How to Configure Alphatech Cityline IP DP device on the Quadro IP PBX

Abstract: **This document describes steps to configure Alphatech Cityline Audio and Video Door Entry IP DP 1CP201 device, hereafter referred as Citylline IP DP device.**

1.   Introduction

Quadro IP PBXs provide the option of using SIP phones/devices along with standard analogue phones. SIP phones/devices are connected to any network interface of Quadro via Ethernet and serve as additional extensions similar to onboard FXS extensions. The Quadro can be configured to serve IP phones connected to either LAN or WAN interfaces (see Figure a,b). Some products like Quadro6L and QuadroM32x are configured to have IP phones/devices connected to WAN interface by default.

To allow SIP phones/devices to function as Quadro extensions, both the SIP phones/devices and the Quadro should be appropriately configured.
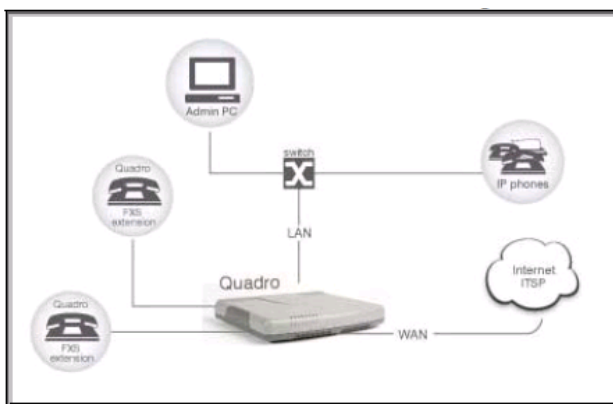
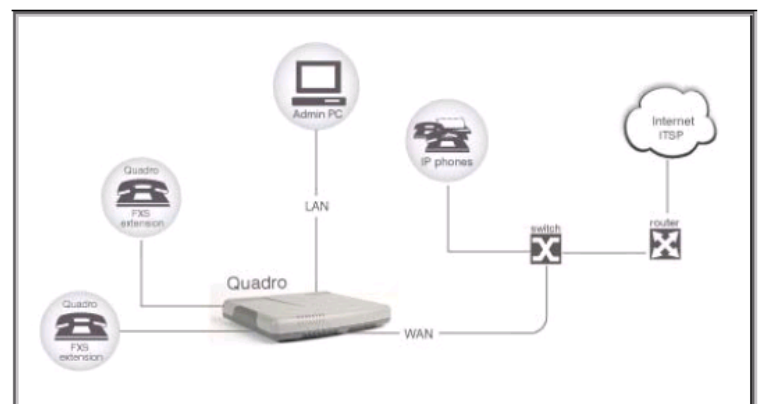Figure a - IP phone connected to the Quadro LAN

Figure b - IP phone connected to the Quadro WAN

This document describes how to configure Cityline IP DP device connected to the Quadro LAN or WAN.

2.   Requirements and Preparations

- Quadro is connected to the network and all network settings are correctly configured.
- Cityline IP DP device is located in the network, available through the interface which is selected as "Network Interface" on IP Line Settings page and powered up.
- Valid for Quadro IP PBX version 5.2.x and higher
- Valid for Cityline IP DP device VoIP version: 1.53 UDV version: 3.5 and higher.

In general there are 2 ways to configure Quadro with Cityline IP DP device:
1st one is to have device registered as IP Line of Quadro IP PBX. This kind of configuration is described in point 3 (Quadro IP PBX Configuration) and point 4 (Cityline IP DP configuration as IP Line of Quadro IP PBX).
2nd one is to configure Cityline IP DP device as standalone device, and configure routing rules on Quadro IP PBX to forward calls to the device. This kind of configuration is not described in current manual.

3. Quadro IP PBX Configuration.

The following step-by-step instructions describe how to configure an IP line to allow Cityline IP DP device to register on Quadro IP PBX.

Log into the Quadro as an administrator.

Open the **Telephony -> Line Settings -> IP Line Settings** page (see picture below).

From the **Attached Extension** column, choose an extension to be assigned to the SIP device and click on the corresponding IP line link. Note that the table lists only the extensions attached to the IP lines. If the extension is not listed on this page, open **Users ->Extensions Settings** page and attach an IP line to the extension by editing the extension settings (see picture below)

To enable video, user has to press "Go To Codec Settings" link and enable H263 codec from that page.

