

## HTV Emulator -Universal Installation Guide

### **Status summary:**

The HTV Emulator-Universal is a new Healthcare TV Emulator interface developed to be simple to use with standard consumer TVs in locations such as clinics and adult care facilities.

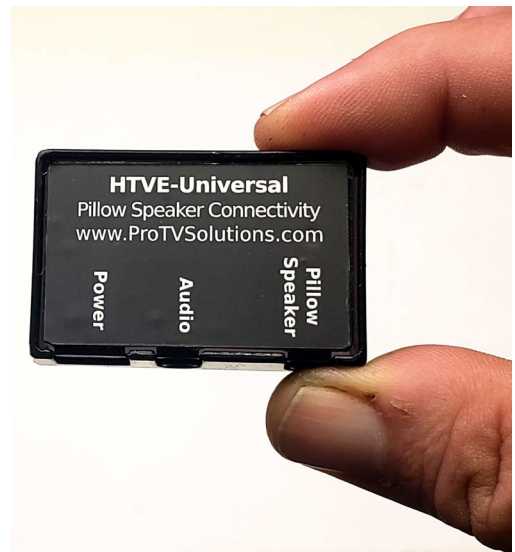
This interface uses IR remote control conversion to control the TV but differs from other solutions due to its compact design and simple installation.

The main requirement from the TV is that it supports “Headphone Audio output” this is a stereo audio with variable volume that is presented on the TV as a standard 3.5mm Jack.

However, TVs with digital optical audio may be used with the addition of a converter and properly setting the HTVE-U to handle the volume level internally

The HTV Emulator-Universal will accept most pillow speaker protocols including the Zennith, Philips, LG Pro:Centric, and Samsung protocols and convert the keys to match the signal the remote-control sends to the customer TV.

Currently we support LG, Samsung, Insignia, TCL, Hisense, and Onn, Consumer TVs.



### **Installation of the HTV Emulator-Universal device:**

The installation takes three simple steps.

#### **1. Unpackage**

Unpackage the components and place the packaging in a suitable refuse or recycling bin.

#### **2. Wire it up, the device has only three simple connections**

- USB connector - Used to power the device using the included USB plug in power supply. Alternatively, if your TV is able to leave its USB connector powered on, even when the TV is off, then you can get power from the TV.
- A Stereo cable is used to connect the audio between the device and the TV’s “Speaker OUT/Line Out” connector. This is typically marked as Headphone Jack, or Stereo Audio Out.

**Note: Some TVs do not have a Headphone jack but may have a Digital/optical audio output.**

**The HTVE-U may support the use of a Digital to Analog Converter but then it must be set to control the volume internally.**

**Standard Digital to Analog Converter devices may supply a low audio level, ProTVSolutions can supply units with modified Digital to analog converters that have a larger volume output.**

- A 3.5mm jack for the Pillow speaker. The pillow speaker connectivity normally comes from the Nurse call panel. We do not include this last cable, as it is dependent on the local installation. Popular connections are the ¼” stereo jack, 3.5mm stereo jack, the LG 6 Pin DIN jack, or an RJ12 Modular jack. We do offer most of these cables and adapters for purchase.

### 3. Setting the Remote-Control for the TV model.

After connecting power to the Emulator, the Internal LED will blink a number of times according to the setting it has:

TV Brand	Number of Blinks
Insignia, TCL, Onn, Hisense	1
LG, VIZIO, RCA (new)	2
Samsung	3
RCA (old)	4

To change the brand you want work with, use the TV's remote:

Connect power to the HTVE-U, wait for the LEDs to stop blinking, point the remote to the HTVE-U device and send the key "VOLUME UP", if the Emulator changes settings it will respond by blinking the number of times same as when power on. The interface may accept change of TV brand within 10 seconds after power up.

If the TV does not support headphone audio, and instead a Digital to Analog audio converter is used, then send the "VOLUME DOWN" key and then the HTVE-U will control the volume internally.

