LAN-2-LAN API
FOR DOORBIRD AND BIRDGUARD

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OVERVIEW

This document specifies the external API of Bird Home Automation products. The interface provides the functionality for IP communicating with Bird Home Automation products via LAN (Local Area Network), handled by the built-in servers in Bird Home Automation products.

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COMPATIBLE DEVICES

- DoorBird Video Door Station D10x
    - Hardware version 1.00 and above
    - Firmware Version 000098 and above
- DoorBird Video Door Station D20x
    - Hardware version 1.00 and above
    - Firmware Version 000098 and above
- BirdGuard B10x
    - Hardware version 1.00 and above
    - Firmware Version 000098 and above

Firmware Change Log: http://www.doorbird.com/changelog

For reasons of brevity, we use the terms "device" to refer to our "DoorBird Video Door Station" and "BirdGuard" products and "mobile device" to refer to a smartphone or tablet.

GENERAL INFORMATION

PRIVACY STATEMENT
Please observe any relevant country-specific statutory regulations concerning the use of surveillance components and security surveillance applicable at the installation site and within your third-party solution.

LOCATING DEVICES IN YOUR LAN
You can locate devices and obtain its IP address within your LAN using the Apple Bonjour Protocol, see e.g.

- DoorBird App -> Settings -> Administration -> Search
- Online tool http://www.doorbird.com/checkonline
- Apple Bonjour command line tool "dns-sd", e.g. "dns-sd.exe -B _http._tcp local". Please see the Apple Bonjour documentation for further information on this topic
- https://en.wikipedia.org/wiki/Bonjour_%28software%29

- http://www.axis.com/de/de/axis-ip-utility/download

CONCURRENT CONNECTIONS

The device handles via this third-party API a maximum of 1 concurrent connection per second for API access.

Please keep in mind that the device is a door intercom unit, which handles in general - like all commercially relevant door stations - only one simultaneous audio/video call for live communication. You get a status code "503" (Busy) if another user already took the call. In that case you can notify the user with a message dialog on your GUI, e.g. "Line busy" and additionally preview one still image (LIVE IMAGE REQUEST).

URL SCHEME

You can use the URL Scheme "DoorBird" to start the DoorBird App for iOS using a third party iOS App. You can use the URL Scheme "DoorBird" to start the DoorBird App for Android using a third party Android App.

HTTP INTERFACE DESCRIPTION

AUTHENTICATION

Please use basic authentication as defined in RFC 2617 for each HTTP request. Use the same credentials as you are using to add a device to the DoorBird App.

Alternatively to basic authentication as defined in RFC 2617 you can you can use the plain-text HTTP parameters "http-user" and "http-password" to authenticate (more insecure because of plain-text, but some third-party home automation platforms support only HTTP parameters), e.g. "http://<device-ip>/bha-api/video.cgi?http-user=xxxxxx0001&http-password=xxxxxxx".

DEMONSTRATION

You may browse to http://<device-ip>/bha-api/view.html with a web browser to see a demonstration of the API in a standard webpage.

LIVE VIDEO REQUEST

Returns a multipart JPEG live video stream with the default resolution and compression as defined in the system configuration. When MJPG video is requested, the server returns a continuous flow of JPEG files. The content type is "multipart/x-mixed-replace" and each image ends with a boundary string <boundary>. The returned image and HTTP data is equal to the request for a live image

request. An average of up to 8 fps can be provided using this third-party API, depending on the network speed and load factor of the device.

Method: GET

Syntax:

```
http://<device-ip>/bha-api/video.cgi
```

Example Request:

```
http://<device-ip>/bha-api/video.cgi
```

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: multipart/x-mixed-replace;boundary=<boundary>\r\n\r\n
--<boundary>\r\n <image>
```

where the proposed *<boundary>* is "myboundary" and the returned *<image>* field is

```
Content-Type: image/jpeg\r\n
Content-Length: <image size>\r\n\r\n
<JPEG image data>\r\n --<boundary>\r\n <image>
```

Example: Requested Multipart JPEG image.

LIVE IMAGE REQUEST

Returns a JPEG file with the default resolution and compression as defined in the system configuration. The content type is "image/jpeg ".

Method: GET

Syntax:

```
http://<device-ip>/bha-api/image.cgi
```

Example Request:

```
http://<device-ip>/bha-api/image.cgi
```

Return:

