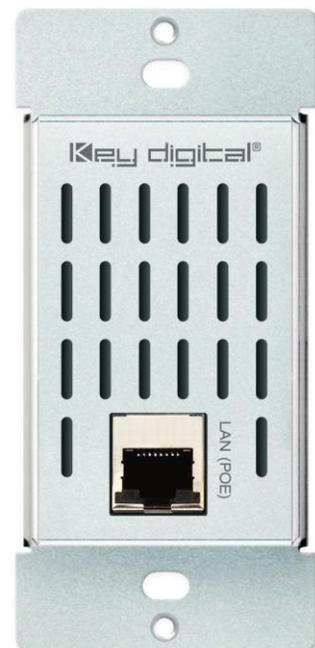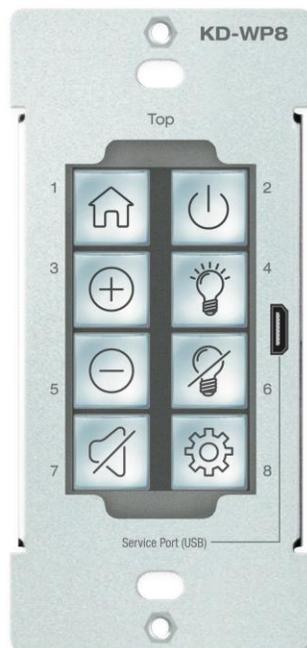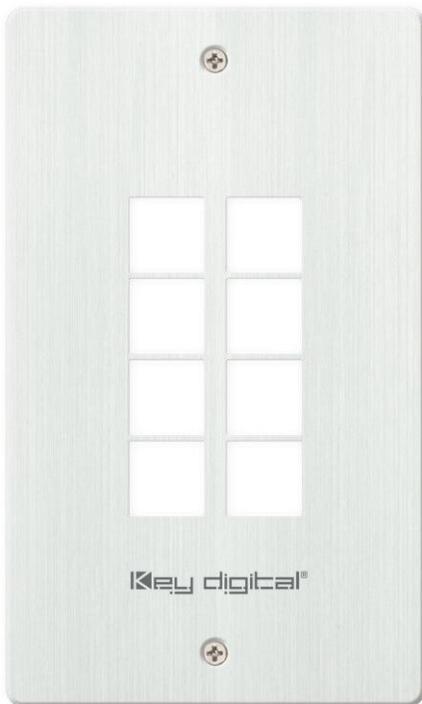# Setup & Programming Guide
# KD-WP8

**8 Button Web UI Programmable IP Control Wall Plate Keypad with PoE for KDPlug & Present™, Compass Control® Pro, and Third-Party Systems via Open API**

**Key digital®**

The Experts in Digital Video Technology and Solutions™

Default static IP address:
192.168.1.239, port 23

# Table of Contents

## Default IP Address: 192.168.1.239

Quick Setup Guide

Please visit www.keydigital.com for the latest product documentation, firmware, control drivers and software downloads. Product features and specifications are subject to change without notice

**Always follow the instructions provided in this Operating Manual.**

## Accessories

- Qty 1: 6ft USB A to USB micro cable
- Qty 1: Brushed aluminum decora plate
- Qty 4: Decora and box mounting screws
- Qty 10: Inner button caps

- Qty 10: Outer buttons caps (clear)
- Qty 1: Flathead mini screwdriver
- Qty 1: Set button icon sheet

# About KD-WP8

Key Digital® KD-WP8 is an eight-button IP control keypad that fits into a single-gang wall box and is PoE powered. KD-WP8 is easily programmed via web GUI to send commands over the network to IP controlled devices and may be used with Key Digital Master Controllers to control IR, RS-232 and voltage relay devices. Button events may be configured on the press, release, toggle, or press & hold action as desired. Along with selectable blue or red backlighting, KD-WP8 includes multiple transparent icon sheets that are simply inserted beneath detachable transparent button caps for a modern and professional appearance. The keypad supports key combo lock & unlock and virtual keypad via password protected web UI, Key Digital Management PC Software, and KD-App. Completed project files may be exported and imported for valuable programming time reduction and straightforward rollout of multiple keypads in cookie-cutter installations. KD-WP8's simplistic open API makes for easy two-way integration with professional control systems and Key Digital's Compass Control Pro.

## Key Features

- **PoE Powered:** Installs cleanly with PoE network switch or PoE injector (not included).
- **Single-Gang:** Fits U.S. single-gang wall box. Brushed aluminum decora plate included.
- **Ease of Programming:** Web GUI walkthrough of network settings, project import & export, button configuration, event programming and virtual event keypad access.
- **IP Controller:** Natively sends TCP and UDP commands in ASCII or HEX format for controlling IP devices without any additional hardware needed.
- **IR, RS-232, and Relay Control:** Add KD-CX800, KD-MC1000, or KD-IP822/922/1022 master controllers for native control of IR, RS-232, or voltage relay devices.
- **Multi-Controller Support:** Integrate with any number of KD Master Controllers
- **Point-to-Point Support:** Direct connect network cabling from KD-WP8 to PoE injector and Master Controller for installation without network setup hassle.
- **RS-232 Command Strings:** ASCII or HEX formats supported. Baud rate from 1,200 to 115,200 bps.
- **IR Command Strings:** Copy & paste Pronto Hex or Compass Control IR burst data.
- **Button LED Control:** Adjustable unit LED brightness and programming support for control of any button's LED behavior.
- **160 Events Possible:** Up to 10 commands on button press and release/repeat, for up to 20 events per button and 160 events total.
- **Key Combo Security:** Two-button press combo and auto lock setting may be applied to lock & unlock keypad.
- **Virtual Keypads:** Password protected web GUI with user-friendly minimal layout or Programmer-friendly layout with transmit & receive logs.
- **KDMS Pro and KD-App Ready:** Virtual keypad GUI options accessed by PC software and iOS app.
- **Button Configuration:** Red or blue LED backlighting, normal or toggle button types, press event, release event, hold for repeat, and hold for send options.
- **Detachable Button Caps:** 10 inner button caps, 10 outer button caps, and flathead mini screwdriver included.
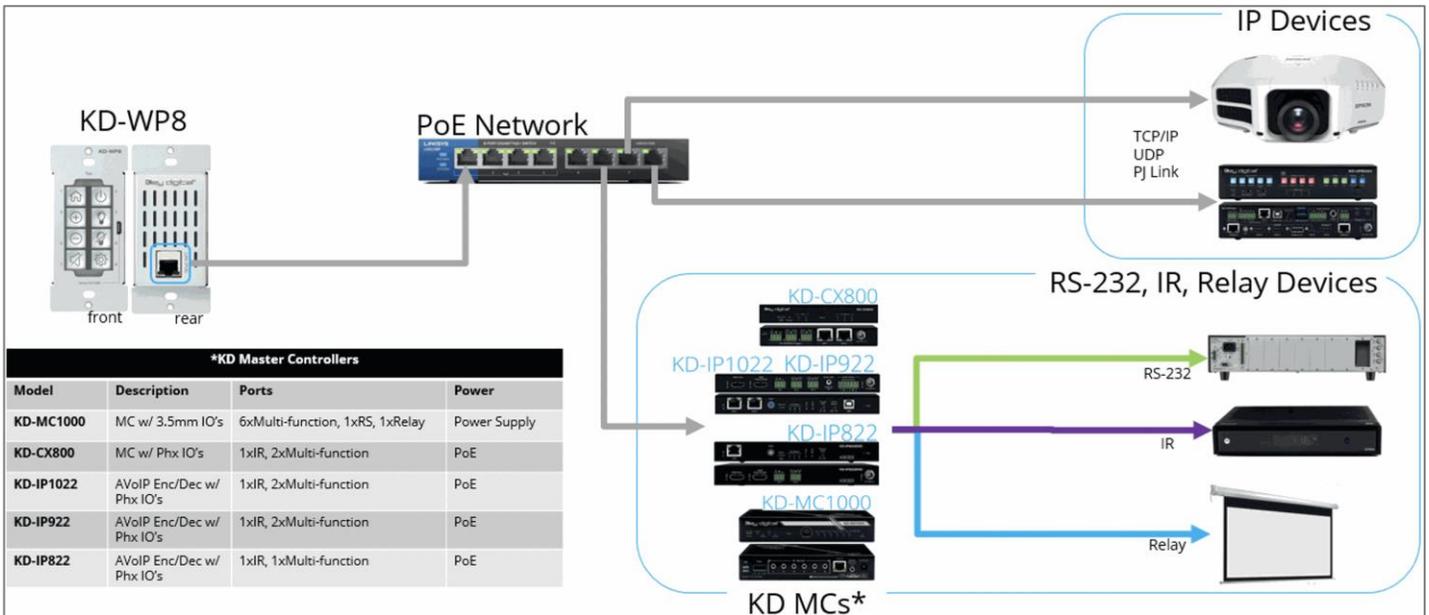- **Icon Sheets:** 175 transparent icons provided. Template available for custom printing.

- **Open API:** Simple two-way communication protocol for IP integration with control systems.
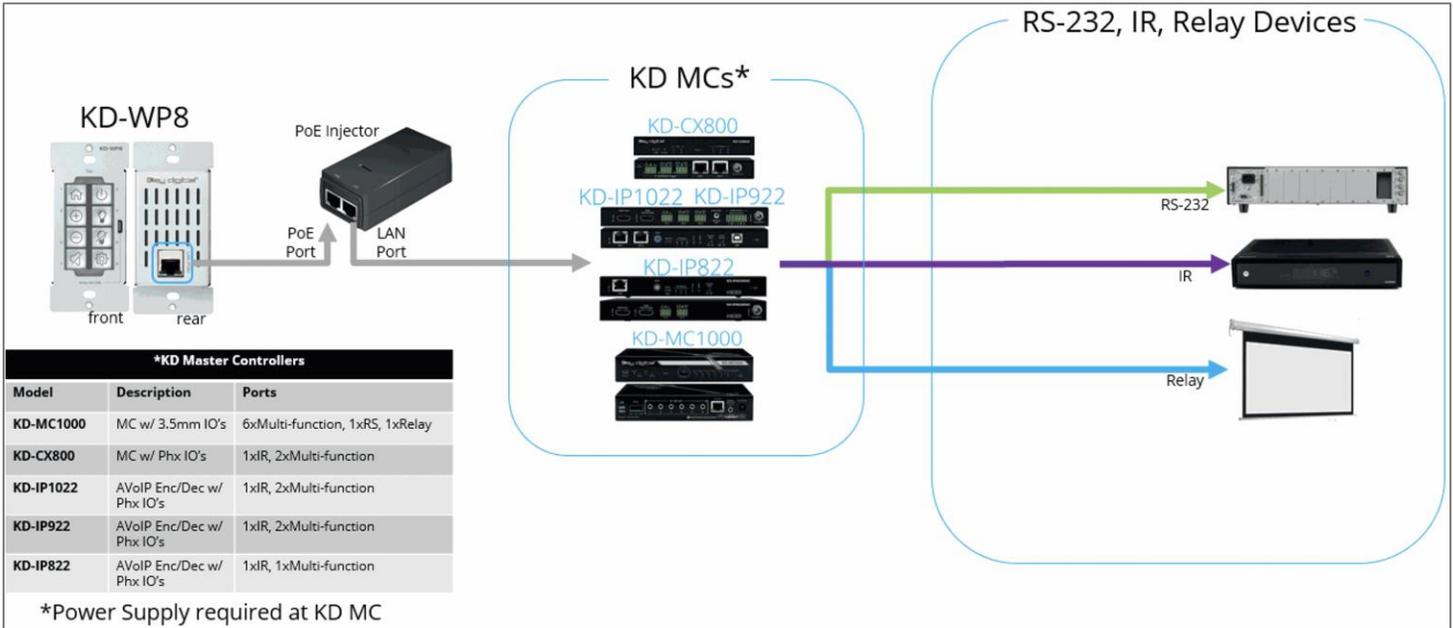
# Application Diagrams