### 4. Mounting the HTV Emulator-Universal

**NOTE: please do not remove the adhesive tape protector until the final location is determined.**

- While pressing keys on the pillow speaker, (For example the Channel UP) try to position the device at the bottom of the TV, near the location where the Remote-Control IR sensor is located.

Typically, the sensor will be at the bottom of the TV near the center of the bezel. It might also be on either side of the bezel at the bottom. We recommend that you place the HTVE interface just to the **right** side, or just behind (In the back) the TV's sensor.

Please test what location works better.



- Once the location has been chosen, please make sure the TV is clean of dust, remove the cables from the HTVE-Universal and remove the adhesive protector sheet from the tape mounted on the back. The adhesive tape is high performance epoxy based and after a couple of hours will bond to the TV and be nearly impossible to remove.

**NOTE: once placed in a location, it can't be relocated, even if it done immediately, because the bonding will lose its properties. Please be careful in selecting a good location from the start.**

- Reconnect the power, audio and pillow speaker connections. Test that it all functions properly by using the pillow speaker to power off/on, change channels and increase/decrease volume on the TV.

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## Setting Insignia, TCL, Onn, Hisense TV Brands:

Models belonging to these brands share the same Remote-control protocol and the HTVE-U ships with this protocol as default.

When the HTVE is connected to power the internal LED will blink only one time, this indicates that the default protocol is in use.

If the LED blinks more than one time, then use the TV remote control and push the “VOLUME UP” button while pointing it to the HTVE-U box. The LED will blink one to indicate that it is now set for the Default protocol.

To confirm that the setting has taken place, disconnect and connect power and confirm that the LED only turns on once.

The TV does not require any special setups, and as soon as the Audio cable is connected to the TV’s Headphone output, the internal TV speaker will no longer sound in favor of the audio going to the Pillow speaker.

## Setting LG Hospitality TV brand:

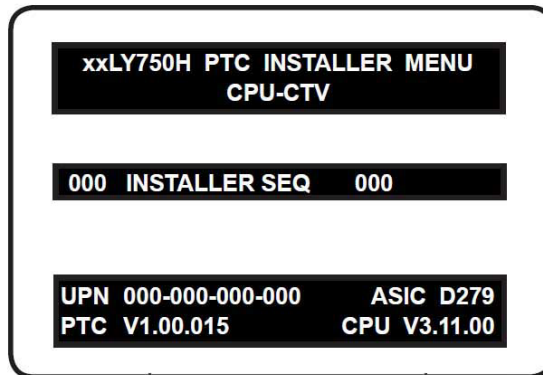
Once the HTVE-U device is connected to power, confirm that the LED blinks twice. If not, then use the TV’s remote and send the “VOLUME UP” command. That will set it to the proper protocol.

Many of the LG hospitality brands support the Headphone audio output. However, they need to be configured properly as they support other audio implementations over the same connector and not all of them will work with the HTVE-U.

To set the LG TV properly:

1. Enter the Factory setup menu:
  - Press the MENU button several times until it no longer seems to be operating
  - Press the sequence 9, 8,7,6, ENTER

The screen will show the Factory setup menu, that looks similar to:



- Search for Item 097- AUDIO OUTPUT.  
**NOTE: if item 097 does not exist, then maybe the model of LG TV does not support headphone output.**
- Change the value of item 097 to 8 as that will allow volume control of the audio output:
- Test the audio output to make sure that the sound comes from the pillow speaker and that volume can be controlled.  
**NOTE: If audio is coming from the TV speakers at the same time, then you may be able to mute the internal speakers using the normal sound menu form the TV.**

### 097 - AUDIO OUTPUT

Determines availability and signal type/level (fixed speaker, variable speaker, or fixed line level [amplifier]) of the audio output to be used by external audio equipment connected to the SPEAKER OUT / LINE OUT jack on the TV. Set to 0 to disable audio output. Otherwise, see the table below and set as required in accordance with audio equipment. See also Reference section, “External Stereo Speaker Specifications.”

