DoorBird v2.2
Module Application Guide

Description

This Module allows two-way control of DoorBird Video Door Stations some of which are listed below. If the specific model you have is not listed below, please contact us.

- D10x, D20x
- B10x
- D2101, D2101KV, D2102, D2103
- D21DKH, D21DKV
- Holovision 831, 731, 430, 976, 572, 576.

This Module uses a Module Instance License that can be obtained at www.controlworks.com. Each DoorBird in a system requires a separate module, and each module requires a separate license in order to function. See below for detailed instructions on ordering and activation.

The module also offers a complimentary trial period of 30 minutes if no license has been purchased.

Supported Processors

Any 3-series processor that supports Ethernet.

Compatibility			Processor Requirements
3 COMPATIBLE	NOT COMPATIBLE SERIES	Crestron Studio™ COMPATIBLE	USB REMOVABLE MEDIA NOT REQUIRED

Contents

Module Instance License

Overview
This Module requires a Module Instance License that can be obtained here
http://www.controlworks.com/Modules/Product.aspx?pid=3117. Each Module in a program
requires a separate license in order to function. Licenses are tied to the Crestron processor
and DoorBird combination.

License Changes
If a device fails and is replaced (DoorBird or Crestron) the license will need to be updated, we
offer one complimentary update of the license. Subsequent changes to either device
(DoorBird or Crestron) will be assessed a fee to change the license. We encourage the use of
our 30-minute trial period to allow for development and testing without purchasing licenses.

Steps for Purchasing a License
Licenses are tied to the Crestron Processor and DoorBird combination. The steps below
outline how to purchase a license and activate your module.

1. Ensure the DoorBird is connected to a network and can be reached by the Crestron
   processor.

2. Ensure the credentials for the Crestron DoorBird account (**these credentials do not
   exist by default**) are in the module parameters. For details on how to create the
   Crestron account, see the section below labeled DoorBird Username and Passwords.

3. Ensure the permissions for the account are set correctly. See the section below labeled
   DoorBird Username and Passwords.

4. Ensure the [reboot_finished] signal on the module is being latched high (not pulsed i.e.
   not using a STEPPER, MV, and not driven from an out* from a SR or equivalent) after
   boot. See the demo program for an example.

5. Open Text Console in toolbox, connect to the processor.

6. Ensure the processor has DNS servers by using the command [LISTDNS].

Figure 1- LISTDNS Example

7.

   a. If no DNS servers are present, add them by using [ADDDNS <DNS server>] or
      using the Ethernet Addressing dialog box.

Figure 2 - ADDDNS Example

---

b. You can also test your DNS server by using the command [TESTDNS www.controlworks.com.

```
AV3>testdns www.controlworks.com
IPAddress = 173.236.4.201

AV3>
```

Figure 3 - TESTDNS Example

8. Load your program to the processor.

9. After the program has been loaded, in text console, use the command [UCMD:<program slot number> "GET ACTIVATION INFO"]. i.e UCMD:1 "GET ACTIVATION INFO" This will provide you with an activation key.

```
CP3>ucmd:1 "GETACTIVATIONINFO"
S-2.1: Activation key for ControlWorks.com: 00107f
```

Figure 4 - GETACTIVATIONINFO Example

10. In a web browser, browse to http://www.controlworks.com/Modules/Product.aspx?pid=3117. The website will prompt you for the activation key. Enter the activation key and your site name, then click the proceed button.

11. The web store will have added your license to the shopping cart. Proceed through the checkout process.

12. After the checkout process has completed, in text console issue the command [UCMD:<program slot number> "RETRYAUTH"], or restart the program, and the module will attempt to contact the activation server for authentication. Once activated, the [module_authorized] will be high.

```
CP3>ucmd:1 "RETRYAUTH"
S-2.1: Retrying DoorBird authorization for all module instances, this may take a moment.
```

Figure 5 - RETRYAUTH Example

Once the module has been activated, its activation information is stored on the processor and will not need to reach the ControlWorks activation server to remain activated. Certain Crestron recovery procedures may clear the activation information and the module may need to reach out to check for activation. Should the Module require to reach out to the ControlWorks server, this process should occur automatically and be transparent as long as the processor has Internet access.

If your processor is not connected to the Internet, please contact us via email support@controlworks.com or call us at 440-449-1100. ControlWorks normal office hours are 9 AM to 5 PM Eastern, Monday through Friday, excluding holidays. You will need to provide the key noted in step 8.

Trial Period
To aid testing your programming before deployment, we are offering a complimentary trial period of 30 minutes; during this time the module is fully functional. This functionality only works for systems that have an active Internet connection and are able to reach ControlWorks' activation servers.

When the [reboot_finished] signal is held high, the module will attempt to activate. If the module has not been previously activated and doesn't find a license when checking the activation server, the trial period will be enabled for 30 minutes. After 30 minutes, the

module will attempt reactivation. If a license has been purchased, the module will retain full functionality; if a license has not been purchased the module will be disabled. If you are developing in a lab or staging environment, simply restart your program to restart the trial period.

