



# HCA Tech Note 709

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## HCA and Blink cameras (updated 6-Jan-23)

**Warning:** This is a complex application note that involves work in HCA, Hubitat, and Alexa. The Hubitat and Alexa apps are not in our control so what is written here may not appear exactly as shown or may operate differently if the apps change. While the instruction steps and screen images may not match exactly, the ideas should be the same. If it looks different that what you see here, you should be able to figure it out.

In this doc, when a section starts with [**Alexa**] it means to work in the Alexa app. [**HCA**] means to work with HCA. [**Hubitat**] means to work in the Hubitat interface via a browser.

The goal is to do two things:

1. Have an HCA program arm and disarm a Blink camera system.
2. Have HCA receive reports from the Blink camera system upon motion detection.

These goals are accomplished by using HCA, Hubitat, and Alexa.

Before you begin, have the Blink system installed and working with the Blink app. Then complete all the steps to have Alexa connected to Blink. This is described on the Blink website:

<https://support.blinkforhome.com/setup-guide-alexa>

When done you should be able to Arm the system from Alexa. The Blink website instructions may say that Alexa can't disarm the system, but don't believe them.

**Note:** Blink cameras all talk to what Blink calls the "Sync Module". What HCA and Alexa can do is to put the system into "Armed" or "Disarmed" mode. When armed it reports motion detection events through the Blink app and, when connected to Alexa, announced by Alexa. All the cameras form one system so when you "arm" or "disarm" you are arming the whole system and not just a single camera. When you install your Blink cameras and the Sync module you give a name to the whole system. The example system in the technical note is called "Middle Station". Yours, of course, will be different.

### [**Alexa**]

In the Alexa app, select "Devices" from the menu and then "All Devices". Find the Blink system by its name in the "all devices" list and then tap on it to open. You are looking for the name of the system and NOT the individual camera names. In the page for that system, in the "About" section is a way to enable "Disarm by voice". It requires you to create a 4-digit pin. For the example system in this technical note, the pin is 1-2-3-4.

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# HCA Tech Note 709

The Alexa app will ask you to enter it twice. There may be some warnings about doing this, but you need to allow it.

**Note:** The Alexa app is very inconsistent about changes that require a “save” action or not. Sometime there is an obvious “Save” or “Update” button and other times not. In this case it didn’t ask for a save. Return to the device list with a tap on the “return arrow” icon.

[HCA]

In HCA create a program called “Blink Camera Connector”. In the first step of the new program wizard, use the option to create the program that acts as a non-dim device.

New program Wizard - Step 1

Please provide a name for this program. The name you enter identifies it in your home design. For example you might use Get Me Up!, Dinner Time, etc.

Blink Camera Connector

Design Folder  
Folder: House

Program Use  
Program that acts as a Non-Dim Device

Add to the created program Generic ON and OFF triggers.

"House - Blink Camera Connector" Properties

Name Notes Triggers Visual Programmer Advanced Options Restart Icon

Start the program on any of these triggers:

Trigger	Edit	Delete	(Action)
Generic Trigger: Started by OFF	Edit	Delete	("")
Generic Trigger: Started by ON	Edit	Delete	("")


After the program is created, give it a friendly name of “Blink Camera Connector”.

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# HCA Tech Note 709


Name	Notes	Triggers	Visual Programmer	Advanced Options	Restart	Icon	Display	Log	Sch
	Please provide a name for this program. The name you enter identifies it in your home design. For example you might use Get Me Up!, Dinner Time, etc.								
<input type="text" value="Blink Camera Connector"/>									
<input checked="" type="checkbox"/> Available to external assistants with friendly name: <input type="text" value="Blink Camera Connector"/>									


## [Hubitat]


In the Hubitat app, use the HCA app to “Get devices from HCA Server”. This is all described in HCA technical note # 703, and refer to it if you need.


 **Hubitat**  
ELEVATE YOUR ENVIRONMENT


**HCA App**

 Rooms

 Devices

 Dashboards

 Apps

 Settings

HCA Server IP Address\*  
192.168.0.244

☒ Enable debug logging

☒ Get Devices From HCA Server

Don't forget to use the "Done" button on the page – lower right - to start the process.

