

HCA Tech Note 221: Integrating the Insteon Hub and the SmartHome App with HCA.

The Insteon Hub and the SmartHome app that runs on mobile devices can be used in an HCA installation and its control of your Insteon network causes no problems for HCA as the two don't conflict. However if you want HCA to be kept up to date with the status of Insteon devices that you control with the SmartHome app, then a few techniques must be used.

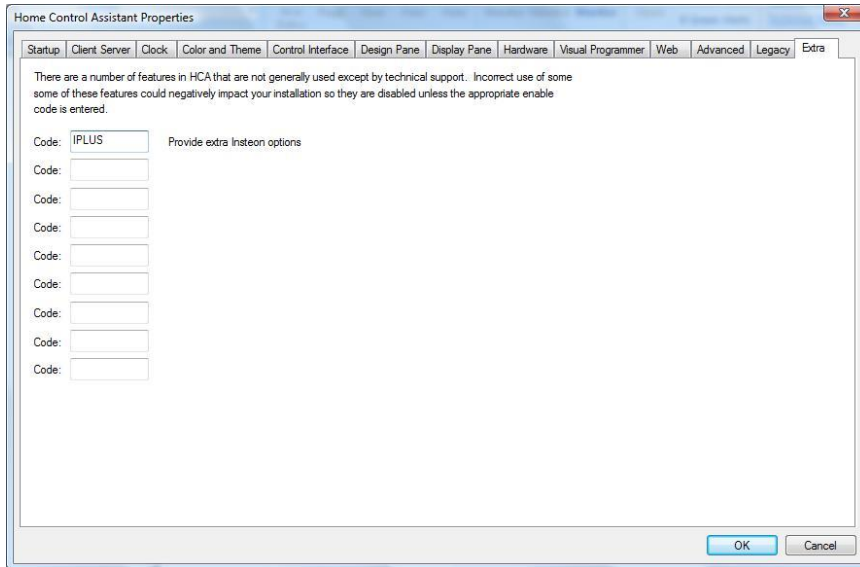
Before showing how this is done, two features of how Insteon works must first be explained to better make sense of why things must be configured as explained in this technical note. When SmartHome created the Insteon protocol they incorporated some "security" features that can make it difficult to achieve what we want.

Issue 1: The PowerLinc does not pass messages to the computer from any source not in its linking table. This means that when the Hub sends a message, that source address in the message is the Hub's Insteon address. While the PowerLinc sees all messages on the power line, it doesn't pass messages to the computer unless the message source address is in its linking table.

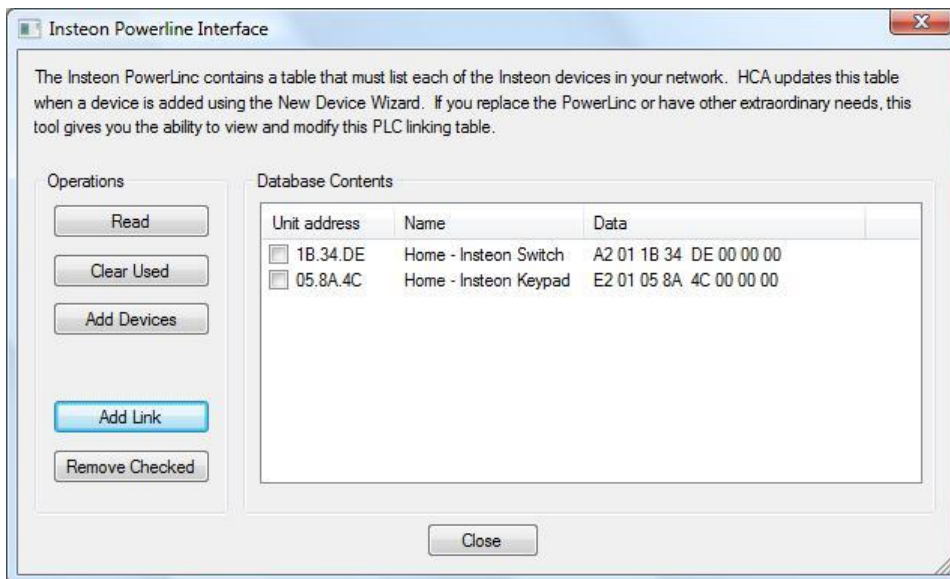
Issue 2: The PowerLinc does not pass messages to the computer that are sent direct to an address that isn't the PowerLinc address. This means that if the Hub sends to device "a.b.c" the PowerLinc sees that message but doesn't pass it on to the computer. However if the hub sends a scene activation or deactivation – a message not directed to a specific device – then that message is received by the PowerLinc and is passed to the computer.

