HCA and Blink cameras (updated 4-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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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.

Add to the created program Generic ON and OFF triggers.

After the program is created, give it a friendly name of "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.
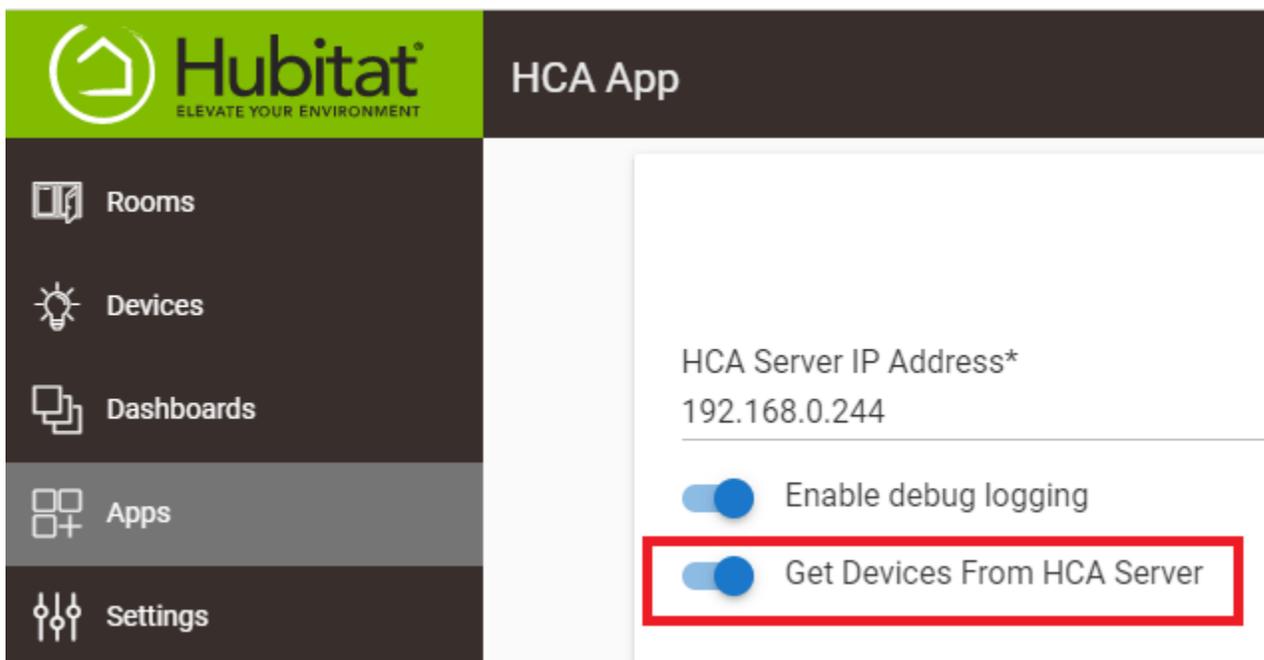
Don't forget to use the" Done" button on the page – lower right - to start the process.

This creates a Hubitat device named "Blink Camera Connector"

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 *	Device Network Id *
House - Blick Camera Connector	HCA_11390

Device Label	Type *
Blink Camera Connector	Virtual Contact Sensor
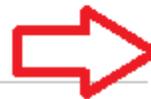
Note: Do not forget to use the "Save Device" button on the page to commit that change!