On the **IP Line Settings** page (see picture below), select the **SIP** phone radio button to activate the line.

Select the "Other" of the SIP phone from the **Phone Model** drop-down list.

Enter the number for simultaneous calls – the total number of active and held calls, in the **Line Appearances** text box. Set this field to 2, thus only 2 active call will be possible to have on the phone. Making or accepting a third call will not be allowed by Quadro (please note that having bigger number of simultaneous calls to camera can overload it).

The Quadro identifies each SIP phone by a unique username and a password specified on the **IP Line Settings Page** (see picture below). By default the Quadro assigns a unique username and password to each IP line. Please specify new **Username** and **Password** in the respective fields (the same values should be used when configuring GXV 36xx device).

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| Main | System | Users | Conferences | Telephony | Internet Uplink | Network |

IP Line Settings - IP Line 5

○ Inactive

◉ SIP Phone

Phone Model: Other

MAC Address: ☐:☐:☐:☐:☐:☐

Line Appearance: 2

Username: locext107

Password: ••••••••••••• [Choose Generated Password]

Transport: UDP

☐ Use Session Timer

Use template: <-- use default -->

☐ Enable Hot Desking Capability

Hot Desking Automatic Logout:

◉ Never

○ After 0 hour(s) 0 min

○ At 0 : 0

[Save] [Back]

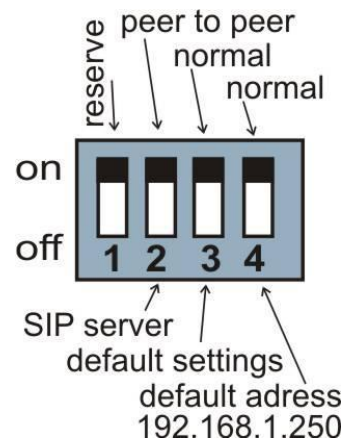Click **Save** to submit the changes.