Both of these issues must be – if not circumscribed - at least managed to achieve the actions we want.

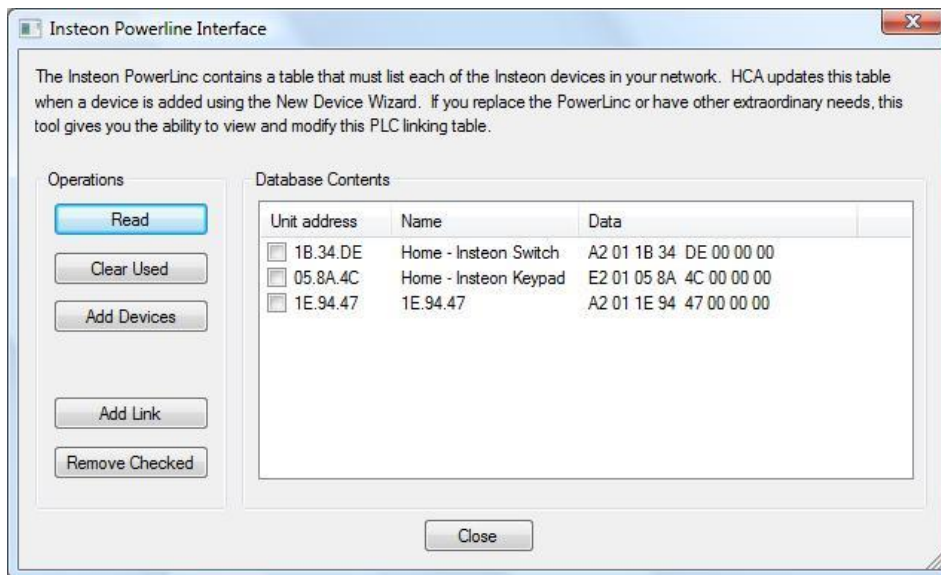
The first step is to add the Hub address into the PowerLinc's linking table. HCA can do this for you. First, open the HCA Options dialog and on the "Extra" tab add the code "IPLUS" and close the dialog with OK when done. This enables some extra HCA features needed.



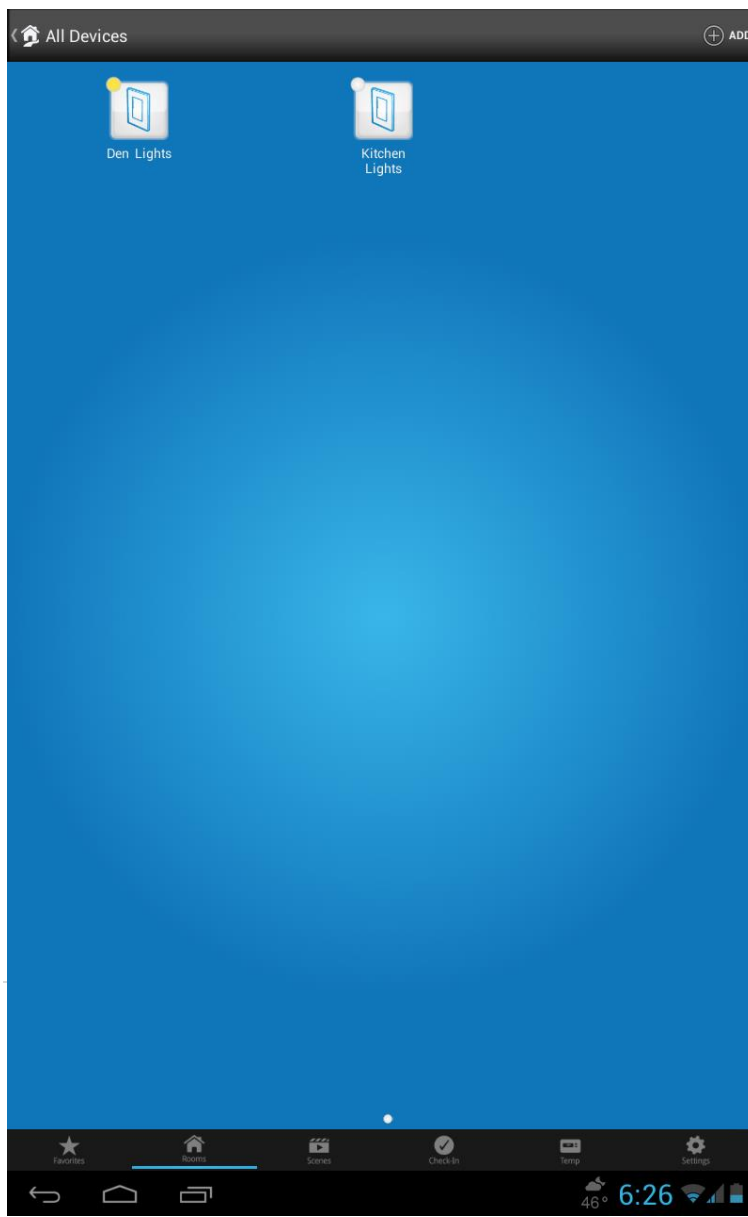
Select from the dropdown menu on the Insteon interface – in the Interfaces category - “PLC Utilities” menu choice. The PLC Utilities dialog opens. Press the *Read* button to read the linking table from the PowerLinc.