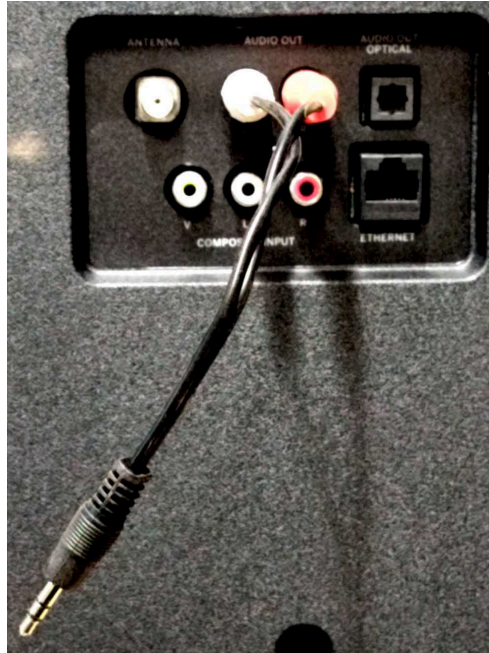
	Value	Status
Speaker Output	1	Fixed 0.01 Watts
	2	Fixed 0.03 Watts
	3	Fixed 0.05 Watts
	4	Fixed 0.10 Watts
	5	Fixed 0.20 Watts
	6	Fixed 0.50 Watts
	7	Fixed 1.00 Watt (default)
	8	Control with volume
Line Output	9	Fixed line level (typically 400 mVrms ± 100 mVrms @10KΩ) output

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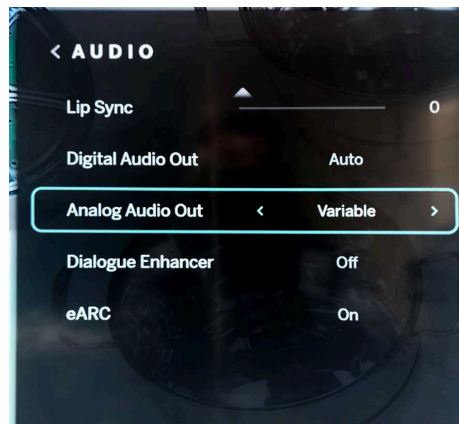
## Setting the VIZIO TV brand:

Once the HTVE-U device is connected to power, confirm that the LED blinks twice. If not, then use the TV's remote and send the "VOLUME UP" command. That will set it to the proper protocol.

Many of Vizio models support headphone audio output, but they may require a special adapter to convert RCA connection to 3.5mm TRS connectors:



Additionally it is necessary to setup the proper audio out output and set it to variable, is done with the normal TV menu:



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## **Setting the Samsung TV brand:**

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Once the HTVE-U device is connected to power, confirm that the LED blinks three times. If not, then use the TV's remote and send the "VOLUME UP" command. That will set it to the proper protocol.

Not all of the Samsung TV models support headphone audio output.

We recommend researching the model beforehand, to make sure that the HTVE-U can support it.

Else consider using a Digital to analog converter to provide audio to the HTVE-U.

## **Setting the Samsung RCA brand:**

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Once the HTVE-U device is connected to power, confirm that the LED blinks four times. If not, then use the TV's remote and send the "VOLUME UP" command. That will set it to the proper protocol.

If you need our help to confirm the support of a particular model, please contact us.

If you need us to add support for a different model, we would be happy to comply and add it to the library of supported models.

email us at: [info@ProTVSolutions.com](mailto:info@ProTVSolutions.com) , or phone 888 866 9981.

**If you are having any problems with the installation, you can view specific guides, videos and troubleshooting help on our website.**

**<https://www.protvsolutions.com/htv-emulator-universal-support.html>**