Manual I: Installation Guide

Edition 1, November 2014
SW Release 6.0.7 and higher

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Extended Warranty Option

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Epygi Technologies, LTD. extends its Limited Warranty for an additional period of three (3) years from the date of the termination of the original Limited Warranty period (proof of purchase required).

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Epygi Technologies, LTD.

1400 Preston Road, Suite 300, Plano, Texas 75093

Administrative Council for Terminal Attachments (ACTA) Customer Information
This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. Located on the equipment is a label that contains, among other information, the ACTA registration number and ringer equivalence number (REN). If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive REN's on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the REN's should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total REN's contact the telephone company to determine the maximum REN for the calling area.

This equipment cannot be used on the telephone company-provided coin service. Connection to Party Line Service is subject to State Tariffs.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right the file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact EPYGI TECHNOLOGIES, LTD.

If the trouble is causing harm to the telephone network, the telephone company may request you to remove the equipment from the network until the problem is resolved.

Electrical Safety Advisory
To reduce the risk of damaging power surges, we recommend you install an AC surge arrestor in the AC outlet from which the Quadro or QX is powered.

Industry Canada Statement
This product meets the applicable Industry Canada technical specifications.

Safety Information
Before using the Quadro or QX, please review and ensure the following safety instructions are adhered to:

- To prevent fire or shock hazard, do not expose your Quadro or QX to rain or moisture.
- To avoid electrical shock, do not open the Quadro or QX. Refer servicing to qualified personnel only.
- Never install wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specified for wet locations.
- Never touch non-insulated telephone wire or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying cable or telephone lines.
- Avoid using your Quadro or QX during an electrical storm.
- Do not use your Quadro, QX or telephone to report a gas leak in the vicinity of the leak.
- An electrical outlet should be as close as possible to the unit and easily accessible.

Emergency Services
The use of VoIP telephony is made available through IP networks such as the Internet and is dependent upon a constant source of electricity, network availability and proper operation of the equipment. If a power outage, network disruption or equipment failure occurs, the VoIP telephony service could be disabled. User understands that in any of those events the Quadro or QX may not be able to support 911 emergency services, and further, such services may only be available via the user's regular telephone line or mobile lines that are not connected to the Quadro or QX. User further acknowledges that any interruption in the supply or delivery of electricity, network availability or equipment failure is beyond Epygi's control and Epygi shall have no responsibility for losses arising from such interruption.

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The default Music on Hold on the Quadro or QX is a 22 second fragment from Chopin's *Nocturne Op.9 #2* performed by Marina Vardanyan and kindly provided to Epygi Technologies, LTD. The recording is royalty free.

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Table of Contents

Manual II: see Administrator's Guide

This guide describes in detail the menus available for administrators only. Furthermore, it includes all the system's default values at a glance.

Manual III: see Extension User's Guide

This guide describes in detail the menus available for extension users. Furthermore, it includes all the call codes at a glance.

About This Installation Guide

This Installation Guide explains the installation of the Epygi QX IP PBXs. It gives step-by-step instructions to provision the QX IP PBX and configure the phone extensions. After successfully configuring the QX IP PBX, a user will be able to make SIP and local PBX calls, as well as calls to the PSTN and access the Internet from devices connected to the Local Area Network (LAN).

- **QX50** offers 2 phone lines (FXO), 2 phone extensions (FXS), 1 Ethernet WAN port and 1 Ethernet LAN port
- **QX200** offers 4 phone lines (FXO), 2 phone extensions (FXS), 1 Ethernet WAN port and 1 Ethernet LAN port
- **QX2000** offers 1 Ethernet LAN port and 1 Ethernet Backup port

This Installation Guide does not provide advanced configuration information. For these features, refer to the Administrator's and Extension User's Guides.

Step 1: Installing the QX IP PBX explains the connection of cables and devices to the QX IP PBX.

Step 2: Configuring the QX IP PBX describes the configuration steps necessary to integrate the QX IP PBX into your network environment.

Step 2-A: Using IP Lines explains how to configure IP lines on the QX IP PBX and connect IP phones.

Step 2-B: Using Receptionist refers to the document describing Receptionist's configuration on the QX IP PBX.

Step 3: Registering on Epygi's Technical Support shows you how to access the Epygi Technical Support Center and the Epygi SIP Server.

Appendix: Changing the Admin Password explains how to change the default administrator password.

Appendix: Configuring NAT Traversal explains configuration of the QX IP PBX if it is placed behind a NAT enabled router.

Appendix: Registering on Epygi's SIP Server explains how to register on Epygi's powerful SIP server.

