Horizon Remote Plugin for HomeSeer HS4 Manual

Introduction

Thank you for using the Horizon Remote Plugin plugin for HS4!

This is my first plugin for HS4 and my first released C# project. I have tested it thoroughly, but if you find bugs anyway, please let me know.

Requirements

To use this plugin, you will need the following:

- HomeSeer HS4. The plugin has only been tested on Windows, but there is no reason why it should not work on Linux.
- The Horizon media box with a subscription from your Liberty Global tv provider (Ziggo, Unity Media, UPC, Virgin Media, possibly Telenet). The box is a rebranded Samsung SMT-G7400 or SMT-G7401 (2013-2018). This plugin does not support the generation released after 2018.
- It has to be connected to the same Local Area Network (LAN) as your HomeSeer system.
- You will need to know its local IP (IPv4) address. It's useful if you can make sure the IP will not change in future, for instance by fixing it. See you router manual on how to do this. You should be able to find the correct IP address in the following menu on your Horizon:
  ⚙ Toolbox > LAN STATUS > IPv4 ADDRESS (**So <u>NOT</u> the IPv4 DEFAULT GATEWAY!**).
- You may need to change the energy setting of your Horizon box to the highest, otherwise the network connection may go to sleep.

Installation

1. Install and activate the plugin like any other plugin. If you're new to HS4, here is how:
   - Go to your HomeSeer *Web Control page*.
   - Use the *Plugin* dropdown and choose *Add*.
   - Use the (2nd) Search bar, or scroll to *Horizon Remote Plugin.*
   - Choose *Install*.
   - In *Plugins* > *Installed* use the toggle to turn on the plugin.

2. Configure:
   - Go to *Plugins* > *Horizon Remote Plugin* > *Settings*.
   - There is only one setting, for the IPv4 IP address of your Horizon. Please note that this is usually the second IP address of the 20(!) that the Horizon will claim.
   - Click *Save*. This may take a few seconds. The plugin will check if you used the correct IP address. If so, the device(s) will be created. One is the root device, the other is the feature device with all remote buttons.
   - If this doesn't seem to work, check *Tools* > *Log*. There are several reasons why it could have failed:
     - You made a typo and ended up with an invalid IPv4 address.
     - You used the wrong IP address. If the plugin suspects you used the first IP instead it will tell you.
     - Also, if you picked the correct IP address, the log will tell you what model was detected.

3. Feel free to rearrange or remove buttons if you need to. The plugin should keep working. However buttons may be recreated when updating (for example to add new keys).