4. Cityline IP DP Device Configuration as IP Line of Quadro IP PBX

To configure Cityline IP DP device as IP Line of Quadro IP PBX, one should change position of "Dip Switch" number 2 (located at the back of the device)
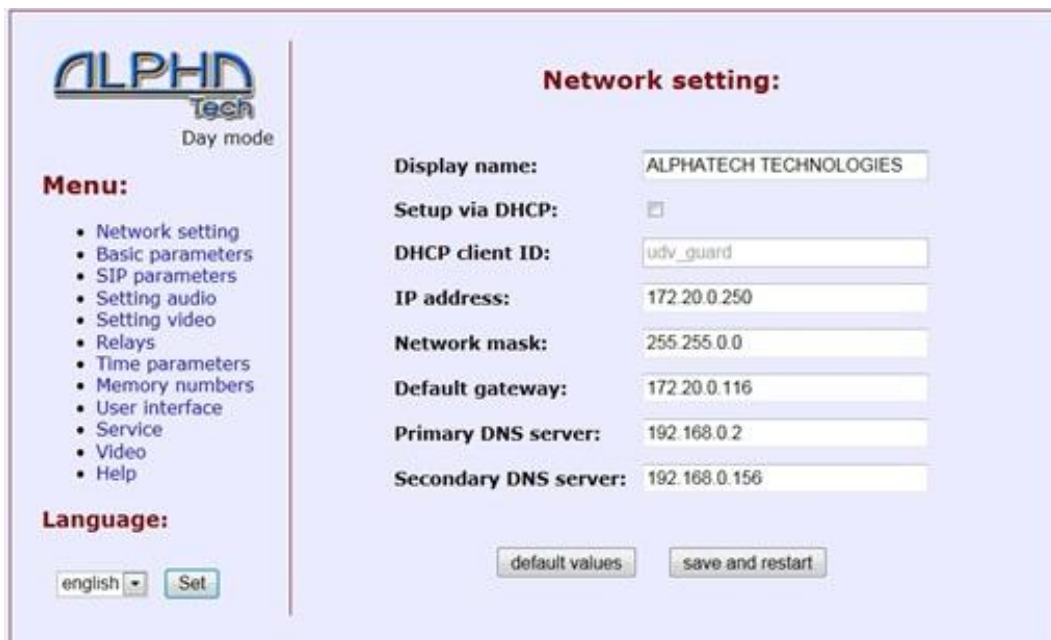Dip switches are shown at **number 14** on the picture below:
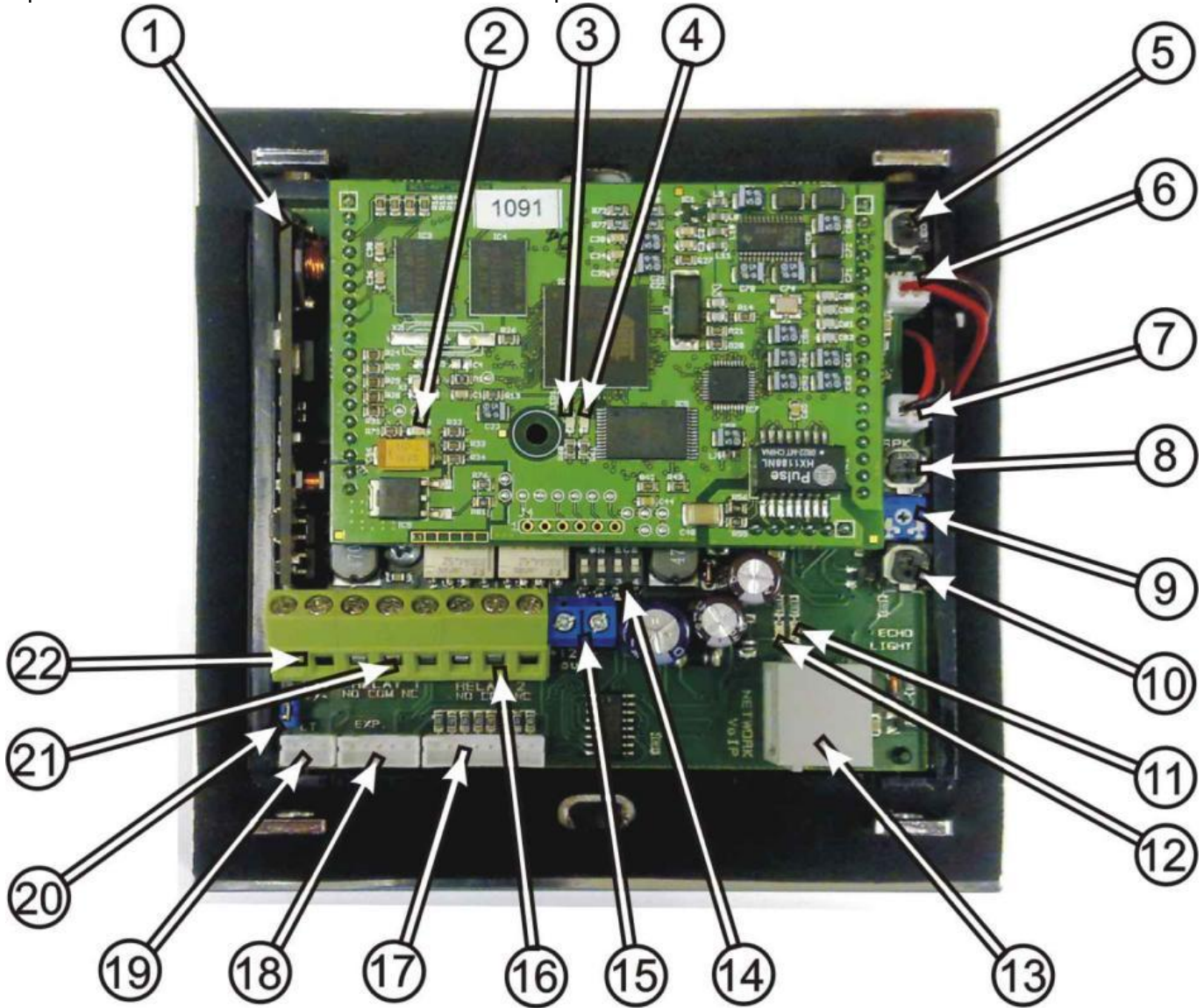
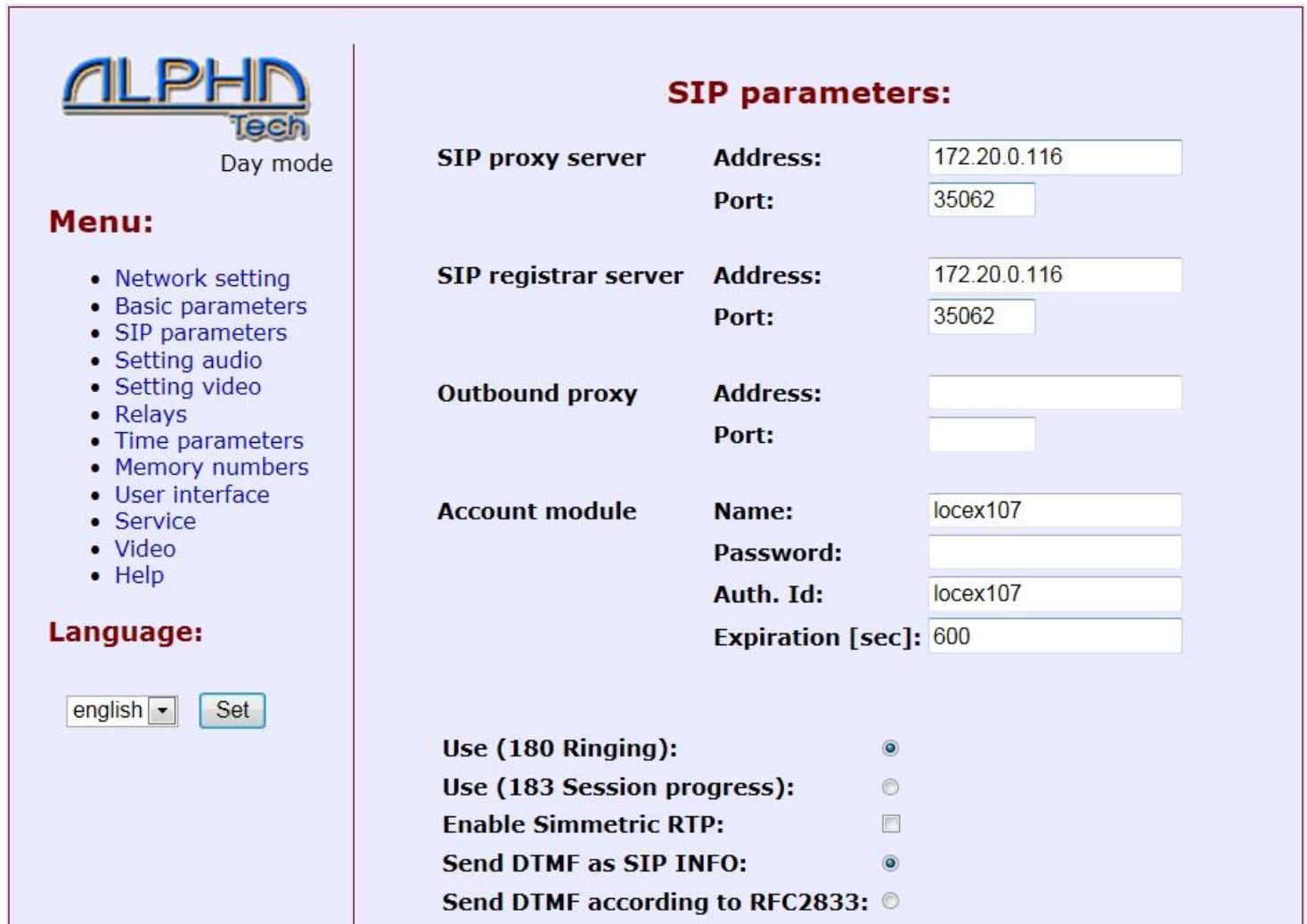Dip switch No. 2 should be switched down to "SIP Server":