Appendix: Configuring QX IP PBX Extensions explains how to configure QX IP PBX extensions.

Appendix: Checking the Connections gives hints on solving common problems.

Appendix: Software License Agreement includes the contract for using QX IP PBX's hardware and software.

Requirements

- One 100-240 VAC power outlet in close proximity to the QX IP PBX.
- One RJ45 Ethernet 10/100 broadband Internet connection.
- One off-the-shelf analog phone with an RJ11 telephone cable.
- One IP phone with CAT5 cable with RJ45 connector.
- One CAT5 Ethernet cable with RJ45 connector to connect to the QX IP PBX's LAN port.
- One PC with a 10/100 Mbps Ethernet card.
- TCP/IP network protocol installed on each PC.
- Internet Explorer, Mozilla Firefox, Google Chrome or Opera browser is recommended.

Hardware Overview

The Connectors Panel of QX50/QX200

The illustration below includes the connector's panel of QX50/QX200.
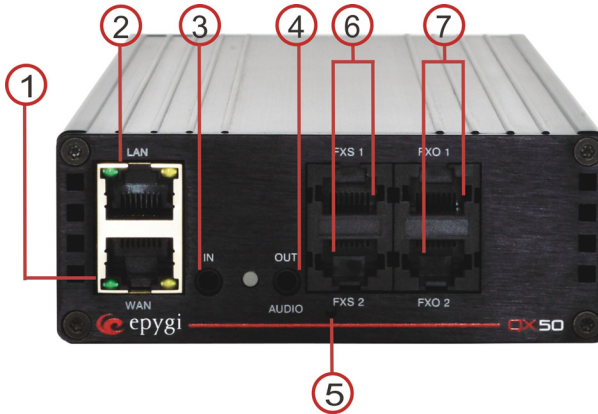
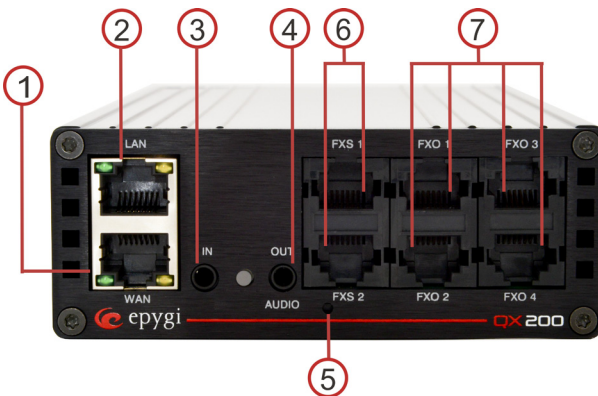

Fig.I- 1: QX50's connector panel, front

Fig.I- 2: QX200's connector panel, front

1   WAN RJ45 socket to attach the Internet Uplink (WAN) via an Ethernet CAT 5 cable.

2   LAN RJ45 socket to attach to the IP phone in the QX IP PBX's LAN via an Ethernet CAT 5 cable. For connecting multiple IP phones, a switch is used.

3   AUDIO IN connector connects the QX IP PBX to the radio or any other audio resource to be used for the hold music.

4   AUDIO OUT connector connects QX IP PBX to a speaker. AUDIO OUT is used for **Paging Group** service. The **Paging Group** service is used to page a group of extensions by forcing extensions to go off-hook and opening one-way communication. The service is particularly used for announcements addressed to a group of extensions. Service allows to page multiple extensions by dialing the **Paging Group** extension.

5   The reset button may be used in two ways: (1) to initiate a normal reset or (2) to carry out a factory reset. A normal reset is executed by pressing the Reset button with a paper clip for an instant. Pressing the reset button and holding it down for three seconds or more will execute a factory reset. This will restore the factory defaults and clear all settings including the IP address and the administration password you entered.

Please Note: The default LAN IP address is **172.30.0.1** for QX50/QX200 and **192.168.0.200** for QX2000 (default username - **admin** and password – **19**).

6   Phone sockets with RJ11 connectors enable connectivity of regular analog telephones. These are Foreign Exchange Station (FXS) analog ports.

7   Line sockets to connect the QX IP PBX to the PSTN network using standard analog phone service. These are Foreign Exchange Office (FXO) analog ports.
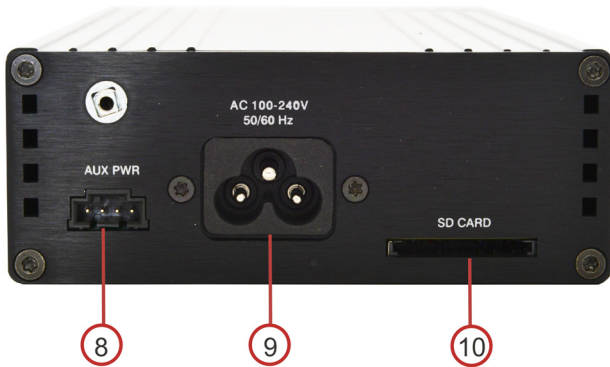

Fig.I- 3: QX50/QX200's connector panel, back

8   AUX PWR (DC Power) connector to connect two units together. The first unit will power the second by using 12V DC power connector.