4. Go back to Devices and push some buttons to check it's working!
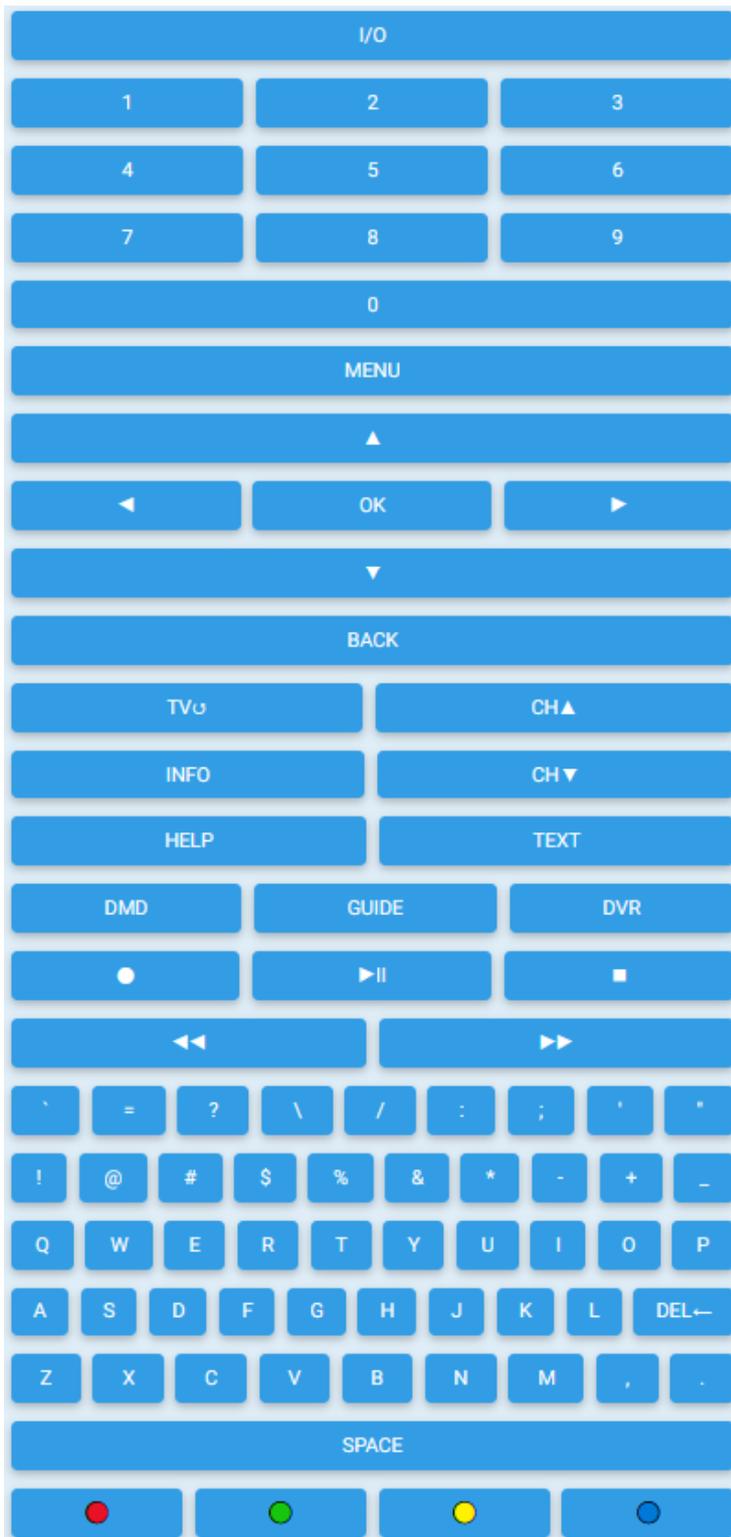
The default buttons at the Controls feature device

Missing Key

Unfortunately there is 1 key missing, namely the CAPS key. I have not been able to find it. I have tried several logical values, based on all kinds of information found on the internet (Github projects, X11 keysymdef.h, gaps between existing keys. I don't think you really need the key. If you need lowercase characters, please see section *Extra Keys*. But if you do find it, please let me know.

TV Keys

If you're missing buttons for TV Power, Source, Volume Up, Volume Down and Mute that are on the paired remote control.. That's right! Those are not communicating with your Horizon box, but with your tv (if you set it up). Consider to use, for example, the (legacy) MediaController plugin by dcorsus.

While searching for keys, however, I did find keycodes for these buttons (See Extra Keys). They did not work for me, but I could imagine the box sends the command to your remote control, which send it to your tv via IR. This could not be tested because my Horizon box is behind a double brick wall (remote uses RF). This source was correct about other keys - like the colored buttons for Text. If you find a way to make it work, please let me know how.

Extra Keys

When the feature device with the remote control buttons is created, as much useful keys as possible are created. Some have been left out, because there are many buttons already and more would basically just use space on your Devices screen. Available apps may differ for Horizon boxes in other countries. During testing a (Dutch) Ziggo version of the Horizon box was used. For use in these apps (Search, Wikipedia, Vimeo, Dailymotion) the generated buttons were enough. I did not see the use for, for example lowercase a-z, for example. It's not like there is an app for email or text editing.

Then there are some keys that provide extra functions, which not everyone will need. And some keys just did not seem to do anything, even though corresponding characters were available in the on screen keyboards in the apps.

If you want to add these keys, here is a table you can use to manually add extra keys as *Single Values* to the Controls feature device.

