

Creating Telephone Ring Detection-based Events

Summary: Many homeowners utter this phrase on an almost daily basis: “Would someone answer the phone?” Whether you’re trying to make the ringing of the phone more spectacular (to get children to answer) or more convenient for people away from the ringing phone, using the Card Access™ InHome™ Doorbell and Phone Event Package, you can create a home automation event that alerts the homeowner when the phone rings. For example, the event can cause a room’s lights to flash, mute an audio zone’s speaker volume, or trigger an audio event over multiple audio zones. This Card Access Tech Tip will provide you with ideas for added capabilities you can provide to your customers and walk you through the setup process to implement these ideas.



The Card Access InHome Doorbell and Phone Event Package (model number IDP10A) easily integrates with the Control4 system and a homeowner's installed analog (non IP-based) telephone system. It includes the ELK-930 that detects a telephone ring, isolates the voltage and current, and produces an open collector (pull to ground) output used to trigger a contact close event in the Package's InHome Wireless Contact Switch.

This Tech Tip is Written For: Dealers, Installers

Installation Skill Level: Control4 Tech I Trained

Included With IDP10A	Materials List
✓	(1) InHome Wireless Contact Switch for each telephone line to be monitored
✓	(1) North American External Power Supply (for optional DC powering of the InHome Wireless Contact Switch)
✓	(1) ELK-930 Telephone Line Detector Module for each telephone line to be monitored
✓	InHome Doorbell and Phone Event Package Installation Guide / Wiring Diagram (information for automating doorbell and telephone circuits)
	(1) audio event MP3 file of homeowner's choosing
	Extra wire of similar gauge for connections

Step-By-Step Instructions

To add a telephone ring detector and create related events using the Card Access InHome Doorbell and Phone Event Package in your Control4 installations, perform the following steps:

Hardware Installation:

Step One: Connect the ELK-930 Telephone Ring Detector module and InHome Wireless Contact Switch to the Telephone Line Circuit

1. Create a jumper to connect to the telephone line circuit with one end RJ-11 male-terminated and the other end with the TIP and RING wires stripped for connection to the Telephone Ring Detector Module.
2. Connect the jumper's stripped TIP and RING wires to the T and R terminals on the ELK-930 Telephone Ring Detector Module.
3. Connect the RJ-11 terminated end of the jumper into an available RJ-11 female socket that is already wired into the telephone line circuit. This inserts the Telephone Ring Detector Module into the telephone line circuit path.

4. Run one wire of similar gauge to the TIP and RING wires from the OUT terminal on the Telephone Ring Detector Module to the SWITCH 1 terminal on the InHome Wireless Contact Switch's Tray Assembly.
5. Run another wire of similar gauge from the NEG terminal on the Telephone Ring Detector Module to the COMMON 2 terminal on the InHome Wireless Contact Switch's Tray Assembly.

Step Two: Place the Telephone Ring Detector Module and InHome Wireless Contact Switch

1. After connecting the InHome Wireless Contact Switch to the ELK-930 Telephone Ring Detector Module, you can place the Module out of sight and mount the Contact Switch to a nearby wall or surface using the Contact Switch's enclosed molly anchors.
2. After connecting the ELK-930 Telephone Ring Detector Module into the telephone line circuit path and to InHome Wireless Contact Switch, secure the Module to an appropriate and out of sight surface using the two included adhesive pads. Then, mount the InHome Wireless Contact Switch to a nearby wall or surface using the Contact Switch's enclosed molly anchors.

NOTE: Many times the junction box for the telephone line circuit is large enough to conceal the Telephone Ring Detector Module.

Composer Programming:

