HOW TO.

Setup

2N D7A SIP Phone

w/Axis & 2N Intercoms

2N AXIS COMMUNICATIONS

Contents

Introduction

Quick Setup Guide of the 2N D7A SIP Phone.

From initial login, config, setup of Dsskeys in a Peer-to-Peer scenario with an Axis or 2N Intercom.

Settings may vary. Tested with the following firmware revisions:

2N D7A SIP Phone FW 150.86.57.8

Intercom:

AXIS Intercom I8016-LVE FW 11.4.63

and

2N Intercom FW 2.39

Please note that Axis doesn't take any responsibility for how this configuration may affect your system. If the modification fails or if you get other unexpected results, you may have to restore the settings to default.

Step 1 – Getting Connected for the first time

Cable Connections

1. Connect the handset cable to the handset & the **Handset port** on the back of the phone.

2. Connect the Network cable to your network and to the **Internet port** on the back of the phone (this supports POE). Not required if using WiFi.

3. If not using POE or if using WIFI also connect a power supply to the back of the phone and the power outlet.

Wi-Fi (optional)

1. On the phone's touch screen drag down from the top to show the menu

2. Press the **Settings icon**

3. Scroll until you see the section **Basic Settings** click on **Wi-Fi**

4. Enable **Wi-Fi**

5. Select your Wireless Network (SSID) and enter your password
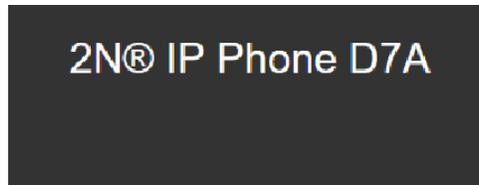
6. Press **Connect**

Find the IP Address

The phone is set to DHCP by default and should pull an IP Address if your network supports this.

1. On the phone's touch screen drag down from the top to show the menu.

2. Press on the **Settings icon**

3. In the section **Status** click on **Network** then **IPv4 Status**.

4. This will reveal the **WAN IP**. Make note of this for the next step.

Connect to the web GUI of the phone
The next step is done through the web browser on your computer

1. Type the IP Address (WAN IP noted from previous step) of the phone into your web browser.

2. The first time you login, use the following credentials
   o User: admin
   o Password: 2N

3. You will then be prompted to change the password
   o The password must be at least 8 characters long and contain at least 1 uppercase letter, 1 lowercase letter, and 1 digit.

4. Set a **New Password** and click **Confirm**.

Set the Date & Time

The following steps are completed through the phone's web GUI via your computer's browser

1. Go under **Settings → Time&Date**

2. Adjust the **Time Zone** drop down from +1 to the appropriate zone
   o For example if in New York, change it to:
      ▪ -5 Bogota, Lima, Quito, Peru, Indiana, Bahamas, Canada, Cuba, US-Eastern Time

3. Verify / update the **Daylight Saving Time** & **Location**

4. Adjust the **Time Format** to your preference
   o For example change the default Hour 24 to Hour 12

5. Adjust the **Date Format** to your preference
   o For example change the default DD/MM/YYY to MM/DD/YY

6. Click **Confirm**

Step 2 – Update Door Phone (Axis or 2N Intercom) Settings

The following steps are completed through the D7A phone's web GUI via your computer's browser

