

SYSTEM REQUIREMENTS

- DoorBird IP Video Door Station D10x/D11x/D20x/D21x-Series or DoorBird IP Upgrade D301A
- Asterisk Phone System

ADDITIONAL INFORMATION

The following guide will take you through the steps of setting up a DoorBird IP Video Door Station in connection with a Asterisk Phone System.

Please make sure that the Asterisk Phone System receives an IP address and is connected to the same local network your DoorBird IP Video Door Station is connected to. Please also make sure that your DoorBird is online, using this service:

<https://www.doorbird.com/checkonline>

The local IP address of your DoorBird is available from the same page.

Asterisk is a very powerful and complex phone system. Giving an in-depth description of all possible configurations applicable for your DoorBird IP Video Door Station is well beyond the scope of this document. Instead, this document will show the required steps necessary to set up your DoorBird IP Video Door Station with a fresh installation of Asterisk.

Note that currently only Asterisk's **Chan_sip** module is supported for video calls. It is currently not possible to transmit video from the DoorBird IP Video Door Station via **Chan_pjsip**.

FIRMWARE INFORMATION

This manual was tested using the following firmware versions:

DoorBird IP Video Door Station: 000129.

Asterisk: 18.3.0

1. SETTING UP THE ASTERISK PHONE SYSTEM

The following steps are based on a basic installation of the Asterisk phone system running on a Debian-based Linux distribution, as shown [here](#). Make sure your Asterisk instance is configured to use **Chan_sip** for VoIP. Please refer to the Asterisk documentation for information on how to set this up.

Note that it is possible to use your DoorBird IP Video Door Station with **Chan_pjsip**. However, video is currently not supported with **Chan_pjsip**, which is why this manual will focus solely on **Chan_sip**.

To enable video support and add a user for your DoorBird IP Video Door Station, use the following steps:

1. Open a terminal and change into the Asterisk config directory. By default this directory is located under `/etc/asterisk`:

```
$ cd /etc/asterisk
```

2. Using a plain text editor like **Nano**, open the **sip.conf** file with administrator rights:

```
$ sudo nano sip.conf
```

3. Hit **Ctrl+W** to open search, type **videosupport** and hit enter.
4. Activate video support by removing the semicolon at the beginning of the line and setting the parameter to 'yes' if necessary:
videosupport=yes
5. Navigate either to the end of the file or to the section of the file where you have placed your user configurations, if any and add the following lines to create a template for your DoorBird IP Video Door Station:

```
[doorbird]()
    context=internal
    type=friend
    host=dynamic
    disallow=all
    allow=ulaw
    allow=h264
```

If you have set up a different context for your VoIP phones, change **context=internal** to the context you wish to use.

Note that the order of allowed codecs matters.

6. Create a new user for your DoorBird IP Video Door Station by adding the following lines under the template created earlier:

```
[6001](doorbird)
secret=1234568abcdef
```

Change the number in the braces, as well as the secret however you prefer.

Repeat this step to create a user for your VoIP phone, or use one you already created. If going for the latter, make sure the list of allowed codecs of this user contains the same codecs as the ones set up for your DoorBird IP Video Door Station.

7. Close the file by hitting **Ctrl+X**, confirming that you want to save the changes by hitting the enter key.
8. If you haven't yet set up a dial plan yet, do so by opening **extensions.conf** with administrator rights in the same directory as the **sip.conf** file and adding the following lines to the end of the file:

```
[internal]
exten => _6XXX,1,Dial(SIP/${EXTEN},20)
```

If you're using a different context than **internal**, make sure to change **internal** to whichever context you wish to use.

If the numbers you devised for your DoorBird IP Video Door Station and VoIP phone start with a number other than 6, make sure to replace this number in the given line.

9. Save the changes you made and exit the text editor.

The changes made in the config files must now be loaded into the running Asterisk instance using the following steps.