**IP Device Control -** For IP Control, KD-WP8 sends commands directly to the devices via the network. No Master Controller necessary.
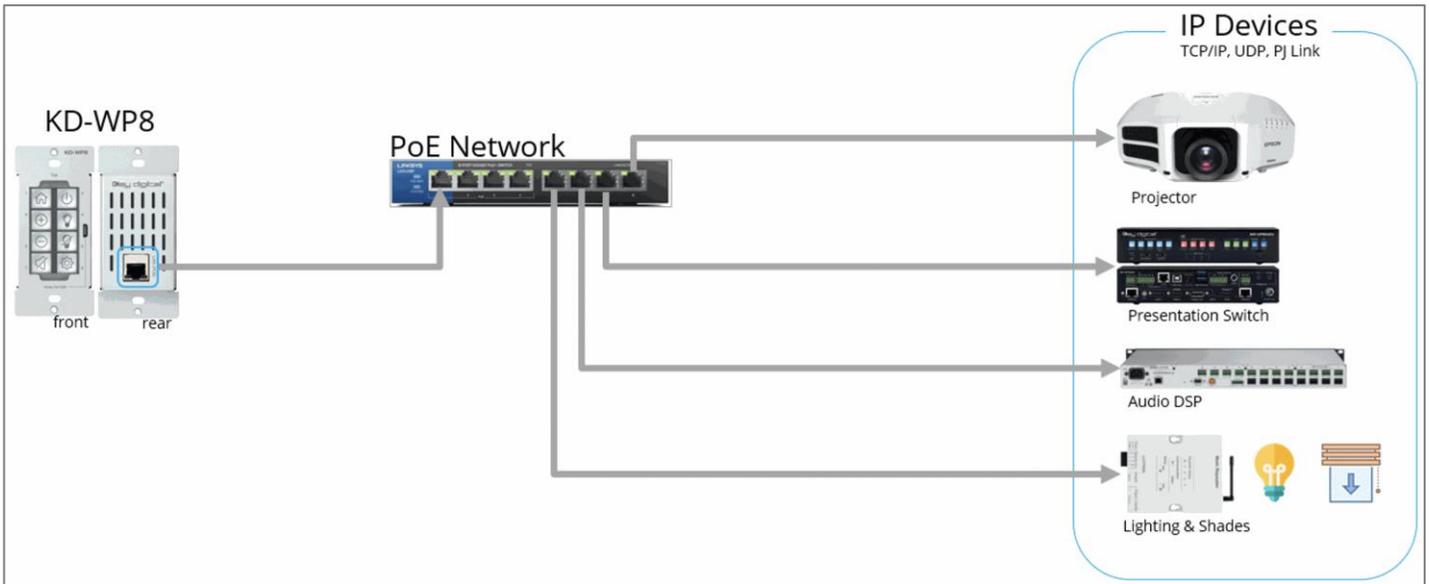


**IP, IR, RS, Relay Control -** For IP Control, KD-WP8 sends commands directly to the devices via the network. For IR, RS-232, and Relay control, KD-WP8 sends command string and burst info to KD Master Controller.



| *KD Master Controllers | | | |
|---|---|---|---|
| **Model** | **Description** | **Ports** | **Power** |
| **KD-MC1000** | MC w/ 3.5mm IO's | 6xMulti-function, 1xRS, 1xRelay | Power Supply |
| **KD-CX800** | MC w/ Phx IO's | 1xIR, 2xMulti-function | PoE |
| **KD-IP1022** | AVoIP Enc/Dec w/ Phx IO's | 1xIR, 2xMulti-function | PoE |
| **KD-IP922** | AVoIP Enc/Dec w/ Phx IO's | 1xIR, 2xMulti-function | PoE |
| **KD-IP822** | AVoIP Enc/Dec w/ Phx IO's | 1xIR, 1xMulti-function | PoE |

**No network switch Required -** KD-WP8 is powered by PoE Injector with connectivity to Master Controller. For IR, RS-232, and Relay control, KD-WP8 sends command string and burst info to KD Master Controller.



| Model | Description | Ports |
|---|---|---|
| KD-MC1000 | MC w/ 3.5mm IO's | 6xMulti-function, 1xRS, 1xRelay |
| KD-CX800 | MC w/ Phx IO's | 1xIR, 2xMulti-function |
| KD-IP1022 | AVoIP Enc/Dec w/ Phx IO's | 1xIR, 2xMulti-function |
| KD-IP922 | AVoIP Enc/Dec w/ Phx IO's | 1xIR, 2xMulti-function |
| KD-IP822 | AVoIP Enc/Dec w/ Phx IO's | 1xIR, 1xMulti-function |

*Power Supply required at KD MC

# Quick Setup Guide

## Button Caps

PPT or PDF icon sheets (including blank spaces and font info) may be downloaded for custom printing.

1. Remove the desired button icons from the provided sheets.
2. Place icon piece on top of inner button cap (white).
3. Place outer button cap (clear) on top of inner button cap. Ensure the icon placement is still centered.
   a. **IMPORTANT**: Tab and slot must be oriented on Left and Right sides of button.
4. Place button onto desired space on KD-WP8 with light downward pressure until button clicks into place.
   a. Ensure the button placement corresponds with button numbering (1-8) as programmed.
5. If needed, buttons may be removed using the provided mini flathead screwdriver to gently pry on the outer left or right side.
6. Install KD-WP8 and decora plate into wall box after all programming is confirmed.
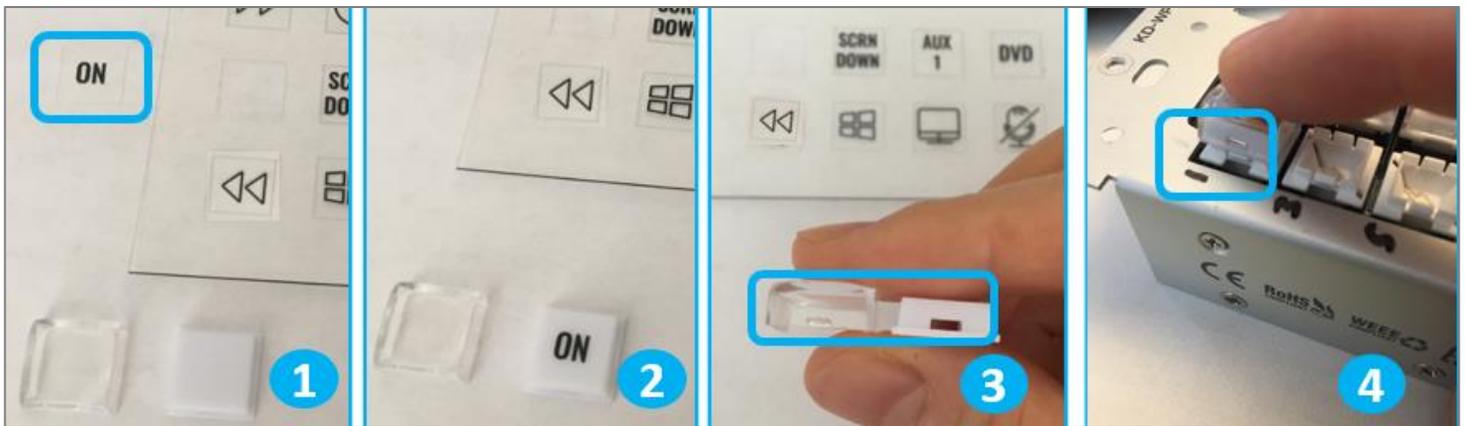


**Note**: Peel protective film from icon sheet before removing button icons.
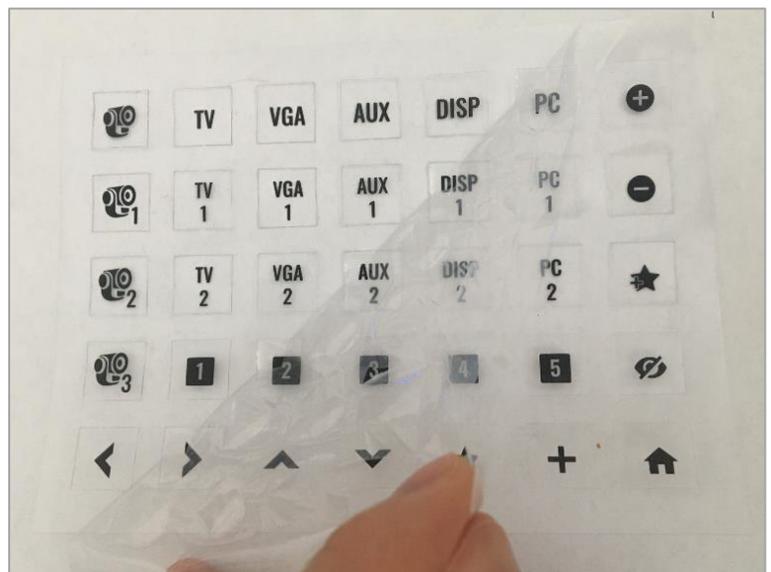
## Connect

1. Connect KD-WP8 to PoE providing network switch or PoE injector.

2. Connect USB cable from service port into programming PC. This will be used for initial setup of desired IP address.

3. If controlling IR, RS-232 or voltage relay devices, add KD-CX800, KD-MC1000, or KD AVoIP Encoders/Decoders with built-in Master Controller functionality to network.

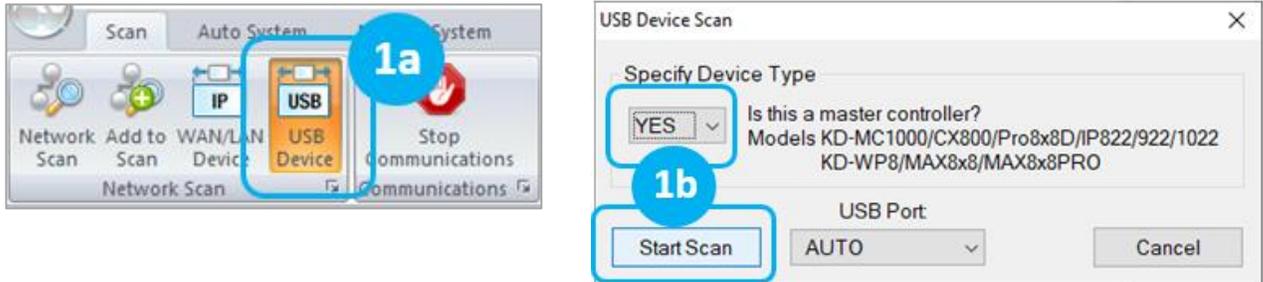   a. Connect RS-232 cabling and secure IR emitters to sensor locations after verifying functionality.



**Connectivity Example for Setup & Installation**
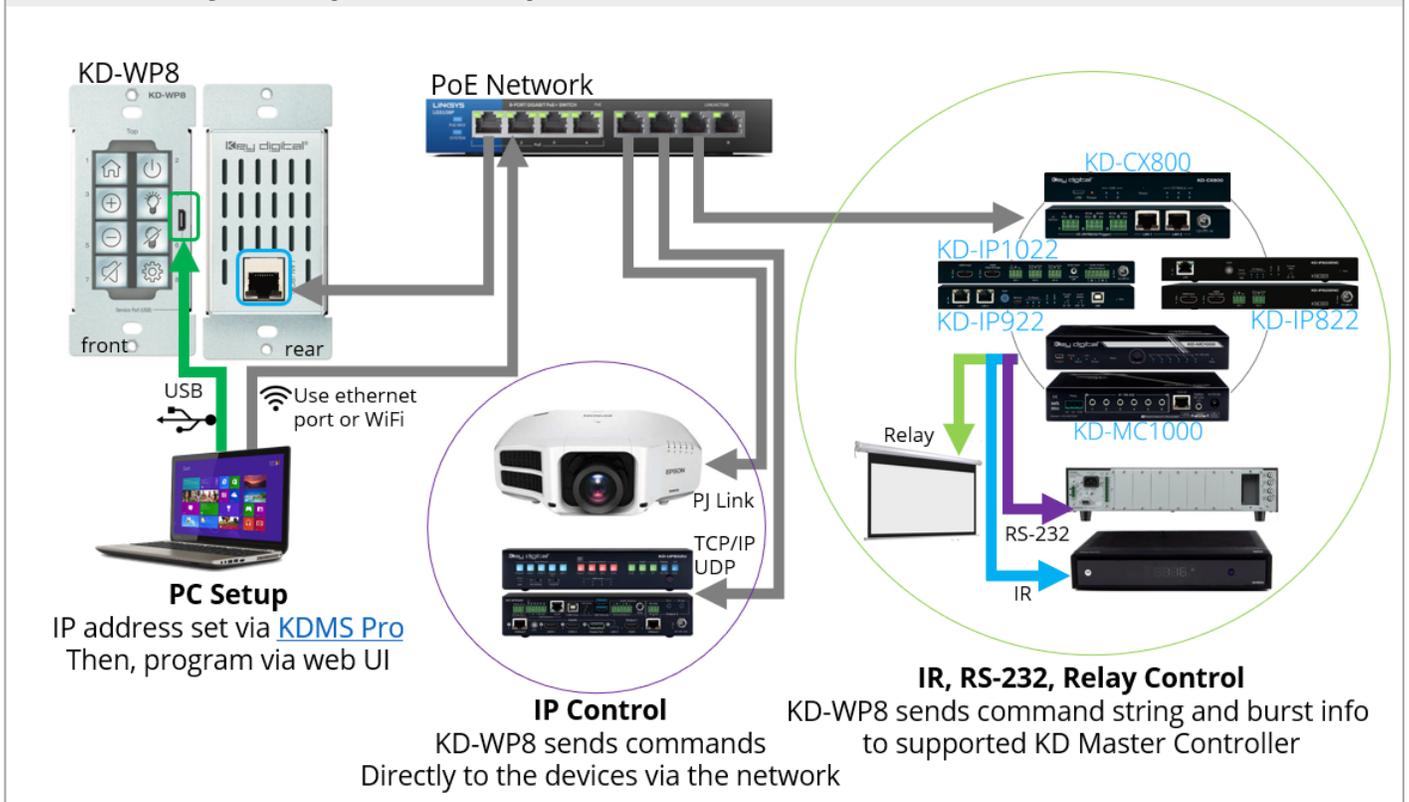
## Configure

1. **Set the desired IP Address.**

   a. Open KDMS Pro software and perform a USB Scan, ensuring that KD-WP8 is connected to PC via USB cable.