To prevent abuse of this service, the total number of trial activations for any DoorBird/processor may be limited in ControlWorks sole discretion.

Module Application

Active Internet Connection

This module utilizes an online activation method and retrieves configuration files that are hosted on ControlWorks servers. While the module is not required to have an active connection to the internet as both the activation and configuration are stored on the processor, we recommend the Crestron processor having access to the internet to expedite activation and setup.

Locating devices on your LAN

There are a number ways to locate your DoorBird device on the LAN. DoorBird offers a device discovery using the iOS/Android app. Since the module requires registering a new account on the door station, we will focus on using the mobile App which will be used later to create the necessary account.

Download the latest DoorBird iOS/Android App from your platform's App Store and install it on your mobile device. Using your mobile device and while connected to the same network and VLAN as the DoorBird device(s), launch the app. Select *Settings* (Gear Icon in the footer) -> *Administration* -> *Magnifying Glass* (Figure 6). The App will display a list of devices by MAC address, with their associated IP address (Figure 7).

If you have multiple DoorBird devices on the same LAN, locate the Digital Passport that came with the devices. The Digital Passport contains the MAC address that you can use to associate the discovery results to real world devices.

Note that at this time, it is not possible to specify an IP Address in the DoorBird. ControlWorks recommends that a DHCP reservation be created for the DoorBird device.
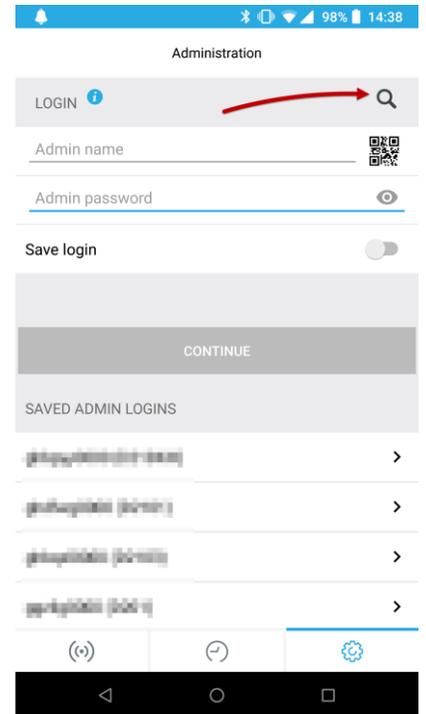

Figure 6 - Device Discovery
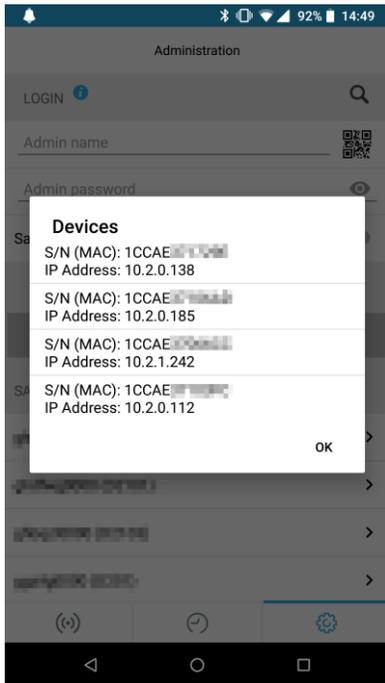
Figure 7 - Successful Device Discovery Example

DoorBird v2.2 (ControlWorks)
Telephone: (+1)440-449-1100   support@controlworks.com

ControlWorks Consulting, LLC
http://www.controlworks.com

DoorBird Usernames, Passwords, and Permissions

This Module uses an account that must be created on the DoorBird and which does not exist by default for control of the DoorBird. To create the account, using the DoorBird app Tap *Settings* (Gear Icon in the footer) -> *Administration* and login to the device using the administration account (found on the digital passport provided with the DoorBird). Once in the Administration view under the user heading, tap *Add* (figure 8), this will create a new account. Next, in the *Name (comment)* field, enter *Crestron* and take note of the Username and Password (figure 9).

Next tap *Permissions* and ensure all permissions are enabled with a checkmark. Once all the permissions have been set, press back then save (figure 10).