1. Connect to your running instance of Asterisk by entering the following command into the terminal window:

```
$ sudo asterisk -r
```

If there is no instance of Asterisk running yet, create one by using the following command:

```
$ sudo asterisk -c
```

2. Reload the SIP settings by entering the following command into the Asterisk console:

`sip reload`

3. Reload the dial plan by entering:

`dialplan reload`

4. Check that the settings have been loaded correctly by entering:

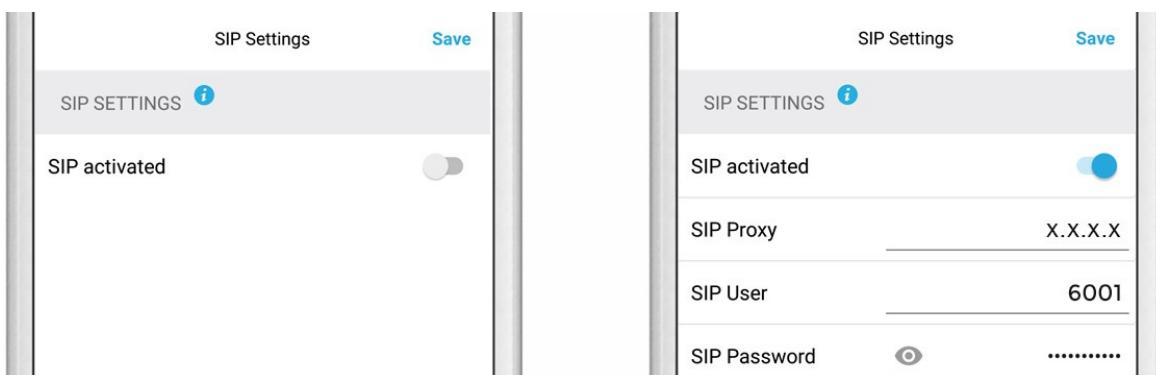
`sip show users`

The user(s) you created should now appear in this list.

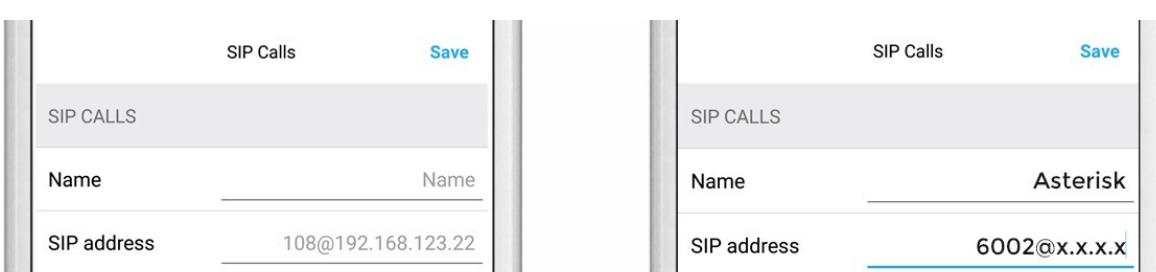
2. SETTING UP THE DOORBIRD IP VIDEO DOOR STATION

For the DoorBird IP Video Door Station to be properly able to communicate with the Asterisk Phone System, the DoorBird device's SIP-settings must be adjusted accordingly.

1. Open the DoorBird App and log into the administration area under “Settings → Administration” using the administrator user and password credentials from the “DIGITAL PASSPORT” document that was shipped with your DoorBird IP Video Door Station.
2. Choose “SIP Settings” from the menu and activate the “SIP active” switch.



3. For “SIP Proxy”, enter the IP address of your Asterisk Phone System.
4. For “SIP User” and “SIP Password”, enter the corresponding authentication details previously devised in the setup of the Asterisk Phone System.
5. Go back to the main administration area and tap on “SIP Calls”, then tap “Add”.