   b. Select YES, when asked if your device is a Master Controller.



   c. (1) select the KD-WP8, (2) enter the desired IP settings, (3) press SAVE disc to update settings, and wait for unit to reboot.

   d. Repeat above steps to set IP address of master controller if you will be using one.

   e. KD-WP8 may now be configured using web UI.
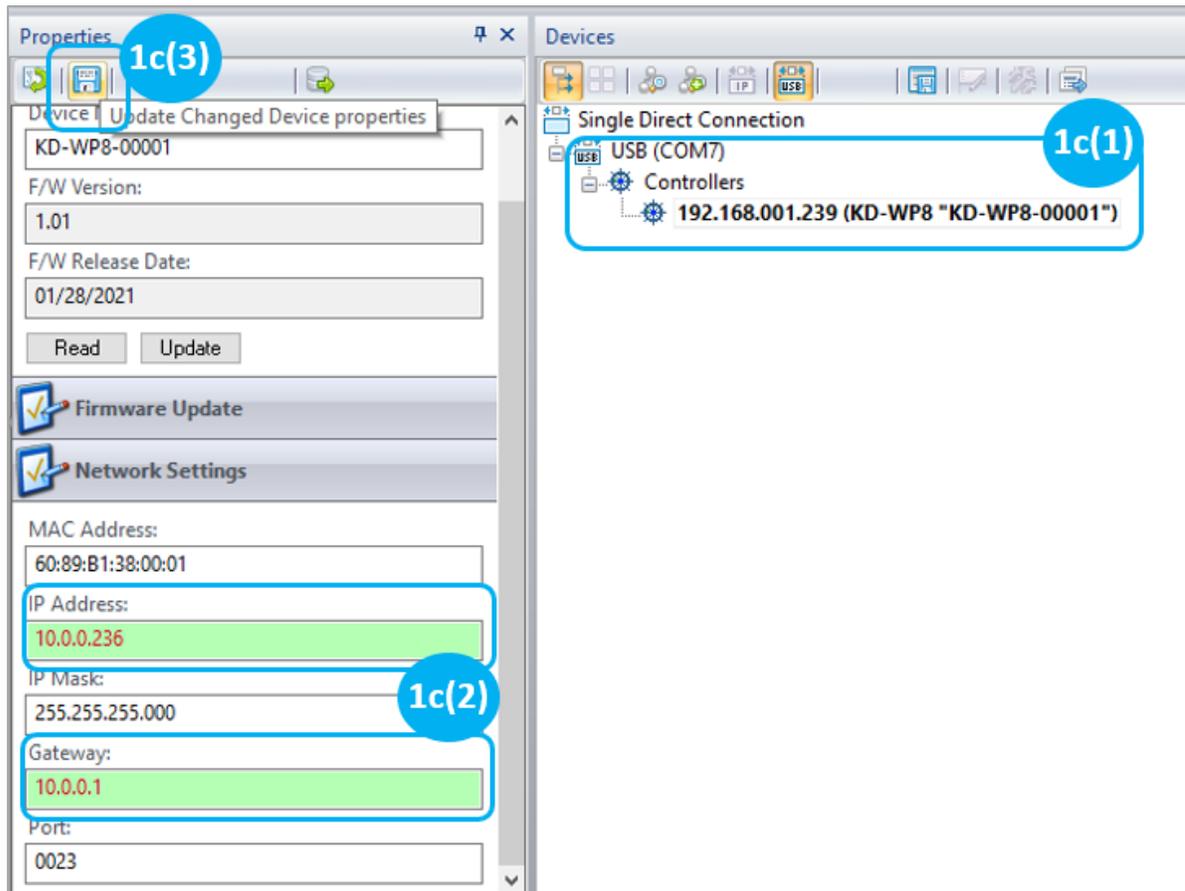
## 2. Connect to KD-WP8 via LAN with web UI.

    a. Open web browser and type in the IP address of the KD-WP8 as set in step 1 or use default IP address 192.168.1.239 if you did not adjust the IP address.

    b. Enter admin password to login to web UI. Default password is **12345678**.

**IMPORTANT**: LAN connection between the computer and KD-WP8 must be constant and stable to prevent lost work. The LAN connection re-synchronizes upon entering sub-menus, applying, or saving new settings.

**Supported Browsers:**
Chrome, Edge, Firefox, Opera, Safari

Update browser version if a problem is experienced with above.

**Not Supported:**
Internet Explorer

## Welcome to KD-WP8

8 Button Programmable IP Control Keypad

Device Password (16 characters maximum) :

*(Enter password)*

**LOG IN**

## 3. Set Device Info.

a. Device Name is displayed on the virtual keypad and is useful if multiple KD-WP8s are on the network.
b. LED Brightness applies to all button LED's. 1-10 value, with default setting of 10.
c. Admin Password used for accessing web UI.
d. User Password set for accessing Virtual Keypad.
e. Key Combo used to lock & unlock keypad. This is helpful for preventing unauthorized use.
f. Soft Reset maybe used to wipe all programming and settings except network and password.
g. Reboot for power cycling KD-WP8 without physically disconnecting LAN/PoE cable.

4.  (Optional) **Network Settings.** DHCP may be applied if desired.
    **Note**: Configuration Step 1 uses KDMS Pro software for applying desired IP settings for ease of connecting via USB.  Once your computer is on the same network with KD-WP8 it is typically easiest to do all device settings and programming using web UI.

**KD**PLUG&
**PRESENT**

LOGOUT

**KD-WP8**          8 Button Programmable Wall Plate IP Control Keypad

DEVICE INFO

NETWORK

IMPORT PROJECT

BUTTONS

EVENTS

EXPORT / LOAD

VIRTUAL KEYPAD

FIRMWARE

**Network Setup**

| | |
|---|---|
| MAC Address: | 60:89:B1:38:03:78 |
| DHCP: | ☐  Disabled |
| IP Address: | 10.0.0.236 |
| Network Mask: | 255.255.255.0 |
| Default Gateway: | 10.0.0.1 |
| TCP Port: | 23 |

SAVE

**Key digital**

5. (Optional) **Import Project** is used when loading a completed project file where multiple identical / similar systems are installed.

KD PLUG & PRESENT

LOGOUT

**KD-WP8**          8 Button Programmable Wall Plate IP Control Keypad

DEVICE INFO

NETWORK

IMPORT PROJECT

BUTTONS

EVENTS

EXPORT / LOAD

VIRTUAL KEYPAD

FIRMWARE

## Import Project

Project File: [                    ]  **Browse File**

*(Optional: Import Button & Event settings from project **.kwp file** on your computer.)*

6. **Apply Button Settings** for each button.

   See figure 6 for Button Settings and options for each.

   a. **Button Name:** Displayed in the virtual keypad and helps the Programmer keep button events organized.

      i. Max 9 alpha-numeric characters supported (incl space).

   b. **Button Type**: Normal or Toggle. Toggle button allows for unique event every other time the button is pressed. If Toggle, the Second Press LED is the default LED setting immediately after project load. See Example 1 in the Additional Common Button & Event Examples section.

   c. **Button Press LED** type: Red, Blue, or None (Off). Additional LED events can be programmed in the Events section, including LED behavior of other buttons.

   d. **Hold Event** type: Off, Hold for Repeat, or Hold for Send. If either Hold type is selected, enter a range between 0.5 – 10 seconds. When Hold for Repeat is selected, there is a check box that allows you to conveniently duplicate the events of the button press, or you may uniquely program the press and hold events. See Examples 1 and 2 in the Additional Common Button & Event Examples section. Note that Hold events are not supported in Virtual Keypads from mobile and tablet browsers. KD-App does support Hold events.

   e. **Release Event**: On or Off. Release Event On allows for unique event programming on the button Press & Release. Release event cannot be used when any Hold type is selected.

   f. Choose the next button (1-8) and repeat above steps.

   g. (Optional) If needed, you may refresh the settings from the active project in keypad.

      **CAUTION**: Settings will revert to previously loaded project. Please load updates to ensure unsaved settings are not lost.
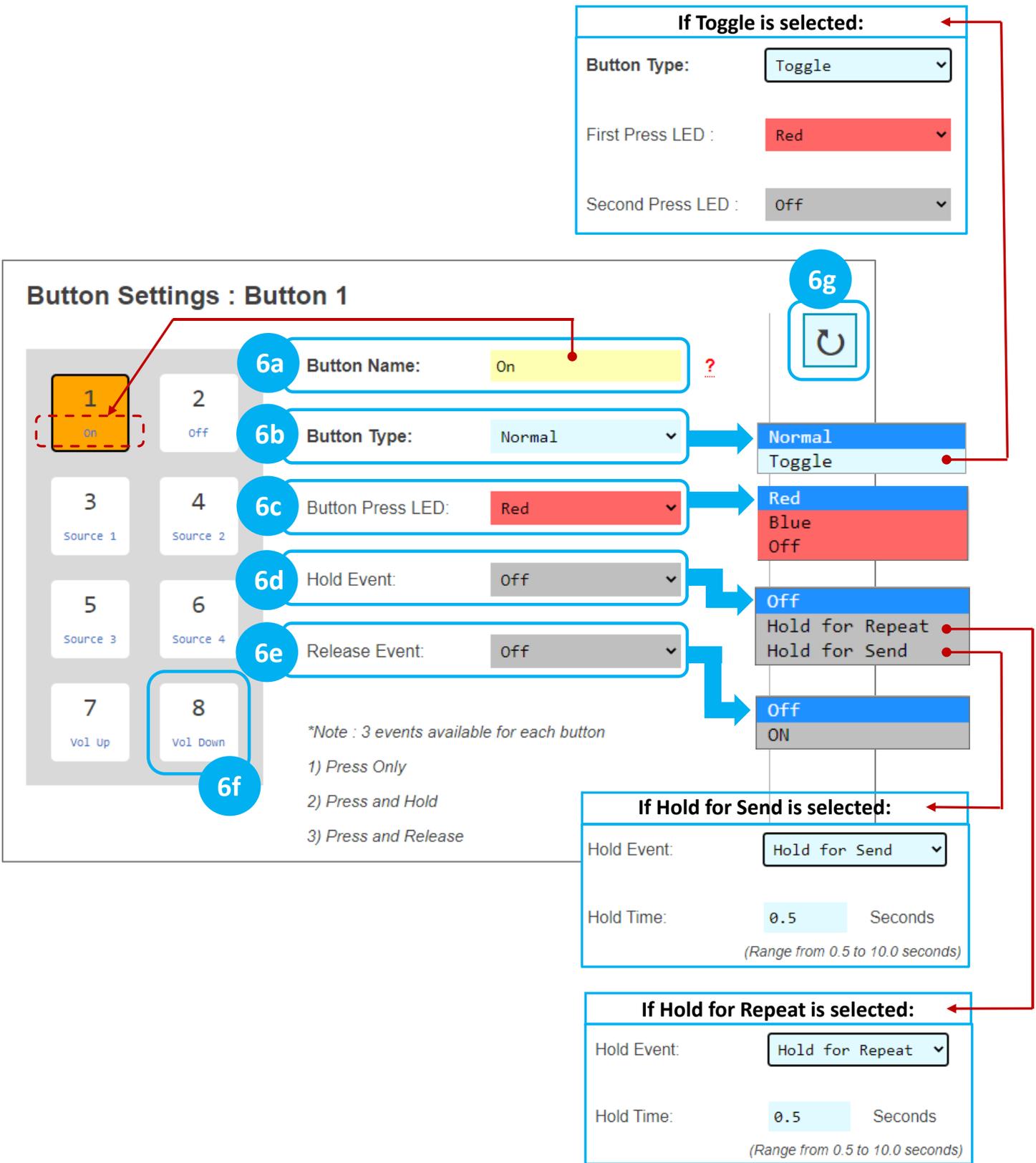


Example of Button Naming



⚠ **Caution**

Before upgrading the firmware, please ensure:

• **Keep network connection with KD-WP8.**
• **Hardwired network connection is recommended.**
• **Do NOT refresh the web page.**