1. Go under **Features → Door Phone**

2. Verify **Door Phone List** has **Door Phone 1** selected

3. Update **Display Name** with the name or location of your Axis or 2N Intercom
   o For example: Front Door

4. Update **Phone Number** with the IP Address of the Axis or 2N Intercom

5. Update **Unlock Pin** with the DTMF sequence the intercom uses to unlock the door

o **Axis Intercoms**: The DTMF sequence can be found in the Axis web GUI under Communication → SIP then SIP Accounts. Edit the account being used (default peer-to-peer) and scroll to the bottom to find the DTMF sequence. The description is used in the unlock event rule (as the DTMF Event ID). If there is no DTMF sequence, then create one.
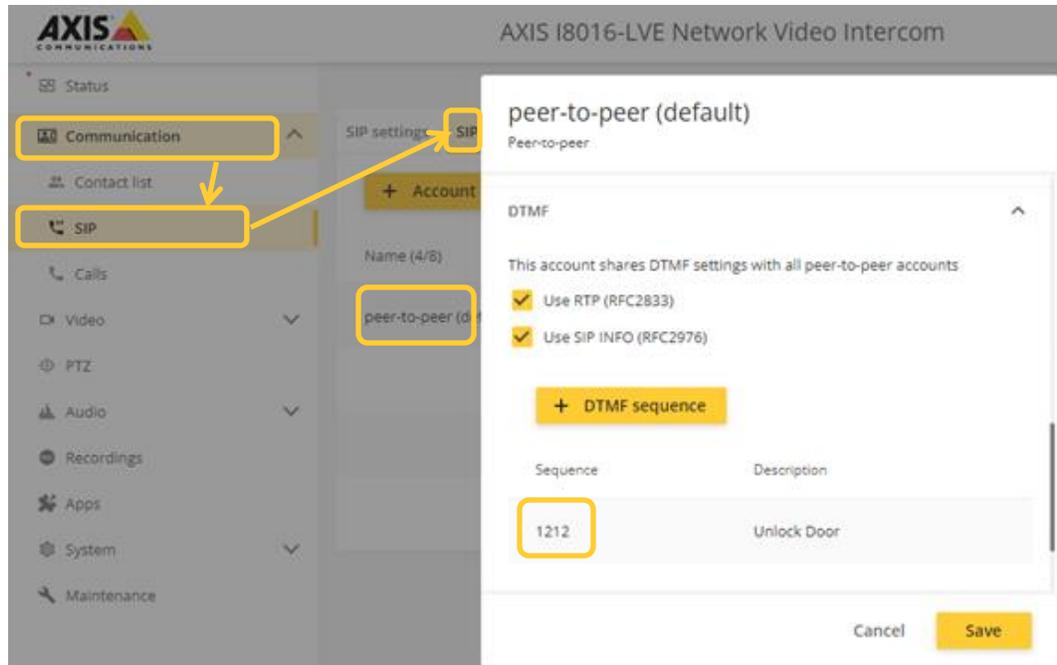
o While in the interface of the Axis Intercom, verify you have an DTMF event rule created. This is found under System → Events (and allows the DTMF sequence to trigger the relay)
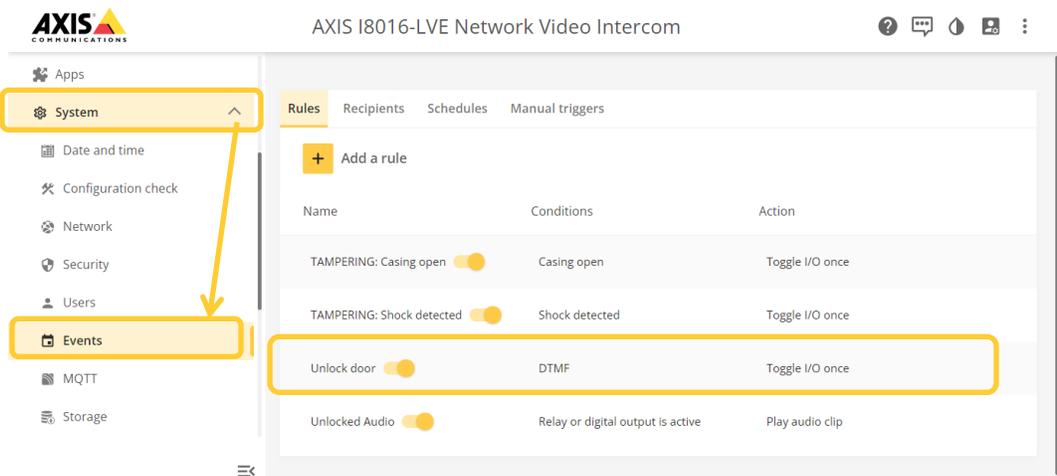
o If there is no DTMF event rule, add one
- Update **Name** with something easy to identify, name such as "Unlock Door"
- Set **Condition** to "DTMF" and select the **DTMF Event ID** from the drop down that matches the DTMF Sequence description from the previous step.
- Update **Action** to "Toggle I/O once", **Port** "Relay 1", **State** "Active", **Duration** "00:00:05" Adjust any settings as needed.
- Click **Save**