6. In the subsequent screen, enter an arbitrary name in the “Name” field, e.g. “Asterisk”. For the SIP address, enter the IP address of your Asterisk Phone System, prefixed with the extension of the SIP User-ID you want your DoorBird IP Video Door System to call upon ringing and an “@”-symbol, e.g. 6002@x.x.x.x.

If you want to make use of the DTMF-functionality of the DoorBird IP Video Door Station in order to control the built-

in light and door relay of the DoorBird IP Video Door Station using your Asterisk Phone System, do the following:

1. In the main administration area, choose “SIP Settings”.
2. Toggle the “DTMF” switch on, and set the “Light PIN” and “Relay 1 PIN” to arbitrary PIN numbers of your preference.

Make sure to terminate these PIN numbers with a “#” symbol when entering them on your Asterisk Phone System.

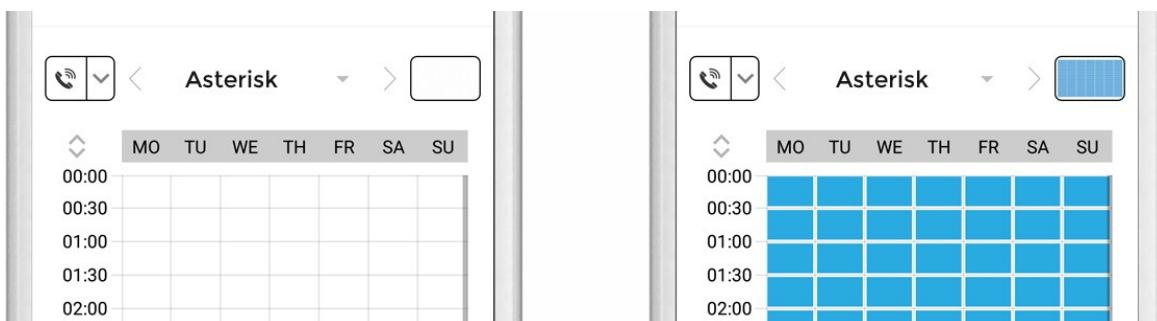
Note: The transmission of DTMF signals only happens during an active call between the DoorBird IP Video Door Station and the Asterisk Phone System.



For calls from the DoorBird IP Video Door Station to be forwarded to the Asterisk Phone System, a schedule for the doorbell needs to be properly set up. Depending on the model of the DoorBird IP Video Door Station, choose one of the following options:

- A) For all devices with a single door chime (e.g. D10x, D20x, D2101V etc.) find the settings in question under “Schedule for doorbell”. From this screen, tap the bell symbol in the upper left corner, choose “SIP call” and fill out the schedule per your requirements.
- B) For all devices with multiple door chimes (e.g. D2102V, D2103V, etc.) find the settings in question in the administration area under “Key Configuration” from the settings menu. Select the appropriate button and tap “Schedule for actions”. From this screen, tap the bell symbol in the upper left corner, choose “SIP call” and fill out the schedule per your requirements.
- C) For all devices outfitted with a keypad (e.g. D21DKV) find the settings in question in the administration area under “Keypad” in the settings menu. Select the appropriate key combination and go to “Schedule for actions”. From this screen, tap the bell symbol in the upper left corner, choose “SIP call” and fill out the schedule per your requirements.

Hint: by tapping the button in the upper right corner it is possible to fill or clear the entire schedule.