Continue    Cancel

**Figure 6**: Button Settings

7. **Program Events** (aka Commands) for each button.
**IMPORTANT NOTES:**

- Many device commands can be found in the IR, RS232 or IP Device Database manager software downloaded HERE. Please refer to the owner's manual or API document of the controlled device for command info if not.
- ASCII IP and RS232 command strings which include special characters like %, /, <, >, etc may require entry as HEX data type. Convert each character in the string from ASCII to HEX using a CONVERSION TABLE and use 0D as a carriage return and 0A as a line feed if required. See figure 7z.
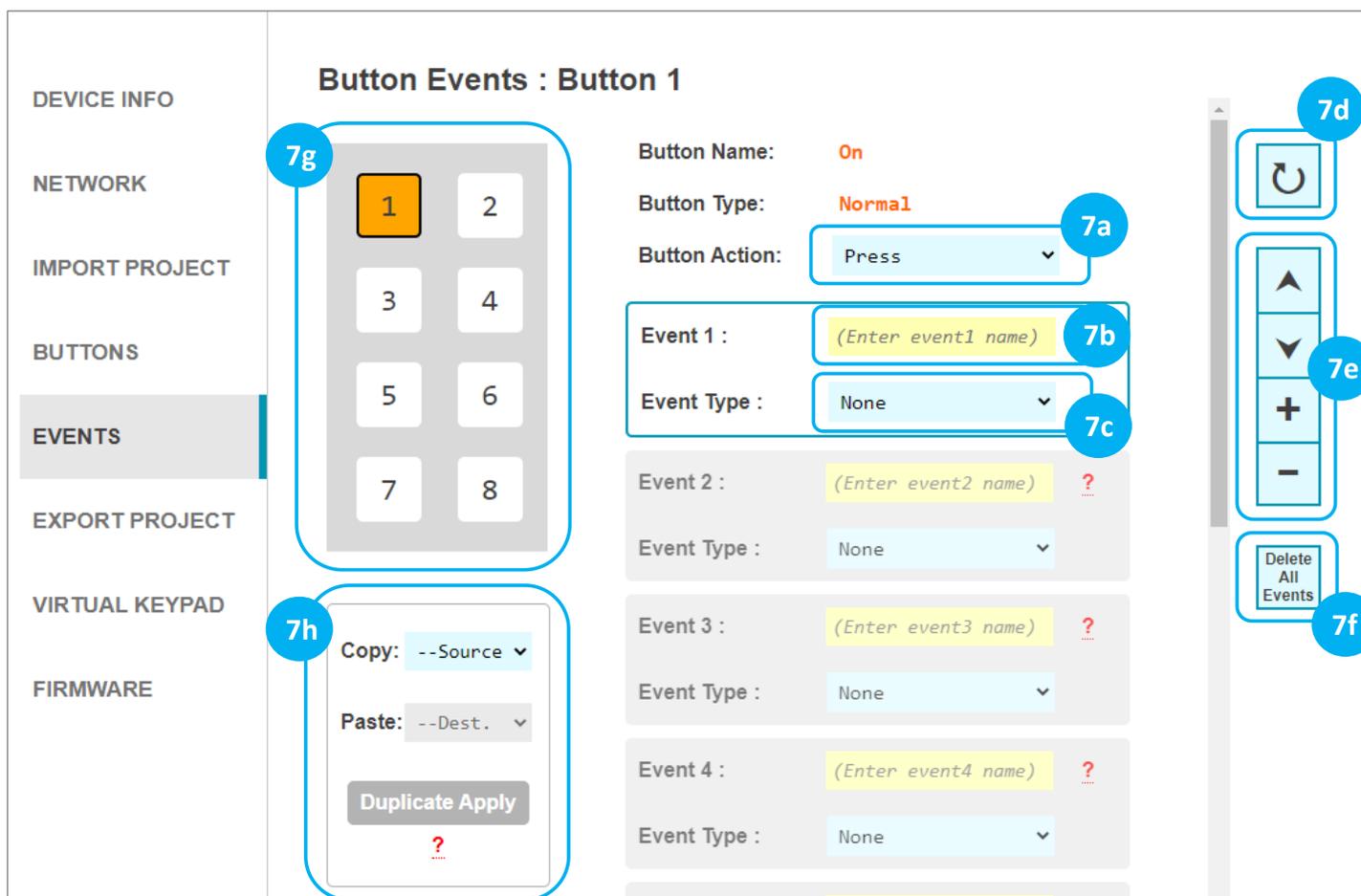


a. Choose desired **Button Action** to program as previously set in Button Settings:
   1) Button Press (Normal)
   2) Button First or Second Press (Toggle)
   3) Hold for Repeat or Hold for Send, if enabled
   4) Release Event, if enabled

b. Enter desired name of each event. This is helpful for the programmer to keep programming organized. Max 16 alpha-numeric characters supported (incl space).

c. Choose **Event Type**. Example images for each event type are found in the following pages.

1) **LED Addition** controls LED behavior for any of the 8 buttons in addition to the pressed button's typical LED behavior. See figure 7c1.

2) **IP Command** sends commands to control a device at the specified IP address and Port number. TCP or UDP formats are supported and the data type may be String (ASCII) or HEX format. Enter command info into the Data cell, including \r for carriage return and \n for line feed if necessary. An adjustable delay can be added after the IP Command is sent. See figure 7c2.

3) **Delay Addition** adds an extra delay (0.1 -10 seconds) to control slower devices. See figure 7c3.

4) **IR KD-CX/922** sends IR command info to KD-CX800, KD-IP922, KD-IP1022, or KD-IP822 master controllers at the specified IP address and port number and selected I/O port. If KD-IP822 is used, please only select from I/O port 1 or 2. The IR command can be pasted from any Pronto Hex document or from Key Digital's IR Manager. See figure 7c4.

5) **IR KD-MC1000** sends IR command info to KD-MC1000 master controller at the specified IP address and port number and selected I/O port. The IR command can be pasted from any Pronto Hex document or from Key Digital's IR Manager. See figure 7c5.

6) **RS232 KD-CX/922** sends RS232 command info to KD-CX800, KD-IP922, KD-IP1022, or KD-IP822 master controllers at the specified IP address and port number and selected I/O port. Port 1 is not selectable as all MC models do not support RS232 on port 1. Baud Rate is selectable from 1,200 to 115,200 bps. String (ASCII) or HEX data type may be selected and command info may be entered into the Data cell, including \r for carriage return and \n for line feed. An adjustable delay can be added after the command is sent. See figure 7c6.

7) **RS232 KD-MC1000** sends RS232 command info to KD-MC1000 master controller at the specified IP address and port number and selected I/O port. Baud Rate is selectable from 1,200 to 115,200 bps. String (ASCII) or HEX data type may be selected, and command info may be entered into the Data cell including \r for carriage return and \n for line feed. An adjustable delay can be added after the command is sent. See figure 7c7.

8) **Relay KD-MC1000** sends info to KD-MC1000 to set the Relay port to On (Normally Open) or Off (Normally Closed). See figure 7c8.

d. (Optional) If needed, you may refresh the settings from the active project in keypad.

e. (Optional) You may move the current selected event up or down within the programming sequence. You may insert a new event or delete the selected event. Note that 10 events are maximum per button action.

f. (Optional) You may delete all events on the current button.

g. Choose the next button (1-8) and repeat above steps a-c.

h. You may choose to (1) copy and (2) paste the events from a programmed button to a desired destination button using the (3) Duplicate Apply button. This is a time saver when many of the events are similar on the buttons.

**Figure 7c1**: LED Addition Event example and options.



**Figure 7c2**: IP Command Event example and options.

**Figure 7c3**: Delay Addition Event example and options.



**Figure 7c4**: IR KD-CX/922 Event example and options. IR Data is pasted from a Pronto Hex Sheet. See **figure 7c4b**.



**Figure 7c4b**: Example Pronto Hex IR sheet collected from mfr. The highlighted hex data has been copied and pasted into the Event's Data cell.

**Figure 7c5**: IR KD-MC1000 Event example and options.

IR Data is pasted from a Key Digital IR Device Database. See **figure 7c5b**.
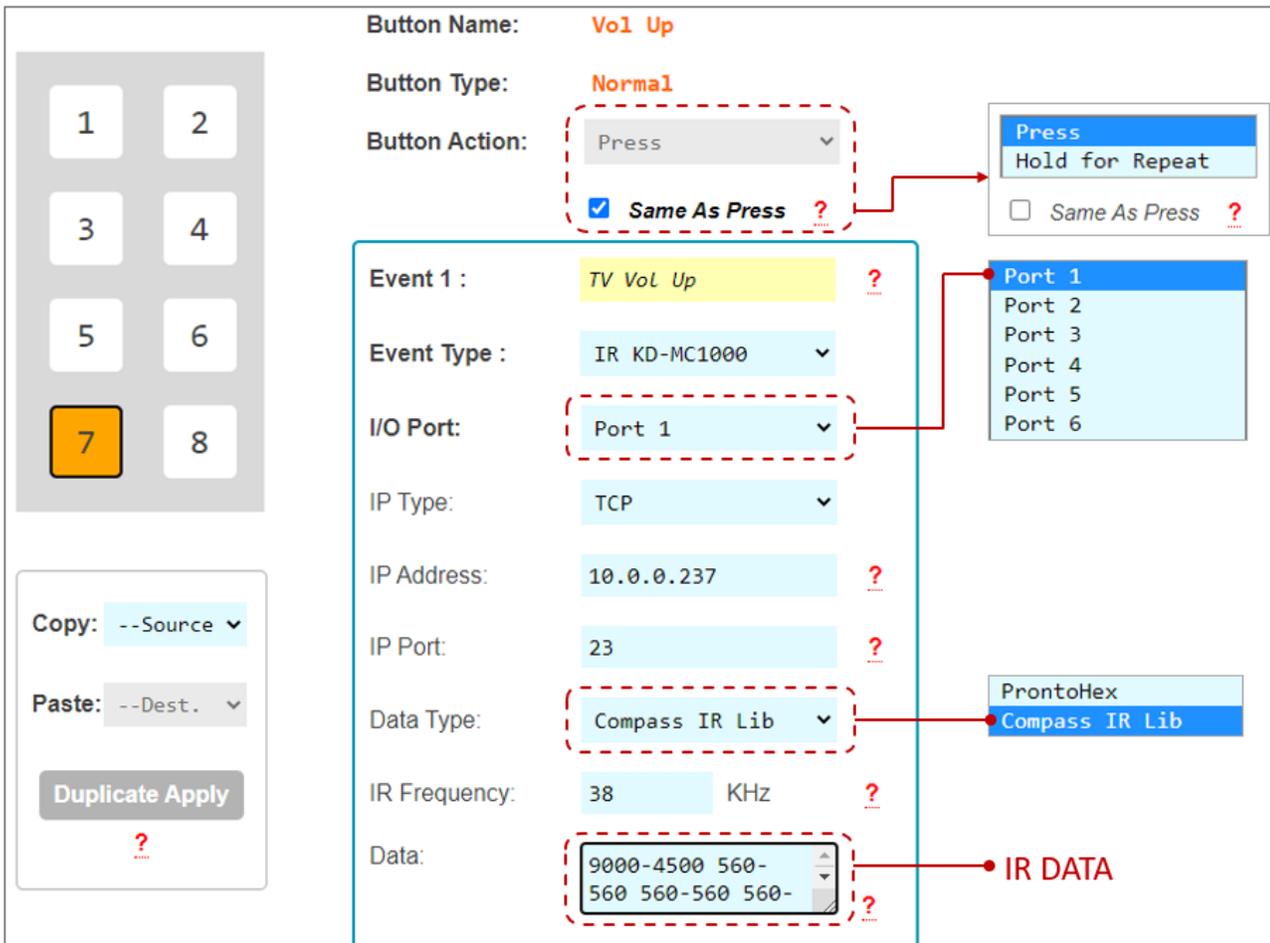