Figure 9 - Adding User

Figure 10 – Modifying Name (Comment) comment filed

Figure 8 – Selecting Permissions

SIP Calling

The DoorBird supports generic point to point SIP calls and works with Crestron touchpanels that support SIP in Peer to P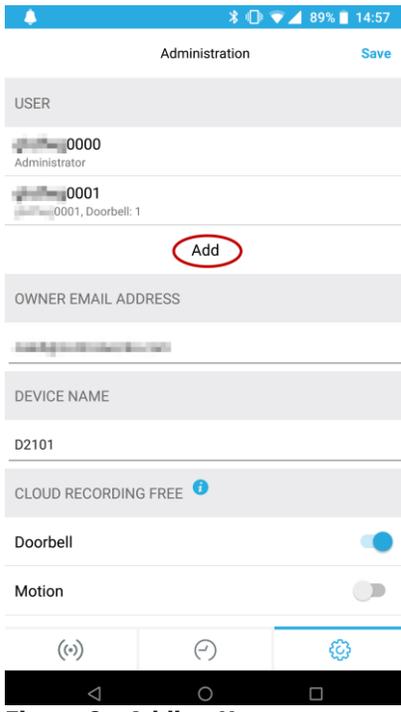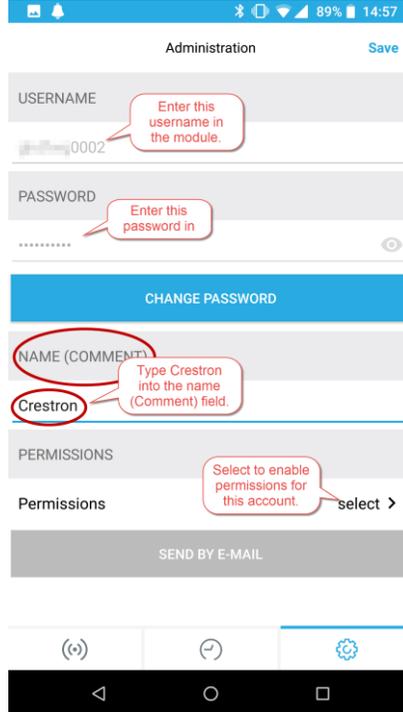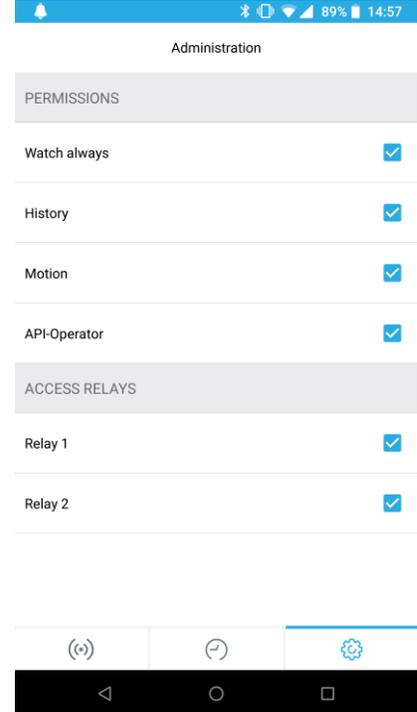eer Mode ("Rava"). The DoorBird is unable to place "Rava Group" calls. Each SIP call automatically terminates 180 seconds after it was initiated, unless the touchpanel hangs up or you send the hang up command to the DoorBird via the module before this timeout occurs. The DoorBird supports only one SIP call across all devices at any time, including the DoorBird mobile app.

Calling the DoorBird

The DoorBird by default does not allow untrusted inbound calls. You can enable inbound calls, however you must specify the SIP user(s) that will be calling the door station. ControlWorks recommends that the DoorBird call the touchpanel as documented below, and does not provide support for inbound calls to the DoorBird.

DoorBird calling a touchpanel

In a typical application, the programmer should program the DoorBird to place a call to the desired touchpanel. This is done by sending the touchpanels SIP URI to the [number_to_dial$] input, then by pulsing [dial] to initiate the call. The string should be in the format of SIP:<extension_number>@<ip_address or hostname>. The touchpanels SIP URI can be found on the TSW VOIP Reserved Joins device extender or in the RAVA setup screen (under the heading *Local Extension*).

To see all the settings for SIP on the DoorBird, you can browse to http://<device-Address>/bha-api/sip.html using the credentials you created in DoorBird Usernames, Passwords, and Permissions.

Note:
Testing has revealed that the DTMF PIN cannot be used with Crestron Touchpanels DTMF to open the door relay contact.
ControlWorks has been unable to establish a SIP call with the Crestron App on Android, and has not been able to reliably establish a SIP call with the Crestron App on iOS. As a result we do not currently support using the module to call a device running the Crestron App.

Subscription to Doorbell Presses, and Motion Sensor events

The DoorBird provides unsolicited feedback for Doorbell Presses, and Motion Sensors. A single parameter (Notification Port Number) on the module provide the connection information so the DoorBird can contact the Crestron processor for an event.

By default, ControlWorks uses port 9783 however this is an arbitrary port number and can be changed. Care should be taken to ensure that this port is not in use by other devices or in other program slots. If two or more DoorBird's modules are in use on a processor (including in different program slots), each module instance must be assigned a unique port number.

D21DKV/D21DKH Doorbell Events

The D21DKx devices does not have a physical doorbell button like most DoorBirds do. Each doorbell pressed event output on the module must be manually assigned to either the default bell button, or to a Keypad Code.

To assign events to Keypad Code, ensure the module has been loaded to the processor, and is either activated or running in trial mode. When the module detects a D21DKV or D21DKH, it will create 18 doorbell button links that correspond to doorbell_buttonx_press_event_pulse outputs that you will need to assign to a Keypad Code. In the DoorBird iOS/Android app, navigate to the administration settings of the device: *Settings (Gear Icon in the footer) -> Administration* and login to the device using the administration account (found on the digital passport provided with the DoorBird). Once in the Administration view under the heading *Keypad*, tap *Settings* (figure 11). Next select an existing Keypad Code, or add a Keypad Code. Select Schedule for Actions (figure 12).