- o **2N Intercoms:** The DTMF sequence can be found in the 2N web GUI under Hardware → Switches then Switch 1 (default). Scroll down to find the DTMF sequence under Activation Codes.
- o For 2N Intercoms, you may need to append an * after the Unlock Pin in the 2N D7A.
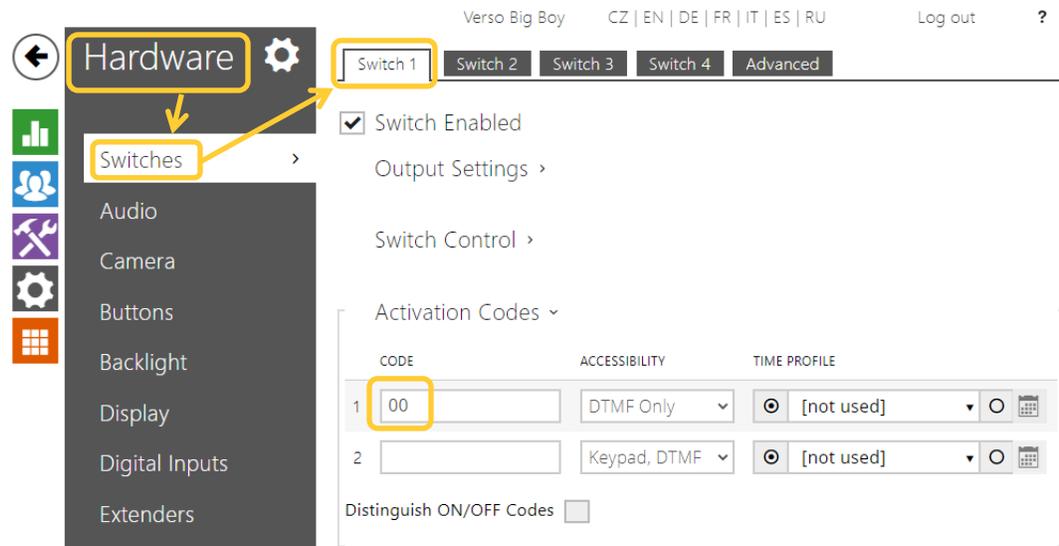
6. When on a call with the Intercom, an Open Door Icon will appear on the bottom left of the touch screen on the 2N D7A phone. This will pass the programmed unlock pin to the intercom to unlock the door during the call.

7. Update **Authentication** with the credentials of the Intercom the D7A Phone will use to send commands
   - o **Axis Intercom:** this can be created in the Axis Intercom web GUI under System → Users. There you can add a user w/Operator Role the D7A phone will use.
   - o **2N Intercom:** this can be created in the 2N Intercom web GUI under Services → HTTP API then Account 1 (or unused account). Enable it, create the credentials & assign user privileges (ex. Switches) the D7A phone will use.

8. Click **Confirm**

9. Repeat the above steps for any additional Axis or 2N Intercoms, by selecting the next drop down in the **Door Phone list** at the top of the page.

Step 3 – Programming Dsskeys (Soft Buttons on Touch Screen)

Create some shortcut keys on the touchscreen to directly unlock a door, call the intercom or pull up an intercom camera feed.

Unlock the Door

The following steps are performed in the web GUI of the 2N D7A Phone

1. Click on **Dsskey** then **Line Key**

2. Set the key type
   o **Type** = Open Door

3. The value is the trigger/command we will send to the (Axis or 2N) intercom
   o **Axis Intercom:**
   Value = https://<IP_of_Axis_Intercom>/axis-cgi/io/port.cgi?action=**4**%3A%2F**5000**%5C

   The above action triggers relay 1 (port **4**) for **5000** milliseconds (5 seconds) on the I8016-LVE. If you have a different model Axis Intercom, you can verify the Relay 1 port number under System → Accessories in the Axis GUI (firmware 11.x).

   o 2N Intercom:
   Value = https://<IP_of_2N_Intercom>/api/switch/ctrl?switch=1&action=trigger

   The above action triggers Switch 1 (the default Door Lock switch). It is triggered for the duration specified in the 2N Intercom GUI under Hardware then Switches for Switch 1.