This creates a Hubitat device named "Blink Camera Connector"

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# HCA Tech Note 709

Locate “Blink Camera Connector” in the Hubitat devices list and click on its name to open its properties. In the “Device Information” section change its type to “Virtual Contact Sensor”. There is a dropdown for this.

## Device Information

Device Name \*

House - Blink Camera Connector

Device Network Id \*

HCA\_11390

Device Label

Blink Camera Connector

Type \*

Virtual Contact Sensor



**Note:** Do not forget to use the “Save Device” button on the page to commit that change!

In the list of Hubitat Apps open the Amazon Echo Skill. Click on the grey box to open the list of Hubitat devices exposed to Alexa. Find the “Blink Camera Connector”, and make sure its adjacent checkbox is ticked. Then press the “Update” button to commit that and then the “Done” button to finish with the Alexa skill. Alexa usually auto discovers this new device. Sometimes it announces it and sometimes not.

Next there is a change to be made to the HCA App. Select from the Hubitat menu “Apps Code” – it is under “Developer Tools” and click on “HCA App”. Scroll down to the end and you are looking for “ProcessStateUpdate”.

You want to add the yellow highlighted lines shown below. **Type or cut and paste carefully to get it all correct. Every character and upper and lower case is important.**

After making the changes, press the “Save” button and then return back to the list of devices.



# HCA Tech Note 709

```
void ProcessStateUpdate(Integer id, Integer level, Integer supportsDim)
{
    if (logEnable) log.debug "In ProcessStateUpdate ${id} ${level} ${supportsDim}";

    dev = getChildDevice("HCA_${id}")
    if (dev != NULL)
    {
        if (logEnable) log.debug "Process state update found device";
        if (level == 0)
        {
            dev.sendEvent(name: "switch", value: "off", isStateChange: true);

            if (dev.hasAttribute("contact"))
            {
                dev.sendEvent(name: "contact", value: "open", isStateChange: true);
            }
        }
        else
        {
            dev.sendEvent(name: "switch", value: "on", isStateChange: true);

            if (dev.hasAttribute("contact"))
            {
                dev.sendEvent(name: "contact", value: "closed", isStateChange: true);
            }
        }

        if (supportsDim)
        {
            dev.sendEvent(name: "level", value: level, isStateChange: true);
        }
    }
}
```

## [Alexa]

Open the Alexa app. Check in the devices list that it now knows about the “Blink Camera Connector” device. If you can’t find it, try telling Alexa to discover devices. Next, from the “More” menu tap on “Routines”.

There is a “plus sign” icon to start a routine creation. Tap on that.

A routine has three parts: A name, a “When this happens” section, and an “Add action” section. Tap the plus sign icon on the “Enter routine name” section and name the routine “HCA Blink Arm”. Use the “Next” link at the top of the page to commit this step, and it returns to the main create routine page.



# HCA Tech Note 709

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Tap on the plus sign icon in the “When this happens” section. A new page opens. Tap on “Smart Home” and a new page opens. You should see “Blink Camera Connector” in the “Choose device” page. Tap on that and a new page opens.

In the “Blink camera connector” page make sure the “Close” option button is enabled. Commit this with the “Next” link and this returns you to the main “New Routine” page.

Tap on the plus sign icon in the “Add Action” section. A new page opens. Tap on “Smart Home”. A new page opens. Tap on “Security panels” and a new page opens. You should see listed in the “Security panels” page the name of your Blink system. Tap on it and a new page opens. You may get a “Receive notifications from Alexa routines” page. I used Skip. A new page opens. This page has a “Select” and then “Arm Away”. Tap on “Arm Away” and you get two choices “Arm Away” and “Arm Stay”. Since my cameras are all outside, I used “Arm Away”. Tap on the “Next” link to commit this.

You should now be back to the “New Routine Page” and it should look like the image below. The key pieces are highlighted in the red boxes.



# HCA Tech Note 709

3:44 [status icons] 74%

Cancel NEW ROUTINE Save

NAME

HCA Blink arm Change

WHEN

Blink Camera Connector closes

Anytime Change

ALEXA WILL

Add action +

– Middle Station Arm Away =

Home Communicate Play Devices More

Use the “Save” button to complete this routine.