Key	Value	Remark
(	40	[1] [2]
)	41	[1]
A	97	[1]
B	98	[1]
…		
Z	122	[1]
€	128	[1] [2]
£	163	[1] [2]
Ä	196	[1] [2]
Ö	214	[1]
Ü	220	[1]
ß	223	[1] [2] Use capital in Status, because lowercase ß will show as ss in devices
TIMESHIFT	61190	Info on timeshift
TESTMENU	61206	Brings up a test menu with several options
RC	61207	Shows ID table of paired remotes
STB	61208	Shows number of set-top boxes
VOLUP	57347	Volume up, did not work for me
VOLDOWN	57348	Volume down, did not work for me
MUTE	57349	Mute, did not work for me
SOURCE	57360	Source select, did not work for me
PAUSE2	58369	Did not work for me
SKY	61185	Did not work for me
SEARCH	61187	Brings me to channel 401 (Ziggo Sport), so might be different in countries

[1] Value is just a (decimal) ASCII value
[2] Did not do anything in apps during testing, let me know if it's different for you

Alternative Keys

On several (GitHub) pages I found keycodes. And I found some myself. The following keycodes seem to work, but do the same as other keys. Use any of these if a default button is not working. Or see if they do something different on your box (And let me know!).

Key	Value	Remark
MENU1	57361	Seems to do exactly the same as 57354
MENU2	57365	Seems to do exactly the same as 57354
PLAYPAUSE2	58378	Seems to do exactly the same as 61184
Enter	65293	Seems to do the same as OK
POWER2	61205	Seems to do exactly the same as 57344

Use Cases

Just a few ideas for you, to get you started:

- A HsTouch remote on your tablet. Hide your box behind the tv (wall)!
- Pause your box when your doorbell rings.
- Automatically turn your box on when your tv is turned on.
- Create sample presets, so you don't have to remember which channel is behind which favorite (See below). **TIP**: Always use all 3 digits. Your box will go to a channel much faster (otherwise it will wait to see if you're going to press more digits). So add leading zeroes to your number, for example 9 becomes 009 and 12 becomes 012.
- Create macros for menu items you use frequently, or a search you use regularly to check if there are new episodes available for a certain series. See the ridiculous example below (Usually you only need a few characters to find something..).
- Etc.

Presets & Macros

The plugin does not support macros by default, but you can use a virtual device and events to make this possible (or if you can write scripts you could probably break strings into separate commands).

Note: As you may know, the box can be slow sometimes. Different apps/menus may need different timing to work. See the delays in the example.

Examples

- Create a virtual device (from the *Devices* page **+** in the right top corner)
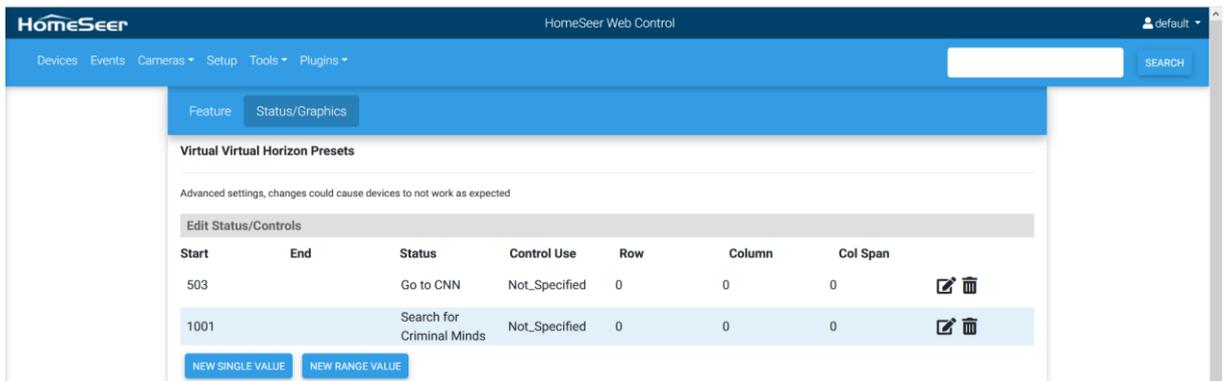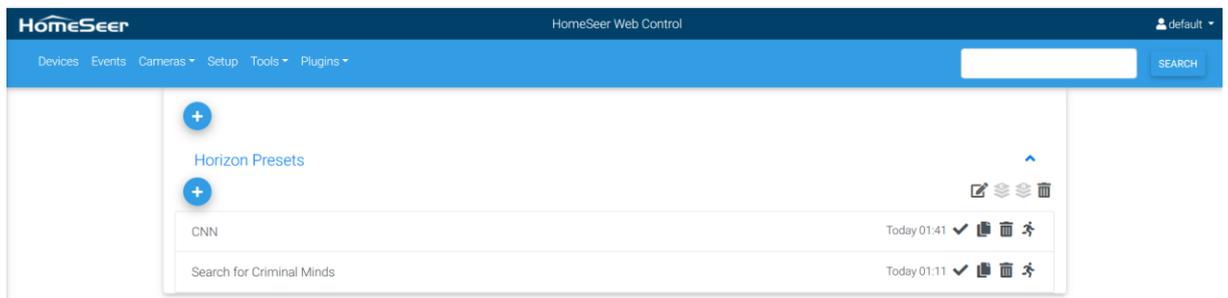