For the next step you must know the Insteon address of the Hub. On the bottom of the Hub is a sticker with the address. For this example, the hub address is 1E.94.47. Press the *Add Link* button and enter that address into the popup dialog then close the dialog with OK. That address is then added to the PowerLinc’s linking table. Confirm this by performing the *Read* operation again.



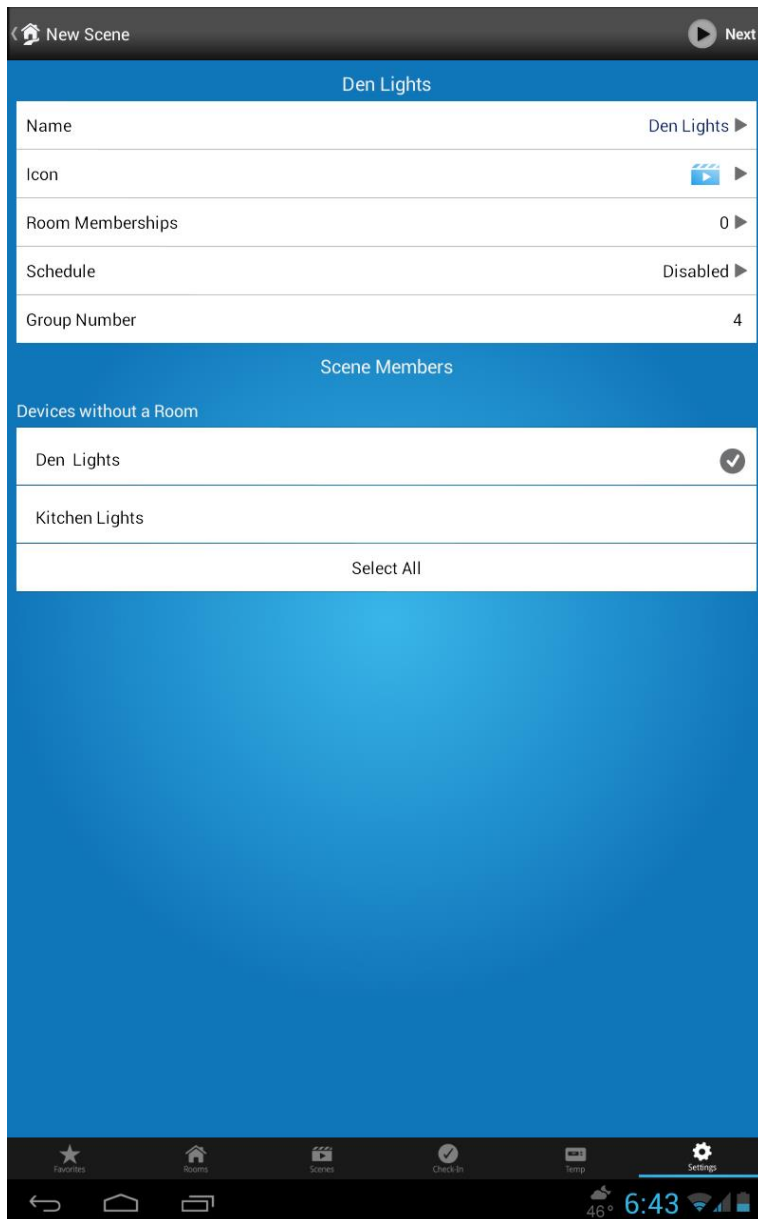
For the next steps will be working with the SmartHome Insteon app. If you are reading this technical note, the assumption is that you are familiar with the basic operation of that software.