**Figure 7c5b:** Browsing Key Digital's IR Database Manager for the command data used in above example. Identifying the device, IR frequency, and IR Command Burst Data.
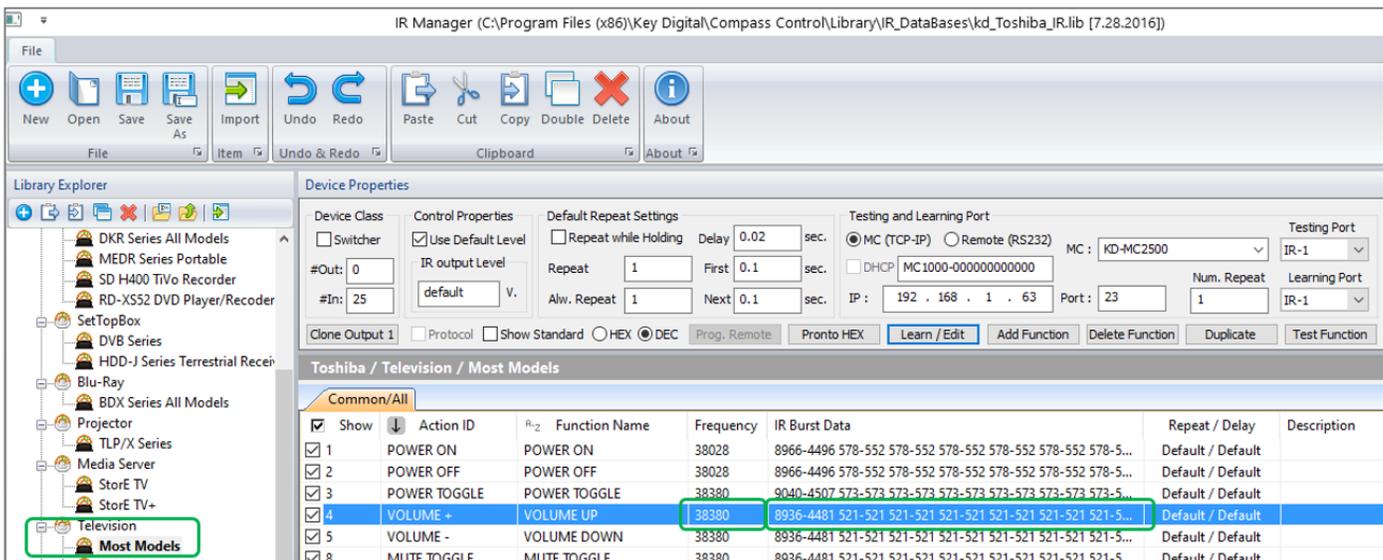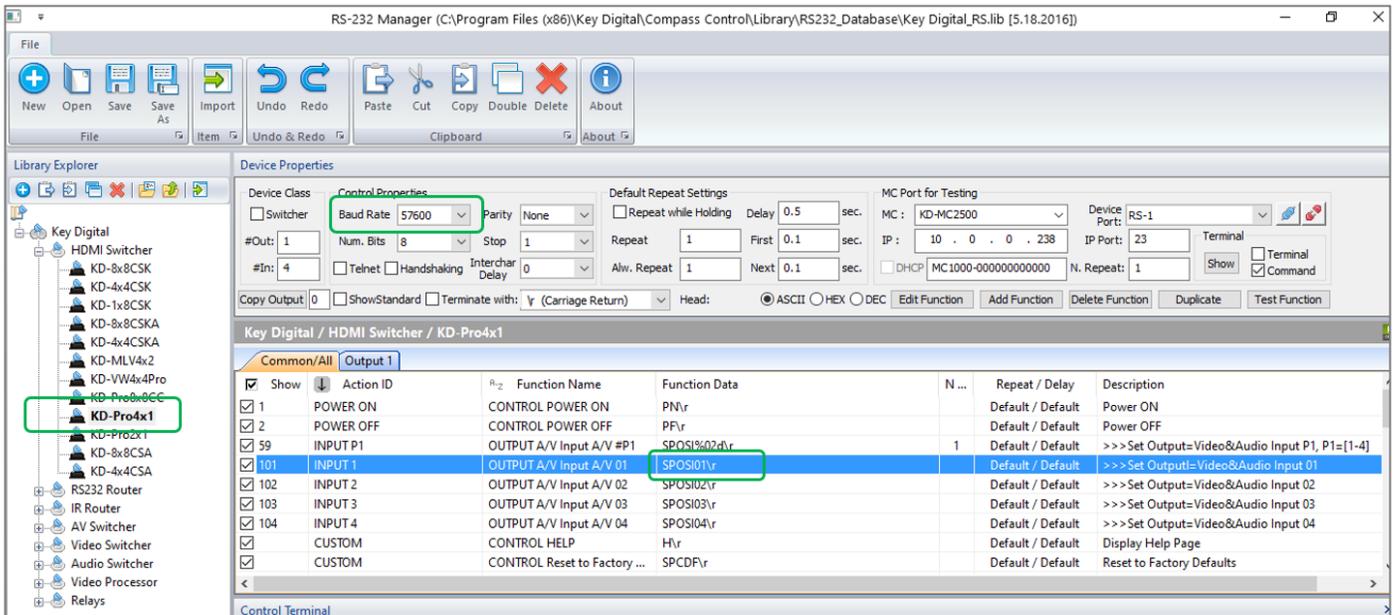
**Figure 7c6:** RS232 KD-CX/922 Event example and options. RS232 Data is pasted from a Key Digital RS Device Database. See **figure 7c6b**.
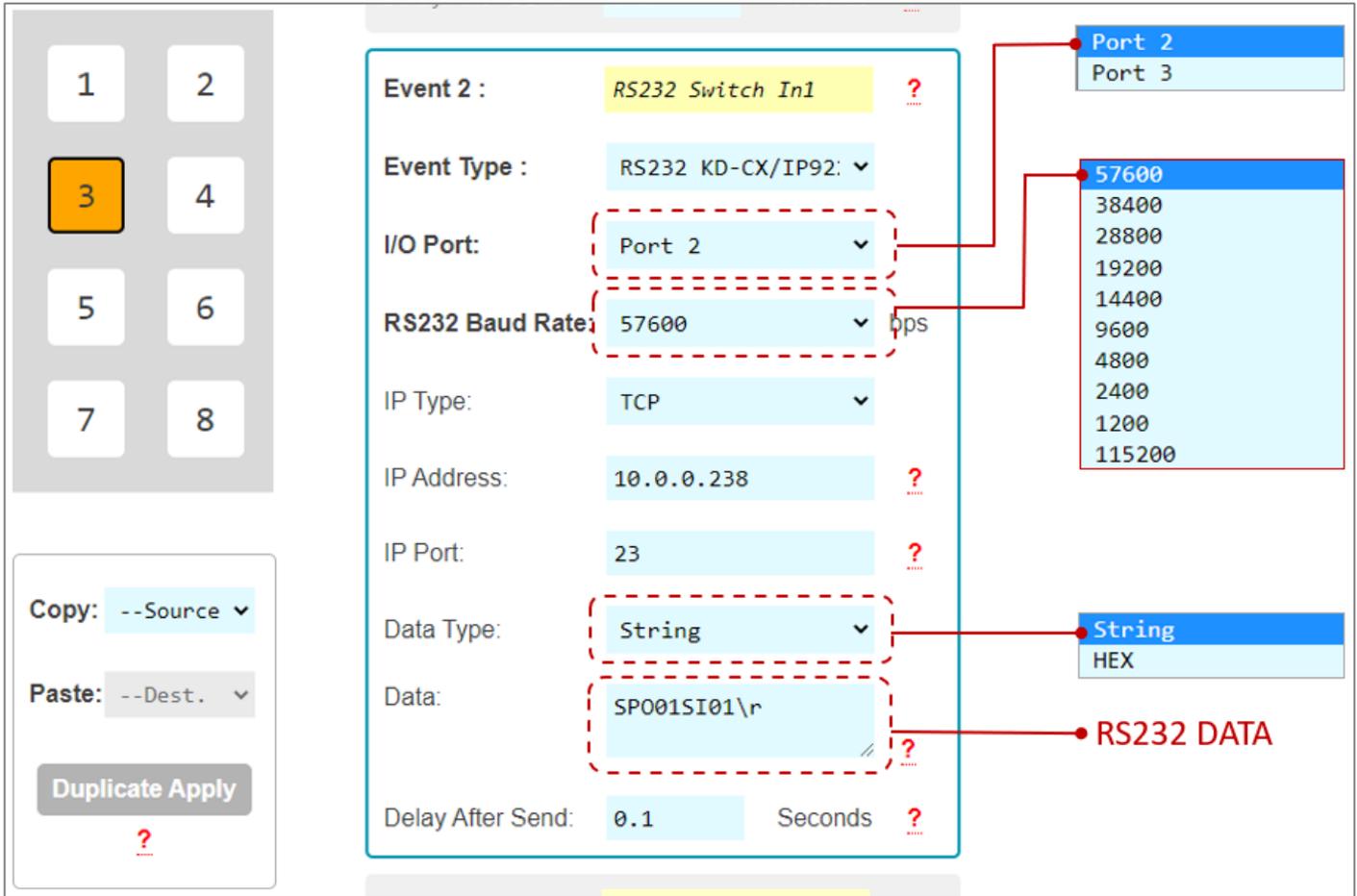


**Figure 7c6b:** Browsing Key Digital's RS232 Database Manager for the command data used in the above example. Identifying the device, Baud Rate, and RS232 Command Data.

**Figure 7c7:** RS232 KD-MC1000 Event example and options.



**Figure 7c7b:** Example RS232 command info collected from Owner's Manual of the controlled device. For HEX data type, KD-WP8 requires each byte to be separated by a comma, without any spaces between byte.

For example:

92H, 03H, 00H, 00H, 00H

Is entered as:

92,03,00,00,00
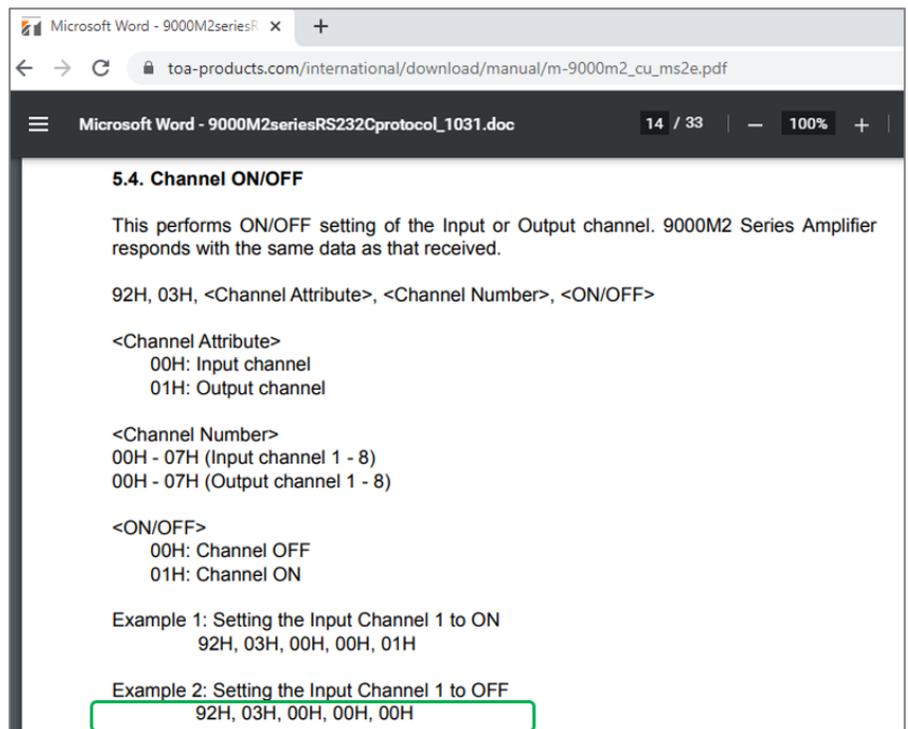
**Figure 7c8:** Relay KD-MC1000 Event example and options.



**Figure 7z**: ASCII IP or RS232 event which must be converted from ASCII to HEX because of special characters (ie %)

# Common Button & Event Examples

## Example 1: Toggle Button.

The Button must first be configured as a Toggle button type in the button configuration step.



Unique events may be programmed on the First and Second Button Actions.

## Example 2: Hold for Repeat.

The Button must first be configured for the Hold for Repeat Event and the hold time must be specified in the button configuration step.



With **Same as Press** applied, there is no need to program the repeated event. If unique repeated events are required, de-select <u>Same as Press</u> checkbox and program the Press and Hold for Repeat button actions individually. By default, Same as Press is not selected.

## Example 3: Hold for Send.

The Button must first be configured for the Hold for Send Event and the hold time must be specified in the button configuration step. In this example, the user must hold the button for 3.0 seconds before the Hold for Send event is executed.

**Button Settings : Button 2**

DEVICE INFO

NETWORK

IMPORT PROJECT

BUTTONS

EVENTS

EXPORT / LOAD

VIRTUAL KEYPAD

| 1 On | 2 Off |
| 3 Source 1 | 4 Source 2 |
| 5 Source 3 | 6 Proj Mute |
| 7 Vol Up | 8 Vol Down |

Button Name: Off ?

Button Type: Normal

Button Press LED: Red

Hold Event: Hold for Send

Hold Time: 3.0 Seconds
*(Range from 0.5 to 10.0 seconds)*

Release Event: Off

A Hold for Send button may also execute events on the initial button press. Or, you may leave the Press event empty if no events are desired on the initial button press.

**Button Events : Button 2**

| 1 | 2 |
| 3 | 4 |
| 5 | 6 |
| 7 | 8 |

Copy: --Source

Paste: --Dest.

Duplicate Apply ?

Button Name: Off
Button Type: Normal
Button Action: Hold for Send

Press
Hold for Send

Event 1 : Projector Off ?

Event Type : IP Command

IP Type: TCP

IP Address: 10.0.0.230 ?

IP Port: 23 ?

Data Type: String

Data: %1POWR 0\r ?

Delay After Send: 0.1 Seconds ?