4. Create a descriptive label
   o Example: **Label** = Unlock Front Door

5. Set the Extension / IP address of the intercom
   o **Extension** = <IP_of_Intercom>

6. Click **Confirm**

Call an Axis or 2N Intercom
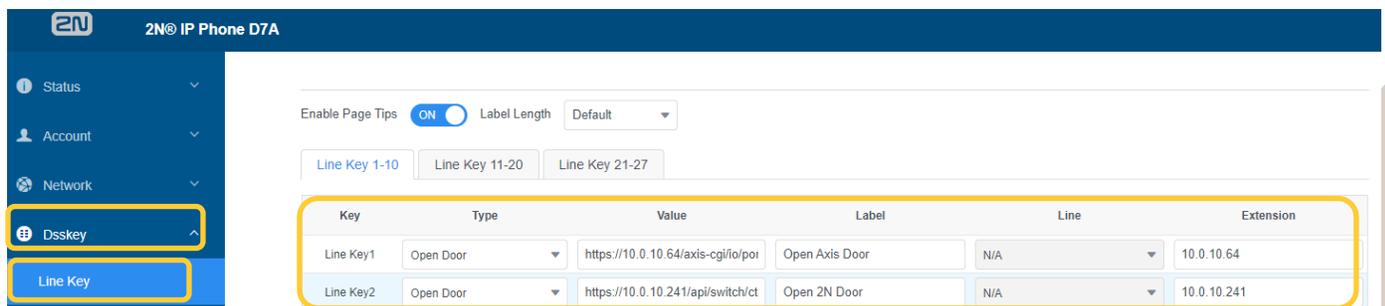
The following steps are performed in the web GUI of the 2N D7A Phone

1. Click on **Dsskey** then **Line Key**

2. Set the key type
   o **Type** = Speed Dial

3. The value is IP of the (Axis or 2N) intercom
   o Axis Intercom:
   Value = <IP_of_Axis_Intercom>

   Confirm incoming calls are allowed in the Axis Intercom. In the Axis Intercom GUI under Communication then SIP then the SIP Settings tab. Verify Allow Incoming Calls has a check next to it. Under the SIP Accounts tab, you can edit the peer-to-peer account to see if Answer Automatically has a check next to it.

   o 2N Intercom:
   Value = <IP_of_2N_Intercom>

   Confirm incoming calls are allowed in the Intercom. In the 2N Intercom GUI under Services then Phone then the Calls tab, verify the Incoming Calls, Call Answering Mode setting.

4. Create a descriptive label
   o Example: **Label** = Call Intercom

5. Set the Line to be used
   o **Line** = Line1

6. Click **Confirm**

Key	Type	Value	Label	Line	Extension
Line Key1	SpeedDial	10.0.10.64	Call Axis Intercom	Line1	
Line Key2	SpeedDial	10.0.10.241	Call 2N Intercom	Line1	

View an Axis or 2N Intercom Camera

The following steps are performed in the web GUI of the 2N D7A Phone

1. Click on **Dsskey** then **Line Key**

2. Set the key type
   o **Type** = Video Monitoring

3. The value is the command specific for the (Axis or 2N) intercom
   o **Axis Intercom:**
     Value = https://Username:Password@<IP_of_Axis_Intercom>/axis-cgi/mjpg/video.cgi?resolution=640x480&camera=2

     The above command requests video from the Axis Intercom. Prior to the IP address, insert the Username:Password@ credentials that the D7A will use to log into the Intercom. The command requests a resolution of 640x480 from the custom view (&camera=2). To retrieve the default fisheye view, remove &camera=2 from the string.

   o **2N Intercom:**
     Value = https:// Username:Password@<IP_of_2N_Intercom>/api/camera/snapshot?
        width=640&height=480&fps=15

     The above command requests video from the 2N Intercom. Prior to the IP address, insert the Username:Password@ credentials that the D7A will use to log into the Intercom. The command requests a resolution of 640x480 at a framerate of 15 fps.

4. Create a descriptive label
   o Example: **Label** = View Intercom

5. Set the Extension / IP address of the intercom
   o **Extension** = <IP_of_Intercom>

6. Click **Confirm**

> **NOTE** If Video doesn't load when you test the key, verify your 2N D7A is on FW 150.86.57.8 (or later) and the credentials are correct.

Considerations and limitations

Settings reference a Peer-to-Peer scenario on a local network. Settings and other changes would need to be made to accommodate connectivity through a phone system and/or if devices are located on different networks or if other network security measures are in place. Please consult your network administrator.

Additional configuration documentation on the Axis I8016-LVE Intercom can be found here:

https://www.axis.com/products/axis-i8016-lve/support

Additional configuration documentation on 2N Intercoms can be found here:

https://wiki.2n.com/hip/conf/latest/en

If you have the optional camera for the 2N D7A you can configure a bidirectional video call with the 2N IP Style Intercom. This feature is disabled by default. It is enabled in the web GUI of the 2N IP Style under Services → Phone then click the Video tab. Additional information can be found here:

https://faq.2n.cz/pages/viewpage.action?pageId=92537494