Next tap the bell icon, and then tap the globe icon for HTTP Calls (figure 13). In the middle of the page next to globe icon, you will see text appear. Touch the text and select an event to select. Each ControlWorks_DoorBell1-18 correspond the digital doorbell pressed outputs on the module. Tap the desired event, then press the "toggle all times" button on the right to enable all times. Press back and save the schedule.

Figure 11 - Keypad Settings

Figure 12 - Schedule for Actions

If a guest doesn't know a Keypad Code, they can press the physical bell button without selecting a user. In this case, the default bell action is used. An event can be assigned to the default bell and the process is similar. While in Administration and in the Keypad settings, create a Keypad Code to be used by the default bell button. Schedule the Keypad Code for an actions (reference previous steps). Press back, and save the schedule. Back in Administration, navigate to the Keypad heading and select Default for bell. Assign the Keypad Code from the previous step to th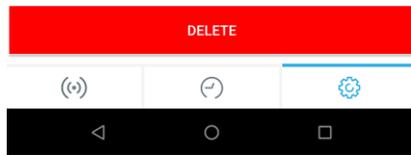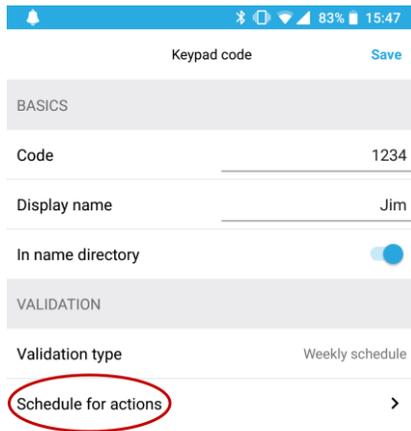e bell. Each time a user presses only the bell button on the device, it will ring that Keypad Code, and will pulse in Crestron to the assigned doorbell output.

Figure 13 - Assigning a Doorbell event

Monitoring RFID Events

At the time if writing this document, only the D2101, D2102, D2103, D2101KV, D21DKH, D21DKV, Holovison 572 and 567 support reading RFID tags. To monitor RFID events, ensure the module has been loaded to the processor, and is either activated or running in trial mode. When the module detects a DoorBird device type that supports RFID tags, the module will create 20 RFID links that correspond to rfid_eventx_pulse outputs you will can assign to a RFID card.

To assign a link to a RFID tag, navigate to the RFID Transponder settings in the app: *Settings* (Gear Icon in the footer) -> *Administration* and login to the device using the administration account (found on the digital passport provided with the DoorBird). *Scroll to RFID Transponder, select settings.* If no tags have been learned, refer to the DoorBird instructions on learning tags. Select a learned tag. Tap *Schedule for Actions* (figure 14). Next tap the bell icon, and tap the globe icon for HTTP Calls (figure 15). In the middle of the page next to globe icon, you will see text appear. Touch the text and select an event to select. Each ControlWorks_RFID1-18 correspond the digital RFID outputs on the module. Select the desired event, then press the "toggle all times" button on the right to enable all times. Press back and save the schedule.
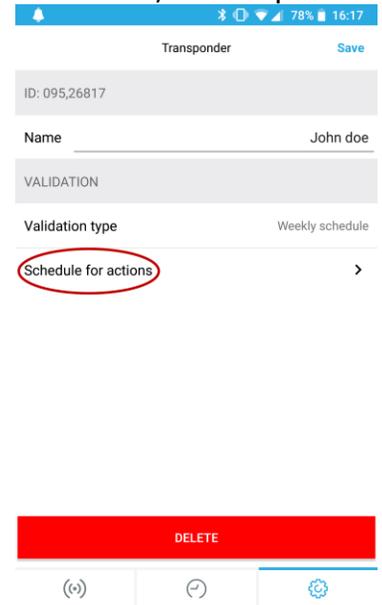
Figure 14 - Schedule for actions with an RFID tag
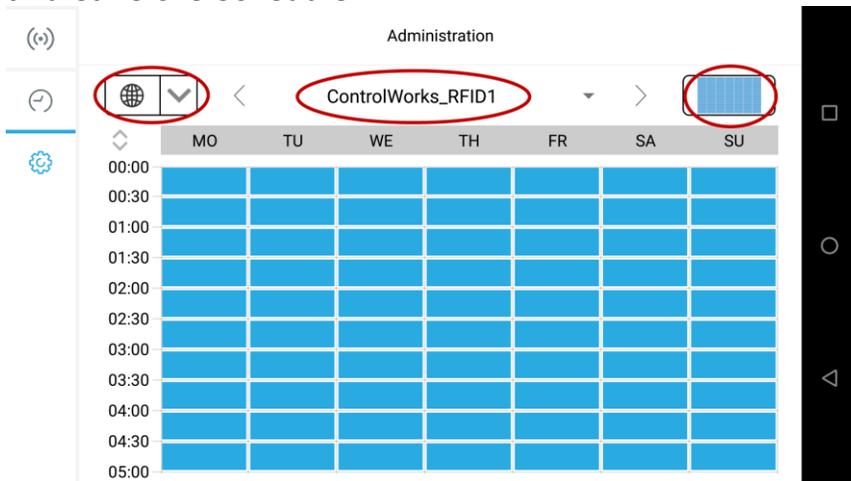
Figure 15 - Adding RFID Links to schedule for actions

H.264 and MJEPG streams
Since each project is different, and every touchpanel works differently, please take some time and review the following information to help consider how best to implement your project with regards to steaming the DoorBird Camera.