## 8. Export Project

    a. Press **Export Project** to export a.kwp project file for backup on your computer so that it may be used for loading into another KD-WP8.

    b. Press **Load to Keypad** to load the programmed file into the KD-WP8. After successful project load and connectivity of your controlled device(s) and (optional) Key Digital Master Controllers, you may now use KD-WP8!
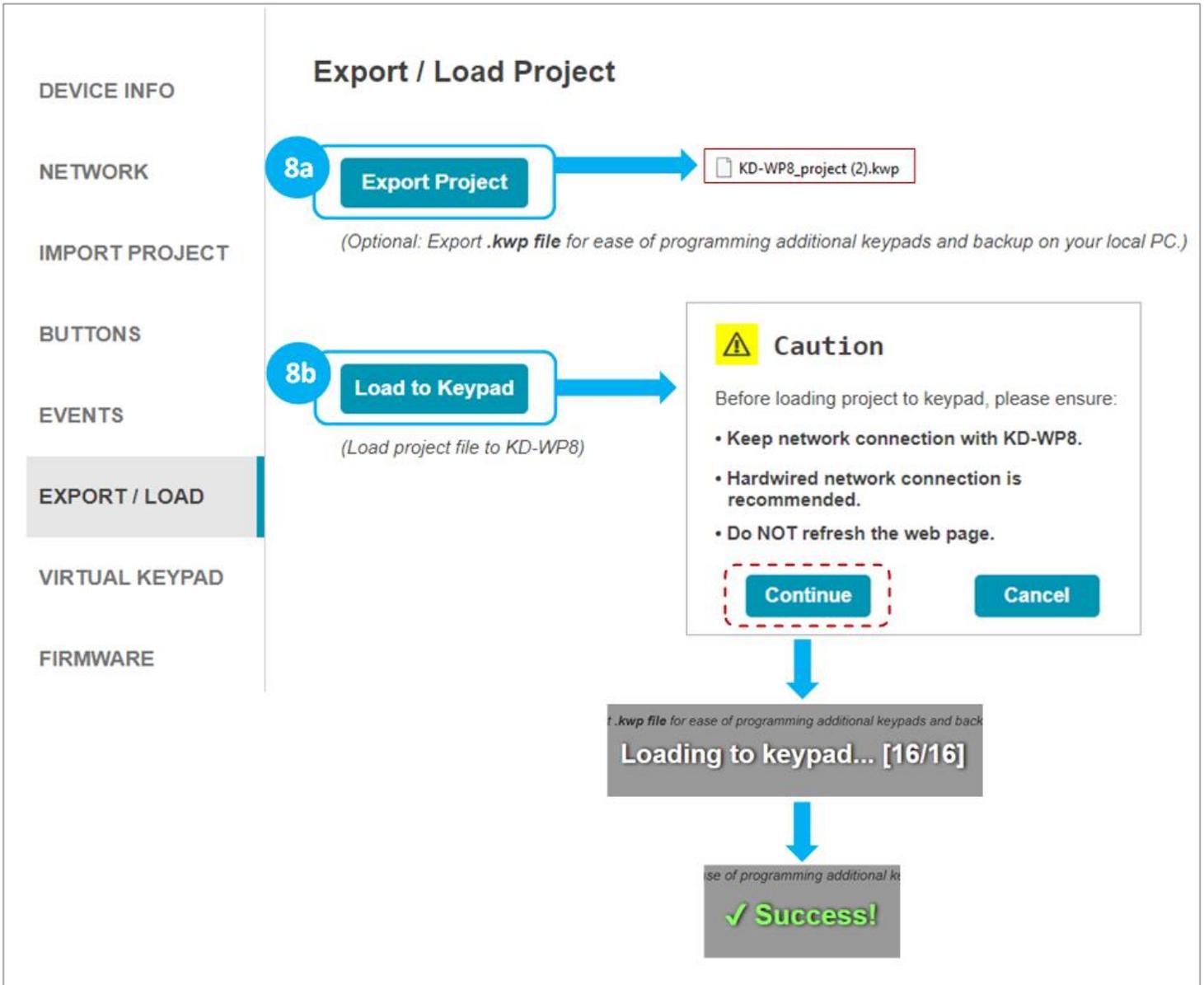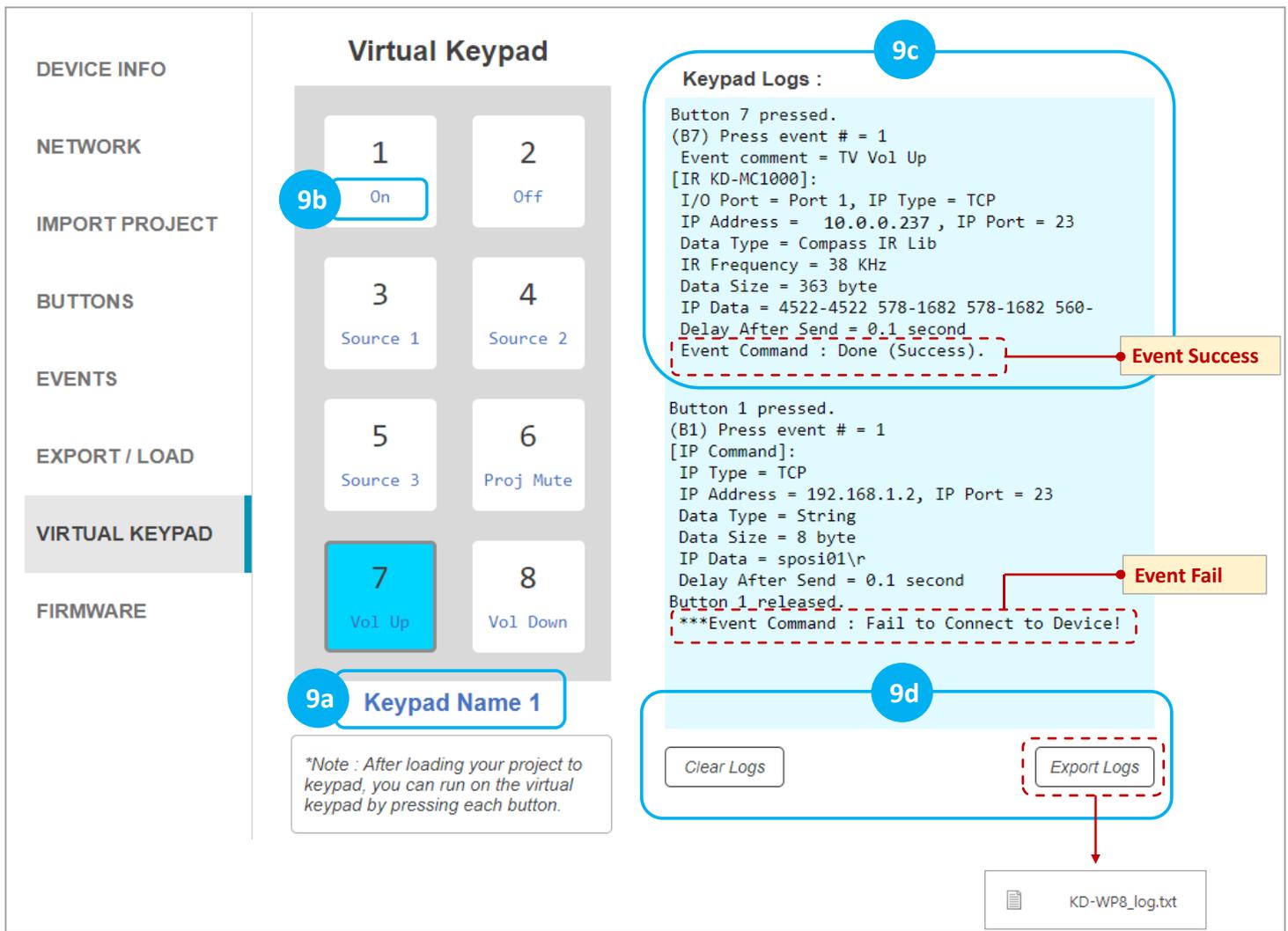
# 9. Virtual Keypad (Pro)

The Pro Virtual Keypad offers allows complete control as if you were physically pressing the KD-WP8 buttons. In addition to two-way buttons, the Pro Virtual Keypad also provides a log of executed events. All LED feedback in the Virtual Keypad is identical to the physical keypad.

    a. Device Name is displayed as set in the Device Info setting.
    b. Button Names are displayed as set in the Button settings.
    c. Keypad Logs provide info for each event within the button press.
    d. Keypad Logs may be Cleared or Exported as a text file.

A User Virtual Keypad may also be accessed for a simplified end-user level GUI. See the User Virtual Keypad section for more information.

⚠️ **Notes:** For best performance, do not run Pro Virtual Keypad and User Virtual Keypad simultaneously.

**10.** (Optional) **Firmware**

Consult with Key Digital Technical Support before updating. Hard-wired network connection is recommended.

    a.  Download latest firmware file from the Key Digital website, press **Browse File** button to choose the saved file. A success message provides information about the new firmware version number and release date.

    b.  Press the **Update Firmware** button to proceed and see the status of the firmware update and the re-booting of the unit.
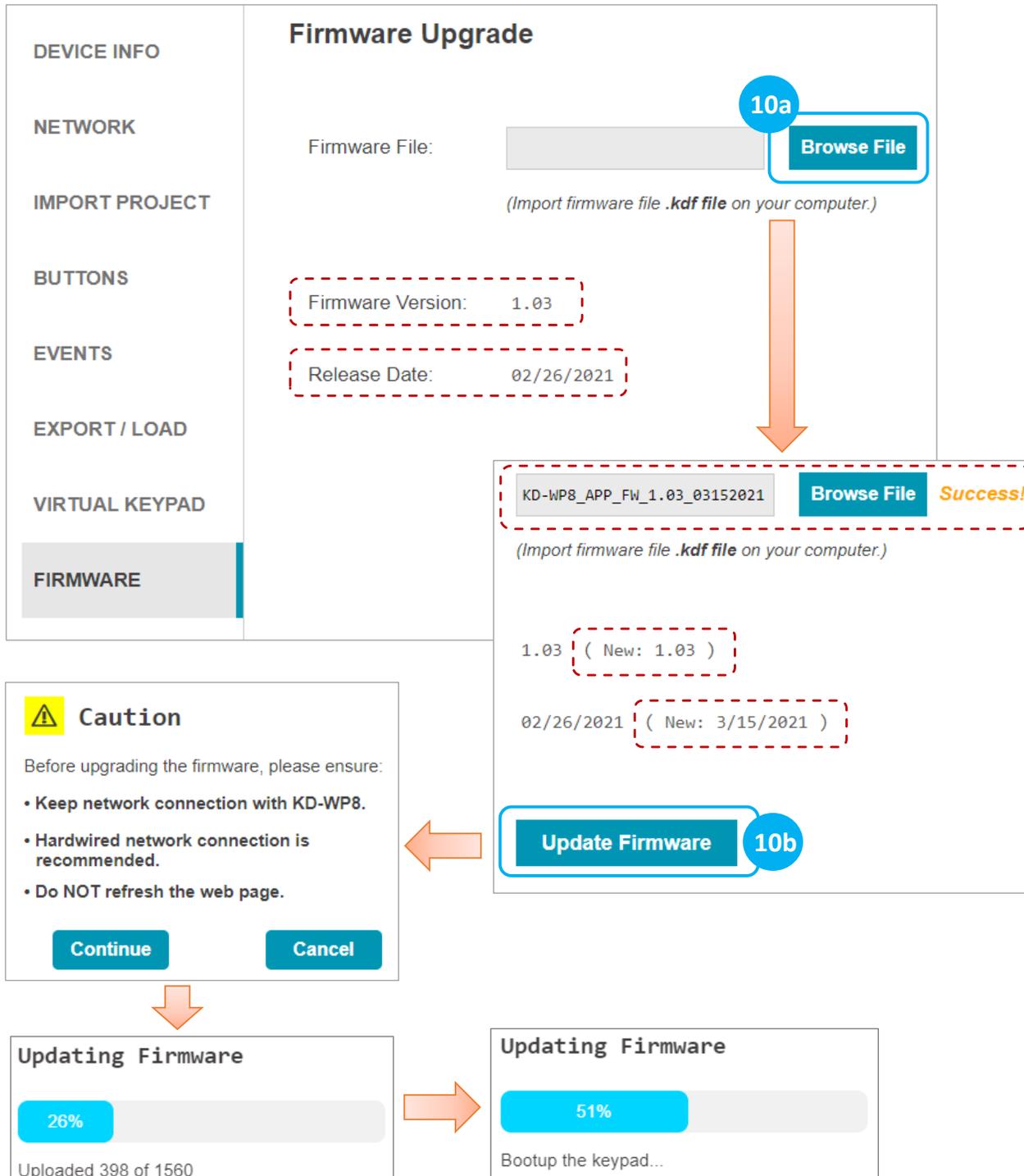
## Control

**IP Device Control -** For IP Control, KD-WP8 sends commands directly to the devices via the network. No Master Controller necessary.