9   AC Power supply socket to connect a power cable.

10   The SD card socket enables connectivity of SD memory card providing expansion for additional voicemails and record data.

Attention: Power down the QX IP PBX before inserting/removing the SD memory card.

The Connectors Panel of QX2000

1 Two USB ports to enable the connectivity of USB flash drive.

2 The main power switch is used to apply or remove power from the power supply to the system. Turning off system power with this button removes the main power but keeps standby power supplied to the system. Therefore, you must unplug system before servicing.

3 DVD-ROM is used for emergency recovery.

4 Two ETH RJ45 interfaces to attach the QX2000 to the router. These interfaces are placed in the back panel of QX2000.

QX50/QX200's Front Panel LEDs

System Status	LED Color	State Description
Busy	GREEN	**Blinking**: normal activity
Info	ORANGE	**Blinking**: an event occurred; details specified in the System Event section of the Management interface
Fault	RED	**On**: steady red, system unusable

ETH Interface Status	LED Color	State Description
WAN	GREEN	**On**: link ok **Off**: no link **flickering**: traffic on the link
LAN	ORANGE	**On**: full duplex mode **Off**: half duplex mode

LED indication during a firmware update or reboot

1. Power **ON** – steady **GREEN** LED for about 3 seconds
2. Bootstrap loading – steady **RED** LED for about 3 seconds
3. Steady **ORANGE** LED for about 15 seconds
4. During Reboot – **RED/GREEN** LEDs are blinking
5. After Reboot – Slow blinking **GREEN** LED – normal activity

LED indication during emergency firmware update

1. Power **ON** – steady **GREEN** LED for about 3 seconds
2. Bootstrap loading – steady **RED** LED for about 1 second
3. Steady **ORANGE** LED for about 5 seconds
4. **RED** LED blinking for about 1 second
5. Steady **ORANGE** LED for about 1 minute
6. Fast blinking **ORANGE** LED for about 5 second
7. Reset the board and see the LED indication steps described for firmware update or reboot.

LED indication during emergency firmware update failure

1. Power **ON** – steady **GREEN** LED for about 3 seconds
2. Bootstrap loading – steady **RED** LED for about 1 second
3. Steady **ORANGE** LED for about 5 seconds
4. **RED** LED blinking for about 1 second
5. Steady **ORANGE** LED for about 1 minute
6. Fast blinking **RED** LED for about 5 second
7. Steady **ORANGE** LED for about 15 seconds

QX2000's Front Panel LEDs

Status		State Description
1.	**Power LED** Status of the Power Supply	**On**: power supply ok **Off**: no power supply or device is still booting
2.	**Hard drive activity LED** Status of the Hard Drive	**Off**: no hard drive activity **On or Blinking**: DVD-ROM drive activity when flashing.
3.	**Two Network activity LEDs** Status of the Ethernet interface	**On**: device is booting **Off**: no information **Blinking**: indicates network activity when flashing
4.	**System Overheat LED** Status of the Overheat	**On**: indicates an overheat condition, which may be caused by cables obstructing the air-flow in the system or the ambient room temperature being too warm. **Off**: no overheat **Flickering**: indicates a fan failure

Step 1: Installing the QX IP PBX

QX50/QX200 Networking Overview

To establish a connection between the Internet and your local area network (LAN), a router is needed. The QX IP PBX can serve, among other functions, as a router and will perform the task of connecting your LAN, or a group of one or more PCs, to the wide area network (WAN) or the Internet. The QX IP PBX will process and regulate the data traffic between these two networks.

The QX IP PBX is a device with two sides: one side connects to your LAN, and the other side connects to the Internet, or to the WAN. QX IP PBX's firewall and Network Address Translation (NAT) functionality protects your LAN from being seen from the Internet side making the LAN private and secure.

Both Ethernet WAN and LAN ports transmit up to 100 Mbps traffic.

Every device within an IP network requires a unique IP address to identify itself. Since the QX IP PBX connects to both the LAN and the WAN, it has to be part of both networks, and must have two IP addresses: one for the WAN side and one for the LAN side. The QX IP PBX's integrated firewall/NAT functionality will hide the LAN IP address from the WAN (Internet) side.