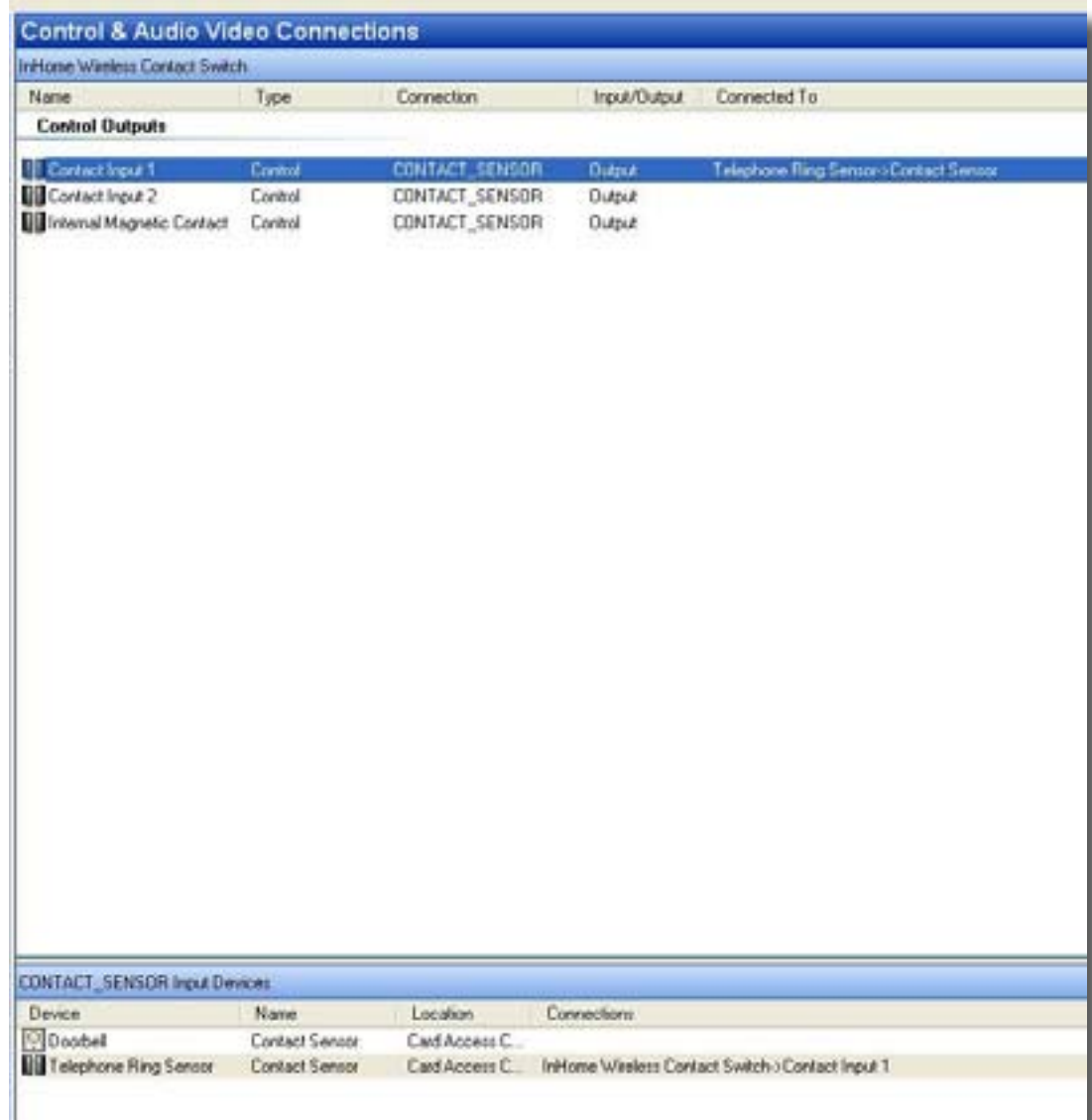
Step One: Add the In Home Wireless Contact Switch Driver to the Composer Project

1. Open Control4's Composer 1.3.2, and connect to the master Controller.
2. Once you've connected, select the System Design View and then the Search tab in the Items box.
3. Under the Manufacturer drop down menu, select "WCS10A" to add it to the Project.



Step Two: Adding Lighting Events to Rooms

1. In System Design View, add (if needed) the desired light switch to the Composer project in the event room.
2. Add a generic contact switch driver to the room where the event will take place and rename it "Telephone Ring Sensor" .
3. In Connections View, bind the Telephone Ring Sensor driver's Contact Sensor input to the appropriate contact output of the Contact Sensor.



4. Go to the Programming View, and from the Device Events window in the upper left, select the Telephone Ring Sensor, and in the Telephone Ring Events window immediately below, select the when the Telephone Ring Sensor closes button.
5. In the Actions pane in the upper left, select Light Switch.

6. In the Light Actions pane, select Toggle, and drag the green arrow icon into the Script pane two times.
7. In the Actions pane, select Programming Control. Then, in Programming Control Actions pane, enter a delay me (e.g., 500-1,500 milliseconds).
8. Drag the green arrow icon and drop it between the two Toggle actions.