Here is the *All Devices* view in the SmartHome app running on an Android tablet. There are two devices “Den Lights” and “Kitchen Lights” that were previously added.

If using the app these devices were controlled by just tapping on them, the SmartHome app would communicate with the Hub to send a direct message to the device. While the device would turn on or off, no message from the PowerLinc would be received and passed on to the computer - explained above as “Issue 2”.

The next step is to create scenes that can be used to control these devices so the messages sent direct to the devices – and aren’t passed to HCA - are avoided.

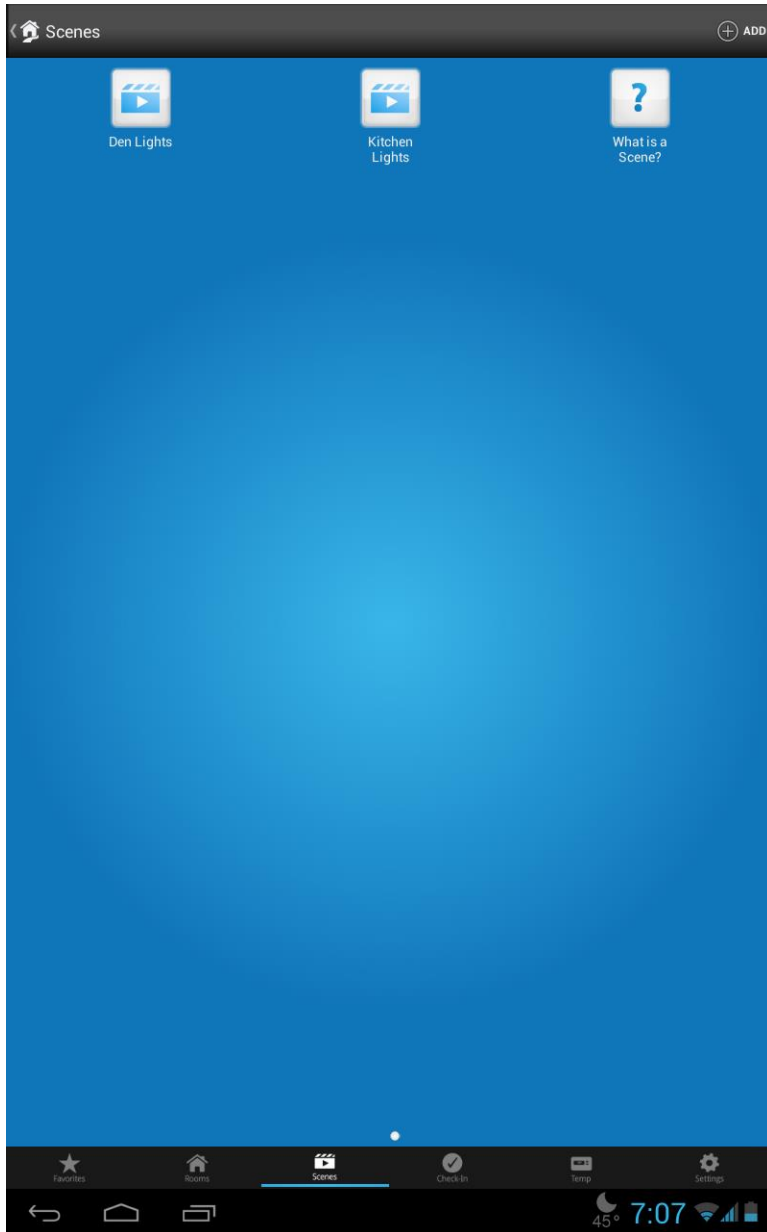


In the SmartHome app, go to the Scenes view and press the *Add* button. A new two step scene creation wizard begins. In the first step give the new scene a name, for this example since this scene is going to be used to control the “Den Lights”, it is named “Den Lights”. Also select the “Den Lights” device as the member of the scene.

On the next step of the Scene creation, the Den Lights is a “Responder”.