- Ensure that the KD-WP8 is on the same network with the device you are controlling via IP.
- Refer to the Programming Events section for more information.
- Refer to the Owner's Manual of the device for control codes.
- Some devices may require IP control to be enabled in the setup menu and power saver / eco mode to be disabled to be controlled when in power off / standby.
- Verify control of the device using a terminal software like TeraTerm or Hercules for Hex devices.
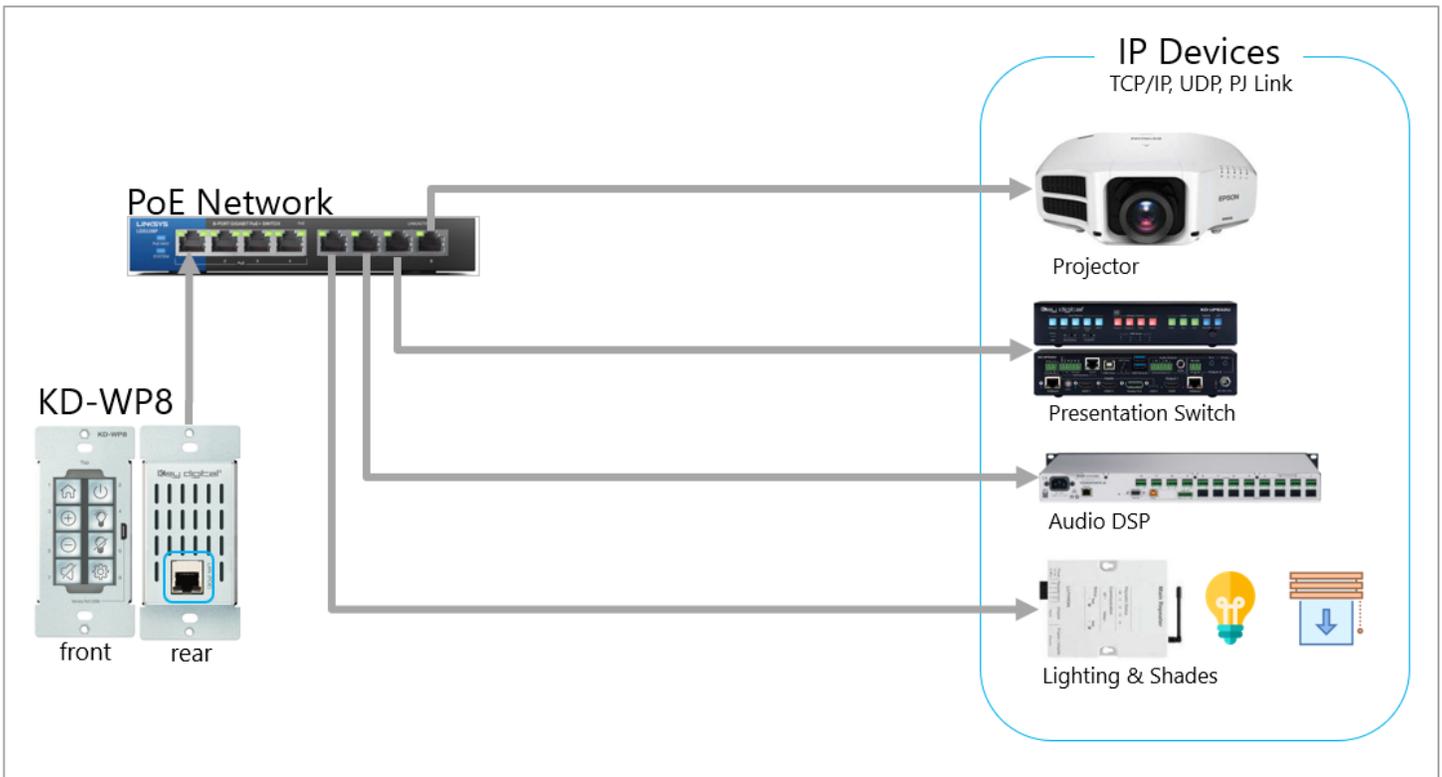
**IR, RS, Relay Control -** For IR, RS-232, and Relay control, KD-WP8 sends command string and burst info to KD Master Controller.

- Ensure KD-WP8 is on the same network as the KD Master Controller and the devices have been configured with unique IP addresses.
- Refer to the Programming Events section for more information.
- For IR, locate the device's IR sensor, test for reliable control by repeatedly pressing button, observe the emitter blinking and successful control of the device before securing the IR emitter over the IR sensor. Use IR emitter blackout covers to prevent the emitter from falling and light from corrupting the IR signal.
- For RS232, null modem adapters or gender changers may be needed depending on the pinout of the device.
- Verify control of the device using a USB to RS232 adapter and a terminal software like TeraTerm or Hercules for Hex devices.

| Key Digital Master Controllers | | | |
|---|---|---|---|
| **Model** | **Description** | **Ports** | **Power** |
| KD-MC1000 | MC w/ 3.5mm IO's | 6xMulti-function, 1xRS, 1xRelay | Power Supply |
| KD-CX800 | MC w/ Phx IO's | 1xIR, 2xMulti-function | PoE |
| KD-IP1022 | AVoIP Enc/Dec w/ Phx IO's | 1xIR, 2xMulti-function | PoE |
| KD-IP922 | AVoIP Enc/Dec w/ Phx IO's | 1xIR, 2xMulti-function | PoE |
| KD-IP822 | AVoIP Enc/Dec w/ Phx IO's | 1xIR, 1xMulti-function | PoE |

## INSTALLATION IN GANG BOX

1.  Ensure the keypad is programmed and all 8 buttons are placed on the keypad.
2.  Connect network cable from PoE network switch or PoE injector into KD-WP8 LAN (POE) port.
3.  Insert KD-WP8 into the gang box, ensure it is right-side-up by confirming with the wording "TOP" printed on keypad. Then, fasten by using the long mounting screws.
4.  Place the decora plate into position and fasten using the short decora screws.
5.  Test the buttons by pressing a few times each, ensuring that they pop back into position and are not obstructed by the decora plate.
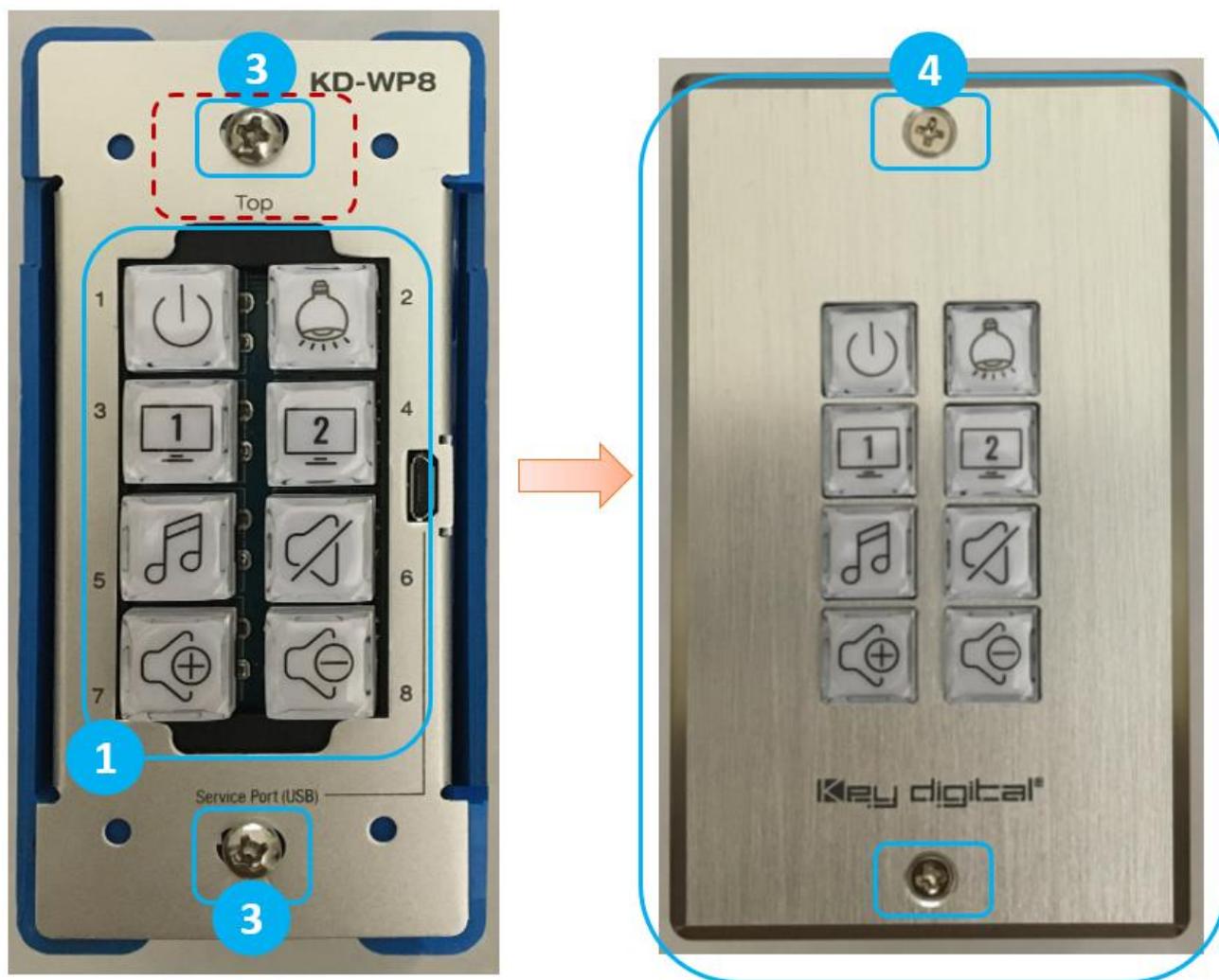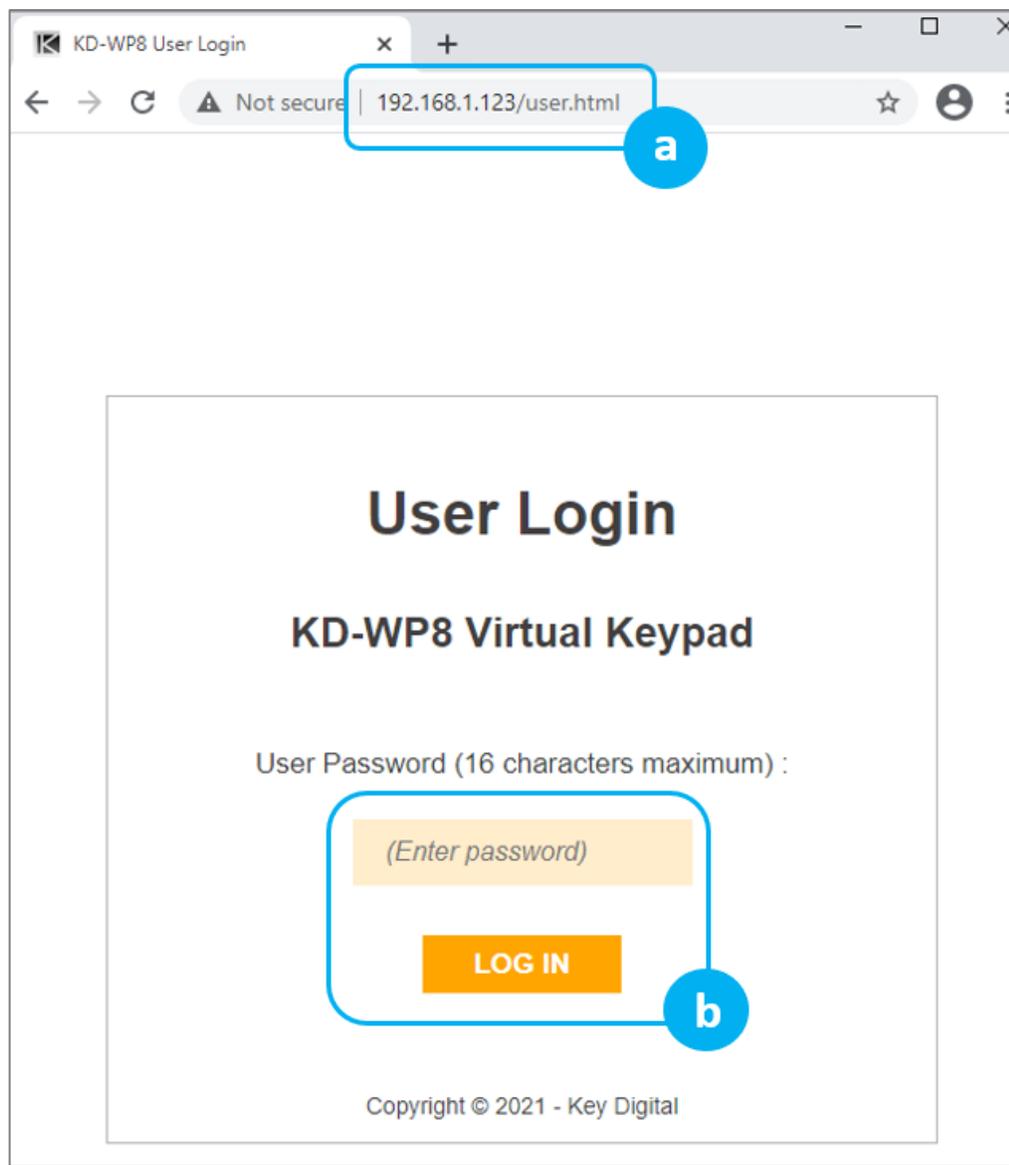
# User Virtual Keypad

The Virtual Keypad allows complete control as if you were physically pressing the KD-WP8 buttons. The virtual keypad buttons display keypad & button naming, and blinks according to the LED indicator table for a two-way feedback identical to the physical keypad. A similar virtual keypad is available using the Key Digital iOS app.

a. In your web browser (Internet Explorer not supported), enter the address <IP Address>/user.html
   For example, if the keypad's IP address is 192.168.1.123, enter 192.168.1.123/user.html
b. Enter the user password, as set in the Device Info menu. The default user password is **user**.