NOTE: You can repeat the delay-and-toggle steps multiple times as desired; if the instructions above are used "as is" the light will flash only once. The delay me can be varied depending on the installer and the homeowner's preference. If the homeowner doesn't like the abrupt flashes, the script can be modified to use a series of ramp-to-level actions instead.

Step Three: Adding Audio Events to Rooms

NOTE: The Control4 system version 1.3.2 does not include an "Announcement Agent" feature to support interrupting and resuming Music Sessions, so Card Access has devised a work-around to enable this capability. To create audio events that interrupt and resume an existing Music Session in a room, you need to make use of unused audio out ports on other devices in the project. An unused audio out port is any physical audio out port not currently connected to some other device in the project. Some commonly unused audio out ports in projects are the RCA jacks in Control4 Mini Touch Screens and Speaker Points™, and any unused audio out ports on Home Theater, Media, or HC-Series Controllers.

1. In Composer, go to the System Design View and add a new room called "Phantom Room" for every room where you plan for the event to take place. (NOTE: This room name will be used throughout this Tech Tip; during actual installation, you should cre-

ate your preferred room name such as “Phantom Family Room”, “Phantom Garage”, etc.)

2. In the Connections View, select the “Phantom Room” and bind its audio endpoint to an unused audio out port. (See the note at the beginning of this Step for an explanation of what an audio port is.)

Control & Audio Video Connections
Card Access Command Center

Name	Type	Connection	Input/Output	Connected To
Control Inputs				
IR Input Control	Control	IR_IN	Input	
Room Control				
Video End-Point	RoomControl	VIDEO_SELECTION	Input	
Audio End-Point 1	RoomControl	AUDIO_SELECTION	Input	Speaker Point->Speaker Audio End-Point
Video's Audio End-Point 1	RoomControl	AUDIO_SELECTION	Input	
Video Volume 1	RoomControl	AUDIO_VOLUME	Input	
Audio Volume 1	RoomControl	AUDIO_VOLUME	Input	Speaker Point->Speaker Audio Volume
On-Screen Device	RoomControl	ONSCREEN_SELECTI...	Input	Media Controller->Onscreen Navigator
Video Volume 2	RoomControl	AUDIO_VOLUME	Input	
Audio Volume 2	RoomControl	AUDIO_VOLUME	Input	
Temperature	RoomControl	TEMPERATURE	Input	
Temperature Control	RoomControl	TEMPERATURE_CON...	Input	
Security System	RoomControl	SECURITY_SYSTEM	Input	
Audio End-Point 2	RoomControl	AUDIO_SELECTION	Input	
Video's Audio End-Point 2	RoomControl	AUDIO_SELECTION	Input	

AUDIO_SELECTION Output Devices			
Device	Name	Location	Connections
Media Controller	Stereo 1 Audio En...	Card Access C...	
Media Controller	Stereo 2 Audio En...	Card Access C...	
Media Controller	Stereo 3 Audio En...	Card Access C...	
Speaker Point	Speaker Audio En...	Card Access C...	Card Access Command Center->Audio End-Point 1
Speaker Point	Stereo Audio End...	Card Access C...	phantom->Audio End-Point 1

3. Then, again using the Connections View, bind the Contact Input 1 to the Telephone Ring Sensor driver
4. Go to the Programming View, and from the Device Events window in the upper left, select the Telephone Ring Sensor, and in the Telephone Ring Events window immediately below, select the when the Telephone Rings button.
5. In the Actions pane in the upper left, select Digital Audio.