There are two ways of assigning an IP address: statically or dynamically.

A Static IP address is a fixed, manually assigned IP address that remains valid until changed. If you plan to use the QX IP PBX as your router, contact your Internet Service Provider (ISP) to find out if a static IP address is assigned to your account. If so, you will need this static IP address when configuring the QX IP PBX device.

A dynamic IP address is a temporary address that is automatically assigned by your ISP and will change periodically. If your ISP offers a dynamic IP address, the QX IP PBX will act as a DHCP client and will receive a new IP address from the ISP's DHCP server or PPPoE feature.

Please Note: A DHCP client is a service that requests an IP address from a DHCP server. A DHCP server assigns on request a unique IP address to a device. The QX IP PBX, like many routers, acts as a DHCP client on its WAN interface and as a DHCP server on its LAN interface.

The QX IP PBX must be visible to the Internet to be able to receive and send VoIP calls. When the QX IP PBX is placed in a private network, typically behind existing routers, it will by default attempt to pass through the NAT of this router with its STUN (Simple Traversal of UDP over NAT) feature. STUN will work without user configuration with the majority of basic routers. In some scenarios, port forwarding on the router is required to make the QX IP PBX accessible to other QX IP PBX devices and the Epygi SIP Server on the Internet. Another configuration option is to use the QX IP PBX as the router, connected directly to the WAN, eliminating the traverse to the local NAT firewall.

LAN/WAN Connection Options

- **A QX50/QX200 with an Ethernet WAN port behind a router, which is connected to ISP network. IP phones are placed on the WAN side of the QX50/QX200.**
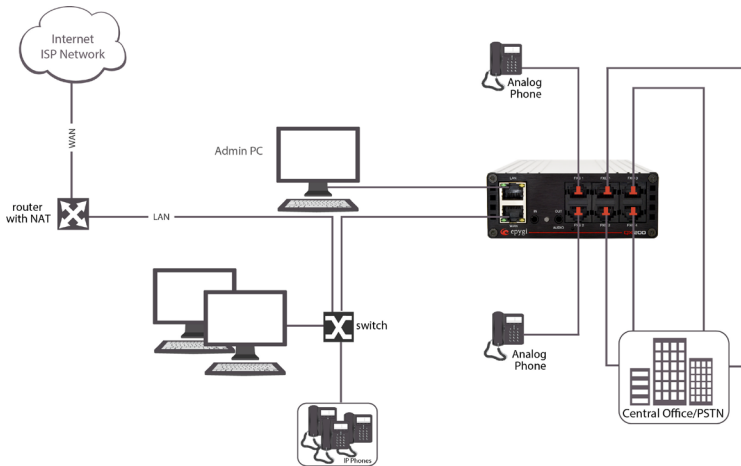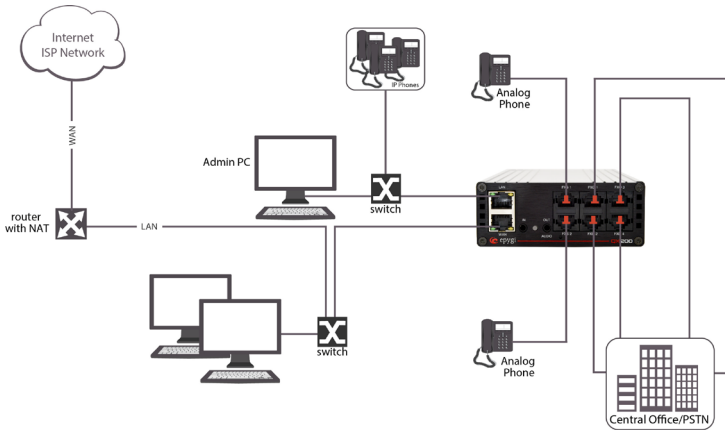

Fig.I- 4: Configuration: QX50/QX200 behind a router with IP phones on WAN

In this and the following configuration, the router typically acts as a DHCP server for the LAN and assigns the IP addresses to the PCs and other devices. The QX50/QX200 should be connected through its WAN port to one of the ports of Switch and get an IP address from the router. By default, the QX50/QX200 acts as a DHCP client on the WAN port. The IP phones and PCs are also connected to a Switch.

The Admin PC can be connected to the QX50/QX200 LAN or WAN port to access the QX50/QX200 Web Management.

Please Note: Since QX50/QX200 uses STUN by default, it will work with most basic routers without any further configuration.