The next step is to create a second routine called “HCA Blink Disarm”. Start the routine creation in the same manner as before. On the “When this happens” step you again choose the “Blink Camera Connector” device but this time for the “Open” option.

The “Add action” section is done differently. Instead of choosing “Smart Home” choose “Custom”.

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# HCA Tech Note 709

What you will type is the word “disarm” followed by the name of your blink system followed by your PIN spelled out. The example system is called “Middle Station” and the PIN is 1-2-3-4. So I would type this text:

Disarm middle station one two three four

Commit this with the “Next” link. The Alexa app may whine about the fact that you are putting a PIN code into a routine and ask you to confirm you know what you are doing. Do so. You are returned to the main routine creation page. It should look like this - key sections highlighted in red.

The screenshot shows the 'NEW ROUTINE' screen in the Alexa app. The 'NAME' field is highlighted with a red box and contains the text 'HCA Blink disarm'. The 'WHEN' field is also highlighted with a red box and contains the text 'Blink Camera Connector opens'. Below this, the 'ALEXA WILL' section has an action added, highlighted with a red box: 'Alexa, disarm middle station one two three four'. The 'FROM' section is labeled 'Choose Device'. The 'Save' link is in the top right corner. The bottom navigation bar shows icons for Home, Communicate, Play, Devices, and More.

Now save the routine with the “Save” link.

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# HCA Tech Note 709

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## [Hubitat]

Find in the Hubitat devices list the “Blink Camera Connector” and click on the name to open its properties.

Click on the big “Open” and “Close” buttons at the top to test.

Pressing the “Open” button causes the Blink system to disarm. Pressing the “Close” button causes the system to arm.

**Note:** Don’t click too fast. It may take a bit for it to happen as Hubitat communicates the state change to the Hubitat cloud and then on to the Alexa cloud. Alexa then runs the routine and communicates to the Blink cloud.

You can use the Blink app to monitor the armed or disarmed state which is shown on its main page. Sometimes the app auto updates and sometimes not. You can do the “swipe down” in the Blink app to cause the page to update. Arm and Disarm should happen as you control the Blink Camera Connector device in Hubitat. If it doesn’t then check all the previous steps.

## [HCA]

In HCA, locate the “Blink Camera Connector” program, right-click and select “ON”. This should arm the blink system. Select “OFF” from the popup menu and it should cause the Blink system to disarm.

OFF = Blink Camera Connector OPEN = Disarm

ON = Blink Camera Connector CLOSED = Arm

## Final note on arm and disarm

Now that you have a program that can arm and disarm the Blink system, you can add other triggers to it. For example, suppose you wanted to use a zwave keypad with a button for arm and a button for disarm. You can provide those button presses as triggers.

**Note:** Zwave keypads don’t work like UPB or Insteon keypads. They work by changing tag values in the HCA device that represents the keypad. Programs trigger on those button presses using “Tag Change” triggers. If you are unfamiliar with this, there is HCA technical note #710 describes this.

Suppose you did use a keypad in such a manner. This would be the flow of messages when a keypad button is pressed:

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# HCA Tech Note 709

---

1. Hubitat receives the ZWave signal from the keypad.
2. Hubitat sends a state update to HCA for the keypad.
3. HCA triggers the Blink Camera Connector program via a state-change trigger.
4. The program updates its state which causes HCA to send to Hubitat a state update.
5. Hubitat sends the state update to Alexa,
6. Alexa triggers its routine and sends a message to the Blink cloud to carry out the action.



# HCA Tech Note 709

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## Causing HCA to receive motion messages from the Blink camera system

### [HCA]

The first step is to create a program called “Blink Camera Motion”. Use the “Program that acts as a non-dim device” option in step 1 of the new program wizard. Give it a friendly name of “Blink Camera Motion”.

### [Hubitat]

In the Hubitat app, use the HCA app to “Get devices from HCA Server”. This creates a virtual device in Hubitat named “Blink Camera Motion”.