⚠️ **Note:** For best performance, do not run Pro Virtual Keypad and User Virtual Keypad simultaneously.

c. A simplified end-user GUI for the virtual keypad is shown after login.
   (1) Device name and (2) Button names are displayed.

d. When the keypad is active (connected), the background color is light blue.

e. If disconnected, the color becomes light orange with the disconnection message.
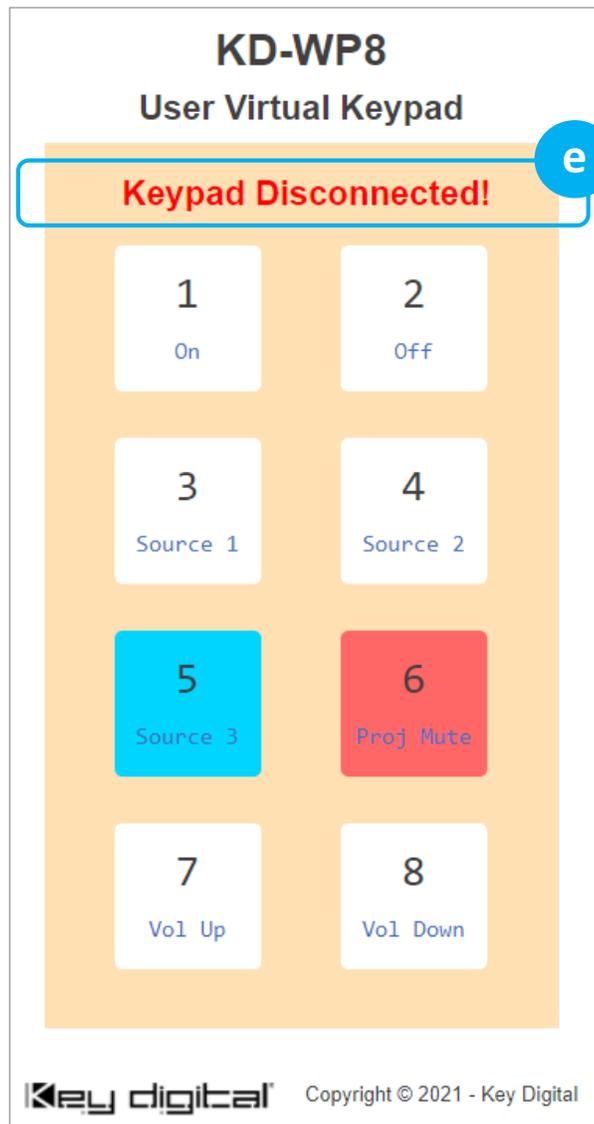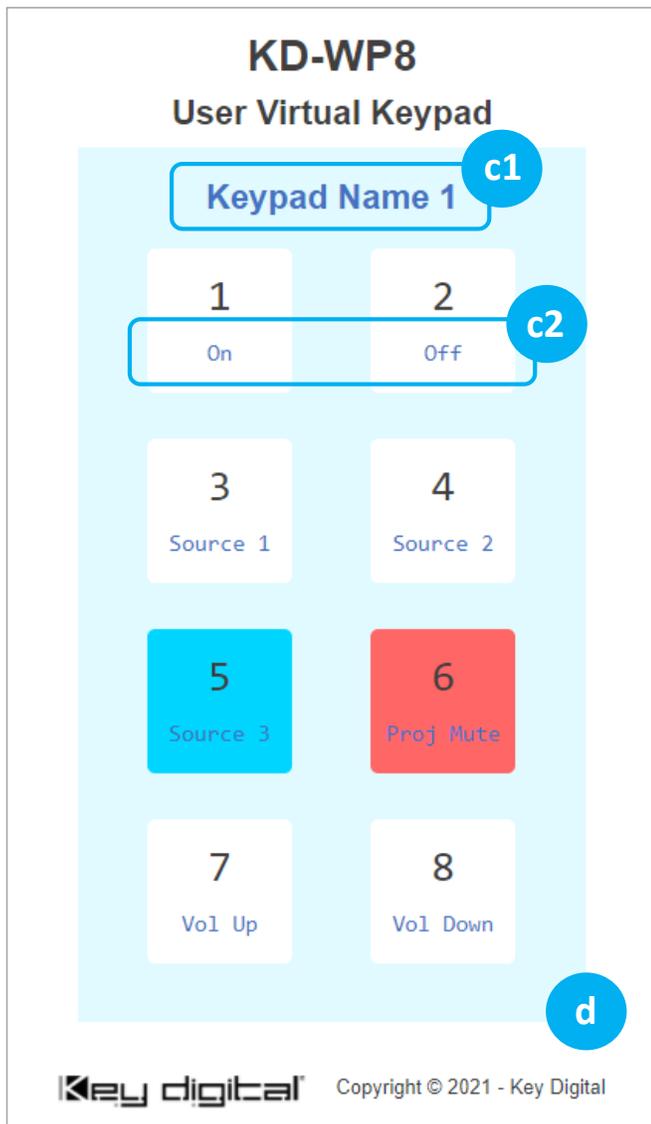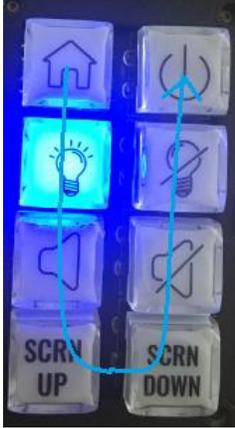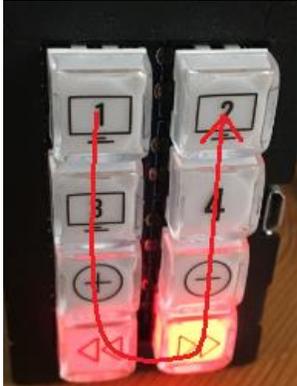
# LED Indicator Table

| Status | Description | Image |
|---|---|---|
| **Bootup** <br> **(Normal mode)** | **LEDs circle Blue 5 times.** <br><br> After finishing bootup, all LEDs flash Blue twice quickly. <br><br> Note: Bootup takes approx 10 seconds. |  |
| **Bootup** <br> **(Bootloader mode)** | **LEDs circle Red 2 times.** <br><br> After finishing bootup, All LEDs flash Red twice quickly. <br><br> If a unit is in bootloader mode, it requires a new firmware load. |  |
| **Factory Reset** <br> **(press & hold buttons 1 + 2 + 7 + 8 for five seconds)** | While holding 4 buttons, ALL LEDs flash Blue once per second. <br><br> After 5 seconds, ALL LEDs flash Blue 3 times quickly and you may now release the buttons. Keypad will automatically power cycle. |  |

(Continued on next page).

| Status | Description | Image |
|---|---|---|
| **Firmware Update** | While updating firmware, LEDs fill Blue & Red from the top to bottom quickly.<br><br>BLUE -> RED -> BLUE….<br><br>This LED display pattern repeats while firmware updates.<br><br><u>Note:</u> Web UI supports firmware update via IP only. KDMS Pro supports firmware update via USB and IP. |  |
| **Event Execute Failure** | When a button is pressed on a Keypad with project loaded, that button LED will blink Red twice if KD-WP8 cannot reach the controlled device.<br><br>The problem may be caused by an incorrect IP address or IP Port, or that the controlled device has disconnected from the network. |  |
| **Lock / Unlock Keypad** | When locking via 3 second key combo hold, all LEDs flash Red twice.<br><br>When unlocking via 3 second key combo hold, all LEDs flash Blue twice.<br><br>If the keypad is locked, and user is tries to press button for control, all LEDs flash Red twice to indicate the keypad is locked.<br><br><u>Note:</u> Use the lock function to protect from unauthorized usage, for example in a classroom. |  |
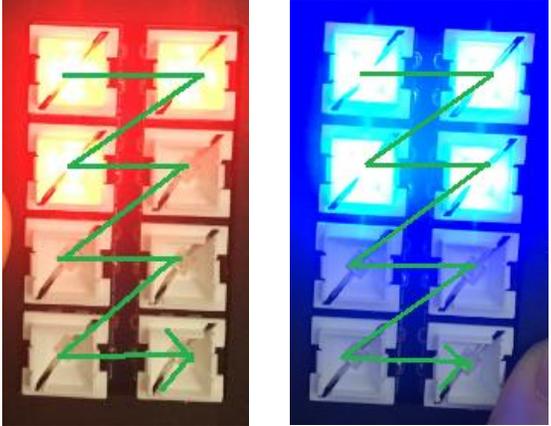
# TCP/IP Open API

- KD-WP8 open API may be used for two-way integration with professional control systems.
- **Default IP address is 192.168.1.239, with default port 23.**

**Notes:**

- o Carriage Return required at end of each string.
- o Commands are case-sensitive.
- o After a new command is received, a return message should be sent from KD-WP8.
- o KDWPxPR\r is the most commonly used command, executing the Press & Release events from a single command.
- o If Hold for Repeat or Hold for Send is selected, then KDWPxP\r and KDWPxR\r commands should be used.
- o KDWPxR\r must be received within 5 seconds following the KD-WPxP\r command otherwise the KD-WPxR\r event is automatically executed.
- o If KDWPxR\r is received without a preceding KDWPxP\r, the KDWPxR\r is not executed.
- o For Toggle button mode, use KDWPxP\r or KD-WPxPR\r. KDWPxR\r will be ignored.
- o x = 1 ~ 8, button number.

```
KWPING\r  : Ping to KD-WP8 (Command)

RWPING\r  : Response from WP8 for KWPING command(Ping).


KWPxP\r   : Button x Press (Command)

RWPxP\r   : Response from WP8 when Button x is Pressed.


KWPxR\r   : Button x Release (Command)

RWPxR\r   : Response from WP8 when Button x is Released.


KWPxPR\r  : Button x Press/Release Combo.

RWPxPR\r  : Response from WP8 for KWPxPR\r command.


KWPxLR\r  : Button x LED Red On (command)
```

```
RWPxLR\r   : Response from WP8 when the command sent.


KWPxLB\r   : Button x LED Blue On (command)

RWPxLB\r   : Response from WP8 when the command sent.


KWPxLF\r   : Button x LED Off (command)

RWPxLF\r   : Response from WP8 when the command sent.


RWPxH\r    : Response from WP8 while Button x is held (Hold must be enabled)
```

# Specifications

## Technical

- RJ45 Connectors: Shielded Link Connector, 1x LAN
- Unit Control: Bi-directional TCP/IP on RJ45, USB Micro

## General

- Regulation: CE, RoHS, WEEE, EAC
- Buttons: 8 blue/red backlight buttons with clear outer cap
- Wall plate: U.S. 1-gang wall plate in aluminum enclosure
- Decora plate: Brushed aluminum
- Product Dimensions: 4.13" x 1.93 x 1.21" (105 x 49 x 30.8 mm)
- Product Weight:  Weight: 0.5 lbs / 0.23kg
- Packaging Dimensions: 5.75" x 4.13" x 2.56" (146 x 105 x 65 mm)
- Packaging Weight: 1.5 lbs / 0.68kg

# Warranty Information

All Key Digital® products are built to high manufacturing standards and should provide years of trouble-free operation.  They are backed by a Key Digital Limited 3 Year Product Warranty Policy.
http://www.keydigital.com/warranty.htm

# Product Warnings & Safety Instructions

## ⚠ Important Product Warnings:

1. Connect all cables before providing power to the unit.

2. Test for proper operation before securing unit behind walls or in hard to access spaces.

3. If installing the unit into wall or mounting bracket into sheet-rock, provide proper screw support with bolts or sheet-rock anchors.

## ⚠ Safety Instructions:

**Please be sure to follow these instructions for safe operation of your unit.**

1. Read and follow all instructions.

2. Heed all warnings.

3. Do not use this device near water.

4. Clean only with dry cloth.

5. Install in accordance with the manufacturer's instructions.

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

7. Only use attachments/accessories specified by the manufacturer.

8. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way including:

   o Damage to the power supply or power plug

   o Exposure to rain or moisture

## ⚠ Power Supply Use:

**You MUST use the Power Supply provided with your unit or you VOID the Key Digital® Warranty and risk damage to your unit and associated equipment.**
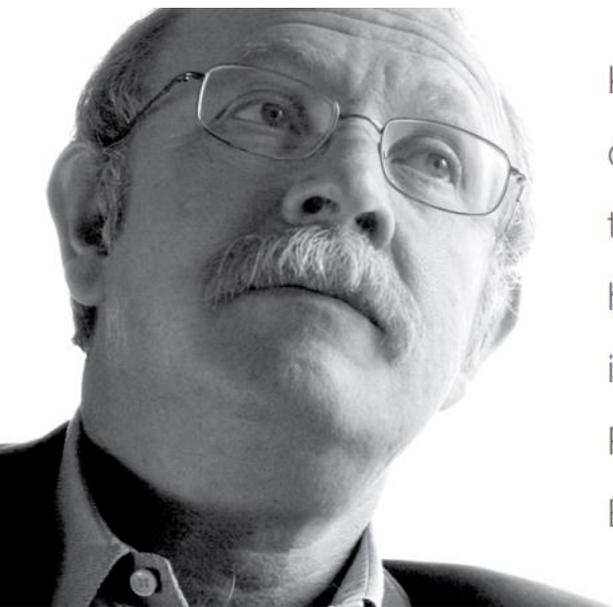
Key Digital®, led by digital video pioneer Mike Tsinberg, develops and manufactures high quality, cutting-edge technology solutions for virtually all applications where high-end video and control are important. Key Digital® is at the forefront of the video industry for Home Theater Retailers, Custom Installers, System Integrators, Broadcasters, Manufacturers, and Consumers.

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