- **A QX50/QX200 with an Ethernet WAN port behind a router, which is connected to ISP network. IP phones are placed on the LAN side of the QX50/QX200.**

Fig.I- 5: Configuration: QX50/QX200 behind a router with IP phones on LAN

This configuration is identical to the previous configuration, with the difference that IP phones are connected to the QX50/QX200 LAN port. The QX50/QX200 can be configured as a DHCP server to provide the network parameters to the devices on its LAN.

The Admin PC can be connected to the QX50/QX200 LAN or WAN port to access the QX50/QX200 Web Management.

- **A QX50/QX200 used as a Router, connected directly to the Internet.**
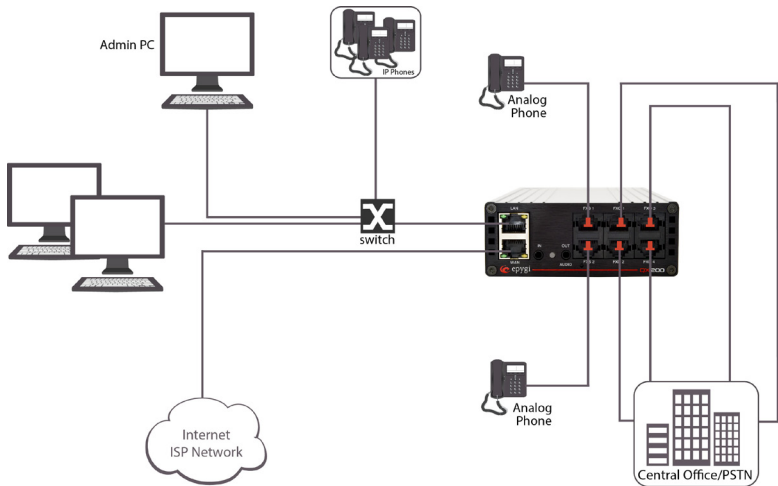
Fig.I- 6: Configuration: QX50/QX200 used as a Router

Please Note: As the QX50/QX200 has limited LAN/WAN connectivity, this scenario is not intended for high traffic networks.

The Admin PC, other PCs and IP phones are connected to the Switch that is connected to the QX50/QX200 LAN port. The QX50/QX200 can be configured as a DHCP server to provide the network parameters to the devices on its LAN.

QX2000 Networking Overview

The QX2000 has two Ethernet ports. Those ports are able to transmits and receive up to 1000 Mbps traffic.

Every device within an IP network requires a unique IP address to identify itself. Since the QX2000 connects to the Ethernet, it has to be part of network, and must have IP address.

QX2000 should have static IP address configured, which is a fixed, manually assigned IP address that remains valid until changed.

The QX2000 must be visible to the Internet to be able to receive and send VoIP calls. When the QX2000 is placed in a private network, typically behind existing routers, it will by default attempt to pass through the NAT of this router with its STUN (Simple Traversal of UDP over NAT) feature. STUN will work without user configuration with the majority of basic routers. In some scenarios, port forwarding on the router is required to make the QX2000 accessible to other QX2000 devices and the Epygi SIP Server on the Internet.

QX2000 Network Connection

- **A QX2000 with an Ethernet port behind a router, which is connected to ISP network. IP phones are placed on the same network with QX2000.**
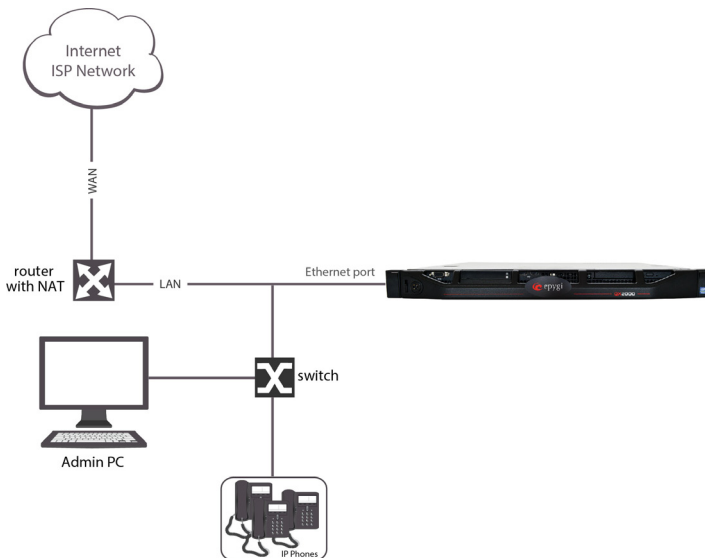
Fig.I- 7: Configuration: QX2000 behind a router with IP phones on the same network

Connecting the Hardware

For QX50/QX