Crestron has provided a best practices online help article (Answer ID 5195) for streaming video to touchpanels. https://support.crestron.com/app/answers/detail/a_id/5195/kw/streaming.

H.264: The DoorBird provides one H.264 stream, as well two MJPEG streams to view the live camera. The **H.264 stream only allows one concurrent stream at any given time**. Care should be taken to ensure that only one device is receiving the H.264 stream. The stream is a 1280x720, 720p HD Variable bit rate at 10FPS stream. These settings cannot be changed.

For convenience, optional module parameters have been provided to build an h.264 url for use when mobile projects are attempting to see the stream from the WAN. The URLs alone will not allow access to the stream and additional networking configuration will likely be needed. See the parameters section below for more detail. Note that SIP calls negotiate the RTP port, SIP calling is will likely not work outside the customer's LAN.

Note: At the time this document was written, ControlWorks was unable to view the H.264 stream on a TSW-1050, TSW-1052, and TSW-750, however TSW-X60, and TS-1542 touchpanels have been successfully tested.

MJPEG: The MJPEG stream is a 640x480 steam with an average of 8FPS. The MJPEG stream only allows two concurrent connections; care should be taken to ensure that **a maximum of two devices are receiving the MJPEG stream**. These settings cannot be changed.

ControlWorks recommends using the live image snapshot URL (with a dynamic graphics object) to show the user who is at the door at the time of an event and only using the H.264 or MJPEG stream when needed at a specific panel, as illustrated in the demo program included with the module.

For convenience, optional module parameters have been provided to build an h.264 url for use when mobile projects are attempting to see the stream from the WAN. The URLs alone will not allow access to the stream and additional networking configuration will likely be needed. See the parameters section below for more detail. Note that SIP calls negotiate the RTP port, SIP calling is will likely not work outside the customer's LAN.

Relays
The DoorBird does not provide feedback, nor does it provide discrete events to control the relays. The only option is to "activate" a relay. When pulsing the [activate_onboard_relayx] input, the DoorBird will perform the action as defined in the DoorBird App. If the relay was setup as a pulse, it will pulse. If it was setup as a latch, the latch will change states.

DoorBird I/O Door Controller

As the DoorBird allows external relay controllers (DoorBird I/O Door Controller) we have provided an additional helper module. This gives the programmer the ability to control multiple external controllers associated with a single DoorBird device.

Setup is simple. All you need to know is the external relay controller's username (figure 16), what relays you want to control, and what DoorBird device is hosting the I/O Door Controller. To locate the username, using the DoorBird app tap *Settings* (Gear Icon in the footer) -> Administration and login to the device using the administration account (found on the digital passport provided with the DoorBird.). Once in the Administration view scroll to Peripherals and select Settings -> select the I/O Controller. In the header, the username will be listed.
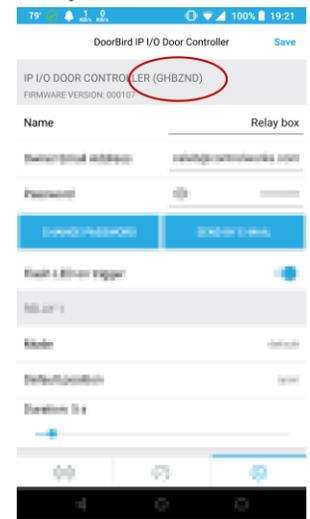
Figure 16 - Relay box username

Place the username in the Parameter "External Relay Box Username (without digits)" and connect the serial to the associated DoorBird device. From there, simply pulse the desired [activate_external_relayx] input on the module to activate the relay.