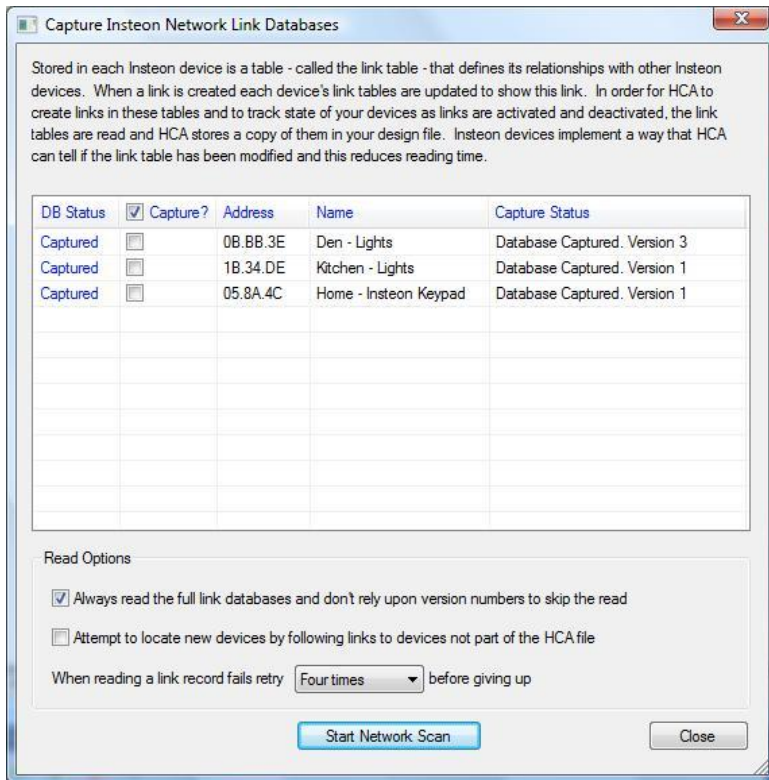
Complete the Scene Creation with “Done”.

The SmartHome app then programs the device with the scene info.



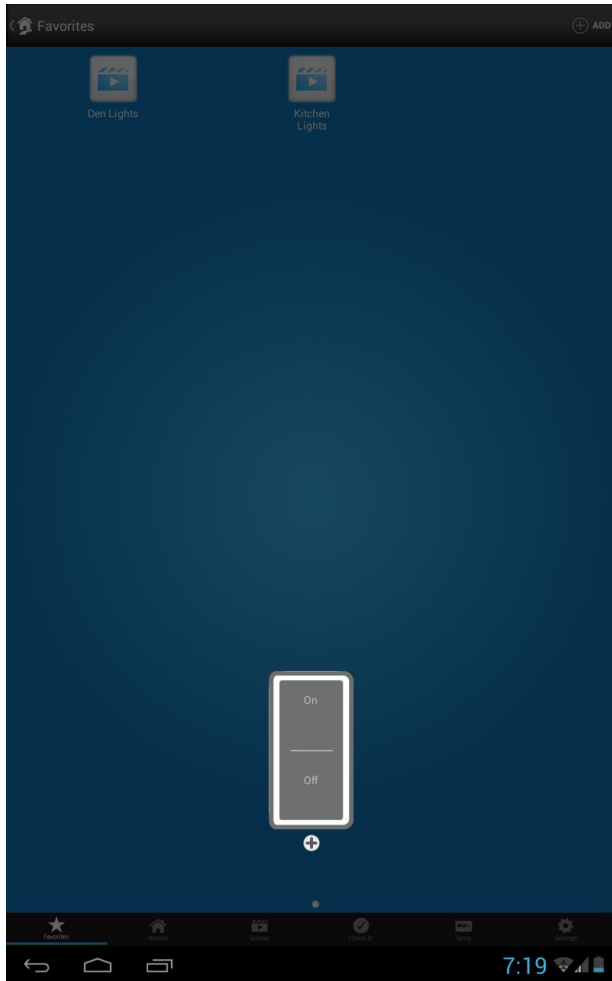
Once complete, the scene is now listed in the Scenes view. In the same manner, another scene was created for the Kitchen Lights.

Once created, you can put these scenes on the *Favorites* page for easy access if wanted.



The next step is back at HCA. Since the SmartHome software created new scenes in the devices you must now perform a Network Capture. This is in the *Protocols* category, *Insteon* panel, *Network Capture* button. This reads the linking tables for each of the devices and saves the linking table contents as part the HCA design.

The linking table is needed so that HCA can “understand” the effects of the scene activations when it receives the scene number as part of the message sent by the Hub.



Now that all these steps are complete – the scene creation using the SmartHome app and the Network Capture in HCA - then anytime that you use the SmartHome app to control your devices using these scenes, HCA sees the scene messages and tracks the state of the effected devices.

In this example the scenes created effect only a single device but HCA tracks the state of all devices in any scene created using the SmartHome app when activated.