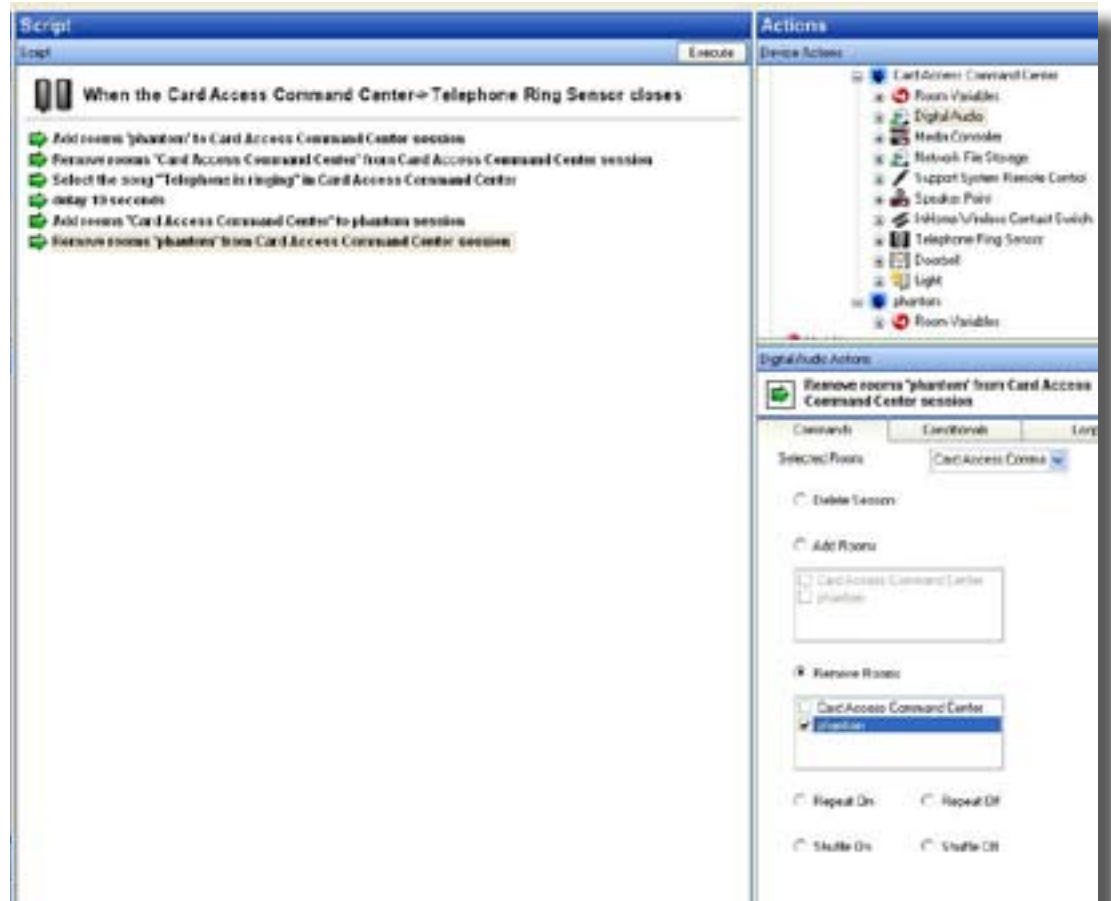


Step Four: Choosing Rooms and Media for a Telephone Ring Event

1. On the Selected Room menu, choose the room in where you want the event to take place.
2. Select the button Add Room, check the box "Phantom Room," and add this command to your script.
3. Go back to the Selected Room menu and select "Phantom Room."
4. Select the button Remove Room, check the box with the name of the room where the event will take place, and add this command to your script.
5. In the Actions window, select the room where the event to take place, click the Select Media button, and choose an MP3 file to play as your event.

Step Five: Customizing the Telephone Ring Event

1. In the Actions window, select Programming Control.
2. Select the Delay Button, set it to approximately 10 seconds (this can be increased or decreased depending on the desired length of the telephone ring event), and add this command to your script.
3. In the Actions window, select Digital Audio.
4. In the Selected Room menu, choose "Phantom Room," click the Add Room button, check the box with the name of the room where the event will take place, and add this to your script.
5. Go back to the Selected Room menu, select the room where the action will take place, and click the Remove Rooms button and check the box "Phantom Room."



The Results:

By following these installation steps, you can provide the homeowner with either lighting or audio events that let them know the telephone is ringing.

Once the Lighting Event is configured, lights in the target room will flash to indicate the telephone is ringing, helping both household members and the hearing impaired.

With the Audio Event configured, a ringing telephone pauses any active audio stream in the target room(s) and plays the announcement message or music, helping both household members and the visually impaired. Following the announcement, the original audio stream will resume.

Of course, you also have the option of combining these events into a single Lighting and Audio Event for increased awareness. This level of customization allows you to create an individual installation that perfectly suits each homeowner.

Related Tech Tip(s):

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About Card Access

Founded in 1995, Card Access™, Inc. is a leading developer of wireless communications products. World-class organizations in the medical, military and home automation markets rely on Card Access for development of high-performance, low-power, miniaturized, mobilized and ruggedized wireless communications solutions. Card Access, Inc. is a privately held company headquartered in Salt Lake City, Utah. For more information, visit www.cardaccess-inc.com/inhome or call 1.801.748.4900.

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