Example virtual device settings

- In the Status/Controls section of the virtual device create one or more buttons with *New Single Value*. Edit and use a unique Start V*alue*, name the button at *Status. Control Use* can be *Not_Specified. Save each button.*

- If you would go back to the *Devices* page you should see the created virtual device.

Created virtual device.

- Now create the events. In this example I created 2. The first for a channel preset (non-favorite in this case, so be aware that you should go back!)

Example 1: channel preset

IF
- For the trigger, use *A Devices's Value is…*
- Trigger type: This Device Had its Value Set to…
- Device: your virtual device
- Feature: Your virtual feature device
- Trigger Value: The value/name of the button you want to create here.

THEN
- Action: Control a Device
- Add Device: Plugin-HorizonRemotePlugin-Horizon Remote Plugin (the root device)
- Device Feature: Controls
- Set Control: Pick a button
Repeat until all (3) digits are done.
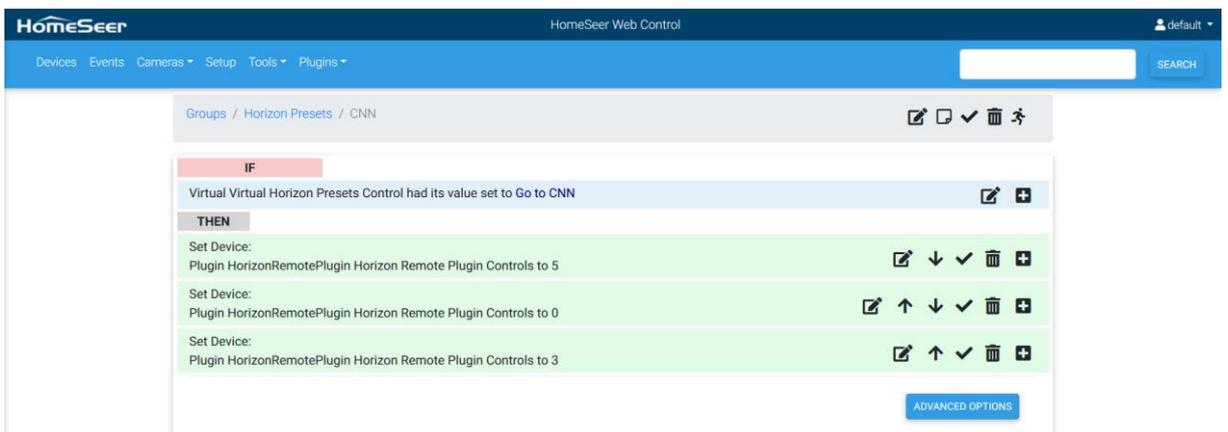
Example 1: channel preset

Note that while choosing channels you seem to get away with not using delays.

Example 2: a ridiculous search macro

The basics are the same, but you may have to add a delays between each command to compensate for the slow menus:

Example 2: ridiculous search macro

Support

If you have a question or want to report a bug, please use the dedicated sub-forum on
https://forums.homeseer.com/

Changelog

Version	Remark
1.0.0.0	Initial release

Credits

This plugin could only exist because others had already done the reverse engineering. There are many forks on GitHub, for different (home automation) platforms. But the one that seems to have been first and who figured out to use VNC (RFB protocol, port 5900) and most keys seems to be Rob Groenendijk.(https://github.com/rogro82/HorizonRemote). Others usually only implemented keys that you will find on the front of your original remote control and they don't seem to implement the RFB protocol correctly.