```
HTTP/1.0 200 OK\r\n

Content-Type: image/jpeg\r\n
Content-Length: <image size>\r\n\r\n
<JPEG image data>\r\n
```


OPEN DOOR

Energize the door opener/ alarm output relay of the device. Returns JSON.

Method: GET

Syntax:

```
http://<device-ip>/bha-api/open-door.cgi
```

Example Request:

```
http://<device-ip>/bha-api/open-door.cgi
```

LIGHT ON

Energize the light relay of the device. Returns JSON.

Method: GET

Syntax:

```
http://<device-ip>/bha-api/light-on.cgi
```

Example Request:

```
http://<deviceip>/bha-api/light-on.cgi
```

HISTORY IMAGE REQUEST

Returns a JPEG history image with the default resolution and compression as defined in the system configuration. The history images are stored locally within the video door station.

Method: GET

Syntax:

```
http://<device-ip>/bha-api/history.cgi?<parameter>=<value>
```

<parameter>=<value>	Values	Description
index=<int>	1..20	Index of the history images, where 1 is the latest history image

Example Request:

```
http://<deviceip>/bha-api/history.cgi?index=1
```

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type:
image/jpeg\r\n Content-
Length: <image size>\r\n
\r\n

<JPEG image data>\r\n
```

NOTIFICATION REQUEST

Check and set the notification when a certain event occurs. If you set no parameter, the current notification settings will be returned as JSON.

Method: GET

Syntax:

```
http://<device-ip>/bha-api/notification.cgi?<parameter>=<value>
```

<parameter>=<value>	Values	Description
url=<string>		HTTP or HTTPS URL to call with GET command if the event occurs
user=<string>		Basic authentication user for the HTTP URL, leave blank if not mandatory
password=<string>		Basic authentication user or the HTTP URL, leave blank if not mandatory
event=<string>	doorbell|motionsensor|dooropen	Event type
subscribe=<int>	0|1	0: disable notification the given event, 1: enable the notification for the given event
relaxation=<int>	10..10000	Relaxation time in seconds, for concurrent events. Default value is "10"
reset=1	1	1: Reset all notifications . Defato factory defaults, please do not sent this parameter if not necessary

Example Request:

```
http://<deviceip>/bha-
api/notification.cgi?url=http://foo.bar?doorbell&user=&password=&event=doo
rbell&subscribe=1
```

Example Return:

```
{"BHA": {"RETURNCODE": "1","NOTIFICATIONS": [{"event":
"doorbell","subscribe": "1","url":
"https://foo.bar/e.php?e=doorbell","user": "foo","password":
"bar"},{"event": "motionsensor","subscribe": "0","url": "
http://foo.bar/e.php?e=motionsensor","user": "foo","password": "bar"}]}}
```

AUDIO RECEIVE AND TRANSMIT

Please contact us to request this information as audio transmission (bi-directional audio) is a complex topic (especially packaging, timing, AEC, ANS etc.). We may share this functionality as private API (not yet available!) depending on your project and skill level. Please give us some feedback about comparable projects you have already realized in the past ;-) We recommend to use custom URL scheme to (third-party) start the DoorBird App ("DoorBird") from your App in case of audio conversation needs - we have spent many man-years to offer a superb audio experience for end-users.

INFO REQUEST

Get some version information from the device in JSON format.

Method: GET

Syntax:

```
http://<device-ip>/bha-api/info.cgi
```

Example Request:

```
http://<deviceip>/bha-api/info.cgi
```

Example Return:

```
{"BHA": { "RETURNCODE": "1", "VERSION": [{"FIRMWARE":
"000096","BUILD_NUMBER": "41865"}]}}
```

RTSP INTERFACE DESCRIPTION

LIVE VIDEO REQUEST

Returns a MPEG4 H.264 live video stream with the default resolution and compression as defined in the system configuration. Uses the RTSP-over-HTTP protocol on port 8557 of DoorBird and BirdGuard devices. An average of up to 12 fps can be provided using this third-party API, depending on the network speed and load factor of the device. Requires standard RTSP authentication (no parameter authentication supported as we support for HTTP).

Method: GET

Syntax:
```
rtsp://<device-ip>:<device-rtsp-port>/mpeg/media.amp
```

Example Request:
```
rtsp://<device-ip>:8557/mpeg/media.amp
```


Session Initiated Protocol (SIP)

Please see www.doorbird.com/sip for further information.