Steps to import the module into Crestron Studio

1. Ensure you have the latest version of the module by logging into your account at www.controlworks.com.
2. Ensure the DoorBird is on the LAN, and can be reached by the processor by pinging the devices IP address.
3. Ensure the device permissions (described above) are set correctly.
4. Open Crestron Studio and choose File -> Import.
5. Select the module files listed below and click open.
   a. DoorBird_v2.0_(ControlWorks).umc
   b. DoorBird_Engine_v2.0_(ControlWorks).usp
6. In the File Import Assistant, for both the SIMPL+ Module and SIMPL Module choose the appropriate location and action, then click next. The dialog box will indicate a summary of actions taken. You may uncheck the "Open?" checkbox. Click finish. Note that an error will accompany the SIMPL+ import regarding the SIMPL# library.
7. Place the SIMPL# library (DoorBird_Engine_v2.0.clz) in same directory as the SIMPL+ module. At the time of writing this document, Crestron Studio does not automatically import SIMPL# libraries and must be placed in the Central SIMPL+ module directory. By default, central SIMPL+ modules reside in 'C:\Users\Public\Documents\Crestron\Tools\Modules'.
8. Create a new device. Choose File -> New Project, then select "Device". Name it "DoorBird_v2.0_(ControlWorks)" then select New.
9. In the General section, for manufacturer, select "(Logic)"
10. For Device Type, select Logic -> Logic and press OK.
11. Give the device a description if you desire.
12. Under help, browse to the included help pdf file.
13. In the connectivity window, select "Add".
14. The Add Transport dialog will appear, and set transport type to Logic. Press Add.

15. Add the modules to the device programming by expanding the user category. Double click DoorBird_v2.0_(ControlWorks) and DoorBird_Engine_v2.0_(ControlWorks).
16. Choose File -> Save.

Inserting the device into a Crestron Studio System
1. Open your system.
2. Add the device to the system by selecting Add & Organize - > Devices.
3. Select the room you wish to add the device to.
4. In the Product Browser, select the device type dropdown, and select "User Devices".
5. Add the DoorBird device to the room by clicking on the + button next to the device.
6. In the Add New Device dialog, select the radio button next to DoorBird_v2.0_(ControlWorks).
7. Select the Device added and edit the properties:
    a. Under the Functionality section, fill out each item.
    b. Enter the Server's IP Address.
    c. Ensure the programmable property, reboot_finished is unchecked.
    d. Check properties that you would like to i.e subscribe to button presses, but unsubscribe to motion.
8. Add the program started fb to the reboot_finished input of the module.
    a. Select Design & Program, then select Advanced Programming.
    b. Select the Crestron processor, and select the Program_Start_F (Rising Edge) for the appropriate program slot your program will be loaded into.
    c. For event actions, under "Available Programming", choose common, then add a Delay. Enter a startup delay time to allow the module to start up. Each system is different, thus the value may change from system to system depending on processor type, and load.
    d. Under "Available Programming" select the "Device Commands" tab.
    e. Select the device you added.
    f. Then select the reboot_finished digital.
9. From there, there is no further default programming. You must implement the programming and functionality you desire. Please refer to the supplied SIMPL Windows program for a simple demonstration on how to make two or more panels work with the DoorBird, as well as managing SIP.

Programming Tips

Common issues

Please be sure to visit our Knowledge Base for additional information that can assist in developing your solutions. http://controlworks.com/ResourceLibrary/KnowledgeBase.aspx

- When attempting to retrieve the activation key, and if the module responds with "This instance of the ControlWorks DoorBird Module has not yet been activated. Additionally, required information from the DoorBird could not be obtained. Please check the processors error log for any additional information."

  - o Check the processors error log for any errors pertaining to the module. If an error occurs during startup, it gets logged to the error log.

  - o If the log entry is 401 Unauthorized, check the credentials entered into the module. Additionally refer to the DoorBird Usernames, Passwords, and Permissions section of this document.

- Since the DoorBird supports a very limited number of concurrent video streams (MJEPG allows 2 streams, while H.264 allows 1 stream), you should not have every panel request a stream when the door trigger notification occurs. Instead, use the live_image_url$ to show the user who is at the door. The live_image_url$ contains a dynamic graphic image of the camera at the time you request it. Once in a call, show the camera on the desired touchpanel using a video window.

- The DoorBird only supports 1 concurrent SIP call. This includes calls between the DoorBird and iOS and/or Android apps. If the module is unable to place a call because a call is already in progress, the [sip_call_failed] output on the module will be pulsed.

- If you're experiencing any difficulty with the module, take a look at the processors error log. The module uses the error log to record and communicate any issues to aid in troubleshooting. If the module was unable to perform an action, there should be a notice in the log.

Bracketed signals such as "[signal_name]" are optional signals

DIGITAL INPUTS

reboot_finished(latch_high)..Latch this signal high after your reboot is complete. Module will attempt to activate when this input goes high. Do not use a 1 to drive this signal.

[activate_onboard_relayX] ....Pulse to send the command to the DoorBird to activate the specified relay. The input is momentary, and the duration in which the input is held high has no bearing on how long the relay is energized. Additionally, if the relay is setup as a toggle, each pulse will change the relay position.

[light_on]...Pulse to turn the IR camera light on. The duration in which the signal is high has no bearing on how long the light is on. The light will automatically time out, and cannot be manually turned off.

[dial] ....Pulse to have the DoorBird dial the SIP number on [number_to_dial$].

[end_call] ....Pulse to have the DoorBird terminate any SIP call in progress.

[reset_sip_settings] ....Pulse to reset all the SIP settings on the DoorBird. This will clear out any SIP values, and hang up any ongoing call.

[query_sip_settings]..Pulse to query all SIP settings. After module activation, this will be done automatically.