In the list of Hubitat Apps, open the Amazon Echo Skill. Click on the grey box to open the list of Hubitat devices exposed to Alexa. Find the “Blink Camera Motion”, and make sure its adjacent checkbox is ticked. Then press the “Update” button to commit that and then the “Done” button to finish with the Alexa skill. Alexa usually auto discovers this new device. Sometimes it announces it and sometimes not.

### [Alexa]

Open the Alexa app. Check in the Devices list that it now knows about the “Blink Camera Motion” device. If you can’t find it, try telling Alexa to discover devices. Next, from the “More” menu tap on “Routines”.

There is a “plus sign” icon to start a routine creation. Use that to start a new Routine.

A routine has three parts: A name, a “When this happens” section, and a “Add action” section. Tap the plus sign icon in the “Enter routine name” section and name the routine “HCA Blink Motion”. Use the “Next” link at the top of the page to commit that, and it returns to the main create routine page.

Tap on the plus sign icon in the “When this happens” section. A new page opens. Tap on “Smart Home” and a new page opens. You should see your Camera(s) listed. Find the one you want and tap on it and a new page opens.

The next page has a section “When Motion is...”. Choose “Detected” and tap on the “Next” link at the top of the page.

In the “Add Action” section, tap on “Smart Home”. A new page opens. Tap on “Lights” and a new page opens. Find “Blink Camera motion” and tap on it. The Alexa app puts a checkmark next to it. Finish by tapping on the “Next” link at the top. A page opens for the device with options of “power” and “power level”. Choose “Power” and the “On”. Finish by tapping on the “Next” link at the top. This returns to the main routine creation page to save the Alexa routine.



# HCA Tech Note 709

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## How does this work?

When the Blink system is armed and the selected camera sees motion, Alexa will “turn on” the “Blink Camera motion” device which is managed by Hubitat. Hubitat reports that state change to HCA. You can create a program that responds to the motion report in whatever manner you want by triggering on the state change of the “Blink Camera Motion” program.

## More than one camera?

If you have more than one camera and you want to know which is which then you need to create more HCA devices: “Blink Driveway Camera Motion”, “Blink Patio Camera Motion”, “Blink North Camera Motion”, etc.

Then bring these all into Hubitat as described above and then create multiple Alexa routines: One for each camera.

## Some additional ideas

While this note is about Blink cameras, it uses a general technique that may come in handy when applied to other device types.

The goal is to have HCA become aware of an action by a device that Alexa manages. Whatever that device is, it can do “things” – change state, create an event, or whatever – and because of that it is possible to create an Alexa routine where the “When this happens” is for when that “something” that device does.

IF you can create an Alexa routine where the “when this happens” of the routine is for something that device does, then you can have Alexa respond by the “action” of the routine. That response action could be to control a device. If that device is managed by Hubitat then Hubitat gets told to control the device. Because it is an HCA virtual device then Hubitat tells HCA to control it. Whatever it was that started this chain of events that caused the Alexa routine to start, eventually gets all the way to HCA. And once HCA knows about it you can do anything that HCA can do – messages, control of other devices, start programs, etc.

Another idea to go the opposite direction: To have HCA initiate something that causes Alexa to do something. Maybe there is a device type you want to use that Alexa supports, but HCA and Hubitat do not. The idea is to get Alexa to run a routine that, as part of the routine’s “action”, operates the device.



# HCA Tech Note 709

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This method starts by changing the state of a device in HCA. HCA tells Hubitat that the device has changed state. Hubitat tells Alexa that it has changed state. And that change in state is the “when this happens” in the Alexa routine. The “action” of the routine controls that Alexa managed device.

Now I must interject here: Alexa doesn’t have nearly the range of “triggers” (to use the HCA term) that HCA has. In this note I had to change the type of the HCA Virtual device in Hubitat to “Virtual Contact Sensor” because that was the only way that Alexa would allow me to use it in a “When this happens” trigger.

Using this technique, you can have HCA control a device – supported by Alexa but not directly by HCA or Hubitat - from a HCA program or schedule.

Complex stuff perhaps, but if you can understand the general concept, it does make many things possible.

##end##