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.

```
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.

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.
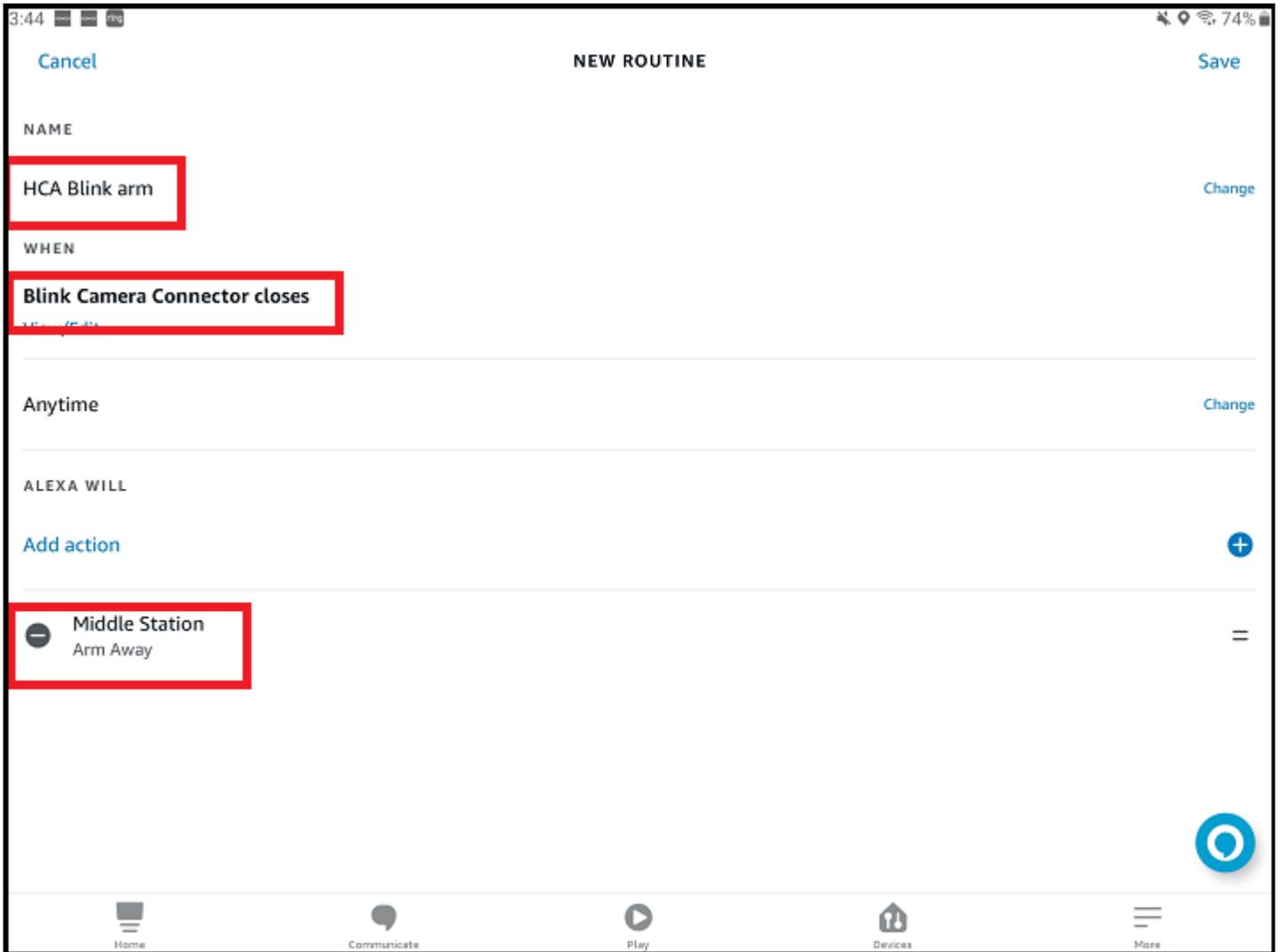
Use the "Save" button to complete this routine.

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".

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.

Now save the routine with the "Save" link.

[**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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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.

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.

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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 Camara 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 device can do "things" – change state, create an event, or whatever – so you can create an Alexa routine where the "When this happens" is for when that "something" occurs.

If you can create an Alexa routine where the "when this happens" is what you want, then you can have Alexa do something when that happens. That something could be to control a device. And if that device is managed by Hubitat, then Hubitat gets told to control the device, and because it is an HCA device, HCA gets told to control it. So, whatever it was that started this chain of events that caused the Alexa routine to start, eventually gets all the way to HCA.

Another idea to go the opposite direction: To have HCA initiate something that causes Alexa to do something else – perhaps control a device type that Alexa supports but HCA and Hubitat do not. As in this tech note for the camera arm/disarm, in effect I'm having HCA – via Hubitat – tell Alexa to run its routine. There is a virtual contact sensor in Hubitat that is exposed to Alexa so Alexa can use it as a "when this happens".

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HCA Tech Note 709

(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 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 program or schedule by using this "virtual contact sensor" method.

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

##end##