- Log in to Cityline IP DP device using
  default 192.168.1.250 IP address (default user name "admin", default password "1234").
- Click on "Network Settings" ling and shange IP address to the IP address in Qaudro's WAN or LAN subnet (depending on the way of IP phones configured on the Quadro, either on LAN or on WAN, please see Quadro's configuration). Or set up DHCP based IP address, if you are sure that DHCP provided address will be in the same subnet as Quadro's WAN or LAN. Change default gateway as deemed necessary. You can use Quadro's IP address as default gateway and as DNS also. Press "save and restart" – device will be rebooted and you will need to log in again to device with new IP address.

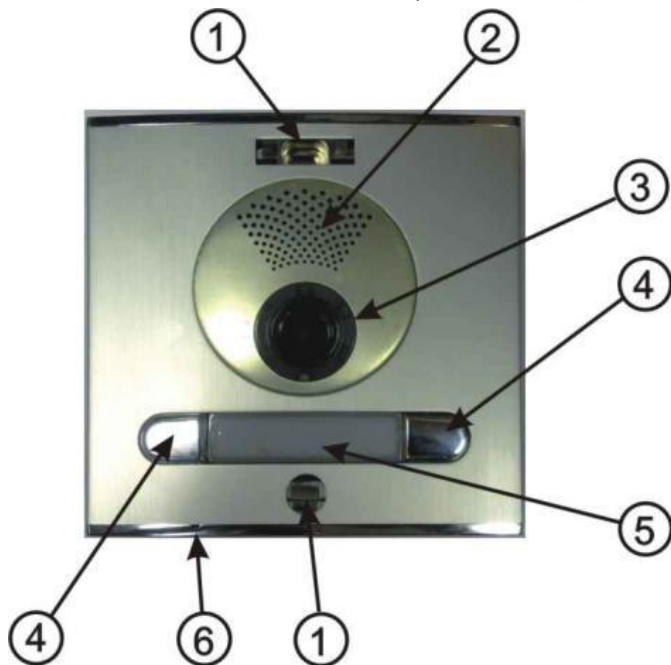- Next step will be to click on "SIP parameters" link (see picture below).

- Set up "SIP proxy server"->" Address" to the IP address of Quadro's interface used for phones configuration.
- Set up "SIP proxy server"->" Port" to the SIP UDP port of Quadro IP PBX (specified in "Telephony"->"SIP Settings" "UDP Port" field of Quadro IP PBX).
- Set the same settings for "SIP registrar server" Address and Port.
- Set "Account Module" **Name** and **Auth ID** fields to **Username** entered in "IP Line Settings" page.

- Set up "Account Module" Password to the **Password** entered in "IP Line Settings" page.

Press "save chages" button. After a while you should see "Registration successful" status as on the picture above.

Making video call to the extension attached to the Cityline IP line will result in automatic off hook of the device and user can see & talk (if use has video phone) to the person at Cityline IP DP device.

- The next step is to configure the Cityline IP DP device for making calls to Quadro IP PBX, by using 2 pushbuttons locate on device (**number 4** in the picture below):

- Press "memory number" link on the left part of WEB GUI of the phone (see picture below):

On Button 1, Button 2 user can set up any extension number or any routing rule number and press "Save changes" button. Pressing pushbutton will result in call to corresponding numbers, and upon answered video call will be established.

5.   IP Video Phone configuration notice

Please note that video phone making call to Cityline IP DP device, should support H263 video codec, and if that IP Phone is extension of Quadro IP PBX, H263 video codec should be enabled on that video phone's codecs list on Quadro:

| Main | System | Users | Conferences | Telephony | Internet Uplink | Network |

Extension 117 Codecs

Enable/Disable   Select all   Inverse Selection   Move Up   Move Down   Make preferred

	Audio Codecs	State
☐	G.711u (PCM audio coding standard, 8 kHz sample rate, 8 bits, 64 kbit/s data rate) (preferred)	Enabled
☐	G.711a (PCM audio coding standard, 8 kHz sample rate, 8 bits, 64 kbit/s data rate)	Enabled
☐	G.729a (CS-ACELP speech coding at 8 kbit/s rate)	Enabled
☐	G.726-16 (ADPCM speech coding at 16 kbit/s rate)	Disabled
☐	G.726-24 (ADPCM speech coding at 24 kbit/s rate)	Disabled
☐	G.726-32 (ADPCM speech coding at 32 kbit/s rate)	Disabled
☐	G.726-40 (ADPCM speech coding at 40 kbit/s rate)	Disabled
☐	iLBC (internet Low Bit Rate Coder at 13,33 kbit/s rate)	Disabled
☐	G.722 (HD audio coding at 48-64 kbit/s data rate, 16 kHz sample rate)	Disabled
☐	G.722.1 (HD audio coding at 24-32 kbit/s data rate, 16 kHz sample rate)	Disabled
☐	TDVC (Time Domain Voicing Cutoff at 1,95 kbit/s rate)	Disabled
	Video Codecs	State
☐	H.264 (Advanced video coding for low bit rate communication) (preferred)	Enabled
☐	H.263 (Video coding for low bit rate communication)	Enabled

Tested with Grandstream GXV 3140, GXV 3175, Polycom VVX1500, Yealink2009 IP video phones.