[enable_sip] ....Pulse or hold high to enable the SIP functions on the DoorBird. Can be triggered by a 1 on the input.

[disable_sip]...Pulse or hold high to disable the SIP functions on the DoorBird. Can be triggered by a 1 on the input.

[enable_dtmf] ....Pulse or hold high to enable DTMF control of the door station. When in a call and DTMF is enabled. Will not work with DTMF from touchpanels. Please use one of the relays to trigger the door contact.

[disable_dtmf]...Pulse or hold high to disable DTMF control of the door station. Can be triggered by a 1 on the input.

[enable_anc] ....Pulse to enable acoustic noise cancellation in the DoorBird. Can be triggered by a 1 on the input.

[disable_anc]..Pulse to disable acoustic noise cancellation in the DoorBird. Can be triggered by a 1 on the input.

[get_info]..pulse to query the version number and build number.

ANALOG INPUTS

[historical_image_1-50]...Initialize to update the dynamic graphic
[historical_image_url$] with the initialized value.
Range is 1d-50d. "Cloud recording free" must be
enabled in the DoorBird settings for this feature to
work.

[microphone_volume]..Initialize after [module_authorized] is high. Range is
1d-100d. This input should be used with an Analog
Initialize. Do not ramp the input.

[speaker_volume] ....Initialize after [module_authorized] is high. Range is
1d-100d. This input should be used with an Analog
Initialize. Do not ramp the input.

.

SERIAL INPUTS

[number_to_dial$] ....Initialize the input to a SIP number to call. The string
should be in the format of
SIP:<extension_number>@<ip_address or
hostname>. Once the string is initialized, pulsing [dial]
will send the command to the DoorBird to dial the
specified SIP number.

[from_optional_io_modules$] ....Tie to optional I/O module module, if in use.

DIGITAL OUTPUTS

[module_authorized_fb]..Latched high after the module is authorized. The module will not function if this output is low.

[module_in_trial_mode_fb] ....Latched high when the module is authorized for trial mode.

[sip_call_failed] ....Pulsed high if the Door Station returns "503 Service Unavailable" when a call is attempted. Also a user event notice is logged in the error log when this occurs.

[sip_enabled_fb]..Latched high if SIP is enabled.

[sip_disabled_fb] ....Latched high if SIP is disabled.

[dtmf_enabled_fb] ....Latched high if DTMF is enabled.

[dtmf_disabled_fb]...Latched high if DTMF is disabled.

[anc_enabled_fb]...Latched high if acoustic noise cancellation is enabled.

[anc_disabled_fb] ....Latched high if acoustic noise cancellation is disabled.

[motionsensor_event_pulse] ....Pulsed high when the DoorBird detects motion.

[doorbell_buttonx_press_event_pulse] ....Pulsed high when the DoorBird detects a doorbell press.

[rfid_eventx_pulse] ....Pulsed high when the module detects an RFID event.

ANALOG OUTPUTS

[microphone_volume_fb] ....Indicates the current microphone volume. Range is 1-100d.

[speaker_volume_fb]...Indicates the current speaker volume. Range is 1-100d

[last_error_code] ....Indicates the most recent SIP registration status code. 200 if everything is ok, 401 authentication failure, 402 if SIP function is not licensed (previous versions of firmware) 503 if there is was call currently in progress.

[number_of_relays]...Indicates the total number of relays assigned to this device.

SERIAL OUTPUTS

[mjpg_stream_url$] ....String URL for a MJPEG stream.

[live_image_url$]..String URL for a current image snapshot of the camera. Use with a dynamic graphic object.

[rtsp_url$] ....String URL for the h.264 stream. **DoorBird only supports one concurrent stream.**

[historical_image_url$]..String URL for a historical image. Initializing [historical_image_1-50] will update the URL. "Cloud recording free" must be enabled in the DoorBird settings for this feature to work.

[mjpeg_stream_WAN_url$].......................................String url containing

[last_error_fb$] ....reports the last error text as provided by the door station.

[build_number_fb$] ....String indicating the build number of the DoorBird

[version_number_fb$]..Indicates the current firmware version number

[mac_address_fb$] ....String indicating the DoorBird Wireless MAC Address.

[device_type_fb$]...String indicating the DoorBird device type.

PARAMETERS

IP Address or Hostname...Enter the DoorBird's IP address or hostname.

DoorBird Username ....Enter the SIP account username.

DoorBird Password ....Enter the SIP account password.

Notification Port Number ....Enter a port number the DoorBird should send notifications on. ControlWorks uses 9783 as a default, but can be any port number. If you are using two or more DoorBird modules in your program, the port numbers must be unique to each module. The value must be between 1024 and 65535.

Number of Doorbell Buttons ....Enter the maximum number of doorbell buttons on the device you are controlling. This value determines how many doorbell button subscriptions are created, and provides math to provide accurate [event_doorbell_subscribed_fb].

Use IP Address or Hostname for Notifications.................0 for IP Addresses, 1 for Hostnames. This parameter is used to setup subscriptions using the processors host name or the processors IP address. If there is no name server that can resolve the processor's host name, use 0d.

