x 185 x 173mm |
| | Touch panel tabletop stand | 131 x 111 x 98mm |
| | Wall mount | 120 x 115 x 11mm<br>See the image in Mounting KT-2010SH on a Wall on page 11. |
| Weight | Touch panel | 482g |
| | Touch panel stand | 300g |
| Shipping carton (4 pcs) | Dimensions (W, D, H) | 309 x 242 x 175mm |
| | Weight | 1.4kg (approximate) |
| Accessories | Optional power adapter. | |
| | Table-top mount and screws. | |
| | On-wall mount bracket and screws. | |
| Specifications are subject to change without notice at www.kramerav.com | | |

P/N: 2900-301744 Rev: 4

SAFETY WARNING

Disconnect the unit from the power supply before opening and servicing

For the latest information on our products and a list of Kramer distributors, visit our website where updates to this user manual may be found.

We welcome your questions, comments, and feedback.



www.kramerav.com
info@kramerav.com