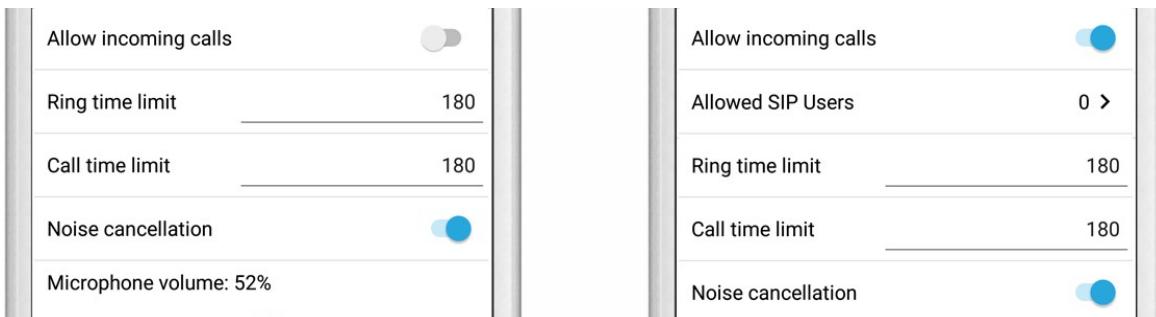


3. Return to the main administration area and save the settings. Wait for about five minutes for the new settings to take place.

It is also possible to make calls to the DoorBird IP Video Door Station from another phone connected to your Asterisk Phone System. This behavior is deactivated by default and can be set up using the following steps.

1. From the “SIP Settings” page, scroll down to the “Allow incoming calls” setting and switch it on.

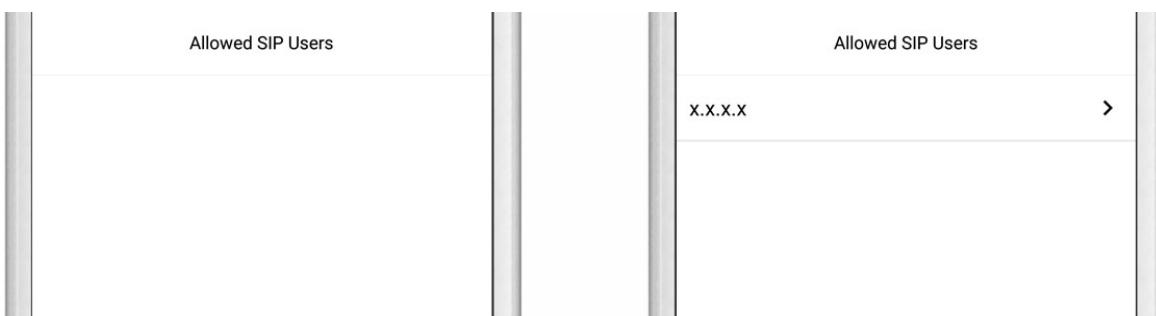
2. Tap on the newly appeared “Allowed SIP Users” setting and on the following page tap “ADD”.



Allow incoming calls	<input type="checkbox"/>
Ring time limit	180
Call time limit	180
Noise cancellation	<input checked="" type="checkbox"/>
Microphone volume:	52%

Allow incoming calls	<input checked="" type="checkbox"/>
Allowed SIP Users	0 >
Ring time limit	180
Call time limit	180
Noise cancellation	<input checked="" type="checkbox"/>

3. Enter the IP address of your Asterisk Phone System and prefix it with the SIP user id of the extension you want to allow and an “@”-symbol, e.g. 6002@x.x.x.x.



Allowed SIP Users
x.x.x.x

4. Navigate back to the main “SIP Settings” page and tap “Save” to activate the changes.

For questions and problems regarding the product “Asterisk Phone System” please contact the manufacturer online:
<https://www.asterisk.org/community/documentation/>

For questions and problems regarding our devices (DoorBird IP Video Door Station) please use the contact for to get In touch with our technical support: <https://www.doorbird.com/contact>

DISCLAIMER

At the time of creating the integration guides, we carefully test both with components that we develop and manufacture ourselves, as well as with components from third-party providers, in order to describe the respective integration possibilities. However, as the manufacturer, we cannot provide any warranty for the cross-manufacturer functions described in this guide (smooth interaction of our components with third-party components), since integrations naturally involve third-party components that are neither developed nor distributed by us and whose performance and functionality we cannot directly influence. In addition, third-party providers may release software updates for their components over time, which can lead to incompatibilities. Bird Home Automation GmbH can guarantee functionality and performance only for components that are developed and distributed by us.