Project WAN Hostname(Optional)...............................Optionally, you may enter the projects hostname. This is used when building the [mjpeg_stream_WAN_url$] and [rtsp_WAN_url$]. Do not include the port number. Example: projectname.mycrestron.com.

MJPEG WAN Port Number(Optional)............................Optionally, you may enter the MJPEG port number used to externally to access the MJPEG stream as a string. This is used when building [mjpeg_stream_WAN_url$] Example: 90

RTSP WAN Port Number(Optional)..............................Optionally, you may enter the RTSP port number used to externally to access the RTSP stream as a string. This is used when building [rtsp_WAN_url$] Example: 555

Signal and Parameter Descriptions DoorBird_ External_Relays_v2.0_(ControlWorks)

Bracketed signals such as "[signal_name]" are optional signals

DIGITAL INPUTS
[activate_external_relayx] ....Pulse to send the command to the DoorBird to activate the specified relay. The input is momentary, and the duration in which the input is held high has no bearing on how long the relay is energized. Additionally, if the relay is setup as a toggle, each pulse will change the relay position.

ANALOG INPUTS
This module does not use any Analog Inputs.

SERIAL INPUTS
This module does not use any Serial Inputs.

DIGITAL OUTPUTS
This module does not use any Digital Outputs.

ANALOG OUTPUTS
This module does not use any Analog Outputs.

SERIAL OUTPUTS
[to_main_doorbird_module] ....Tie to [from_optional_io_modules$] that the DoorBird I/O Controller is associated with.

PARAMETERS
External Relay Box Username (without digits)...............Enter the I/O Controllers user name as defined in the DoorBird app. The username should not include digits.

Support

This module is supported by ControlWorks Consulting, LLC. Should you need support for this module please email support@controlworks.com or call us at 440-449-1100. ControlWorks will seek to answer your question during office hours which are 9 AM to 5 PM Eastern, Monday through Friday, excluding holidays.

Before calling for support, please ensure that you have loaded and tested operation using the included demonstration program and touchpanel(s) to ensure that you understand the correct operation of the module. It may be difficult for ControlWorks to provide support until the demonstration program is loaded.

Updates, when available, are automatically distributed via Email notification to the address entered when the module was purchased. In addition, updates may be obtained using your username and password at https://www.controlworks.com/Customers/Login.aspx.

Distribution Package Contents

The distribution package for this module should include:

DoorBird_V2.2_(ControlWorks).umc ....Crestron User Module
DoorBird_Engine_v2.2_(ControlWorks).usp ....SIMPL+ file used within the processor module
DoorBird_Engine_v2.2_(ControlWorks).ush ....SIMPL+ header file
DoorBird_Engine_v2.2.clz ....SIMPL# used inside SIMPL+
DoorBird_V2.2_(ControlWorks).vtp ....Demo touchpanel for TSW-1060
DoorBird_V2.2_(ControlWorks).smw ....Demo program for PRO3 processor

Revision History

V2.2 caleb@controlworks.com 2019.07.19
-Bug fix for improperly formatting the attributes url.

V2.1 caleb@controlworks.com 2019.06.19
-Fix for module removing manually entered schedules.
-Requests for WAN urls for RTSP and MJPEG streams.

V2.0 caleb@controlworks.com 2018.10.16
-Support for D21DKx devices.
-Support for D10x,D20x devices.
-Added support for retrieving device configuration files from ControlWorks server.
-Deprecated DoorBird_V1.4_(ControlWorks).umc family of modules.
-Added support for RFID Events

V1.1 caleb@controlworks.com 2018.07.11
-Fixed an issue where users would run the module for the first time, and not receive any motion or button press events. This was due to a firmware change on the DoorBird.

V1.0 caleb@controlworks.com 2018.05.09
-Initial release

Development Environment

This module version was developed on the following hardware and software. Different versions of hardware or software may or may not operate properly. If you have questions, please contact us.

Manufacturer Hardware	Software Version
D201	115
D2101	115
D2103	116
D21DKH	116
Crestron Hardware	**Firmware Version**
Crestron AV3 Processor	v1.503.3318.24705
TSW-1052	v1.003.0020
TSW-1060	v1.002.0031
Software	**Software Version**
SIMPL Windows	4.10.07
Vision Tools Pro-e	6.0.07
Smart Graphics Controls	2.09.06.01
Crestron Database	17.05.001.00
Device Database	97.05.001.00

ControlWorks Consulting, LLC Module Instance License Agreement

Definitions:
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We provide limited levels of technical support only for the most recent version of the Module as determined by Us. We do not provide support for previous version of the module, modifications to the module not made by Us, to persons who have not purchased the module from Us. In addition, we may decline to provide support if the Demo Program has not been utilized. We may withdraw a module from sale and discontinue providing support at any time and for any reason, including, for example, if the equipment for which the Module is written is discontinued or substantially modified. The remainder of your rights and obligations pursuant to this license will not be affected should ControlWorks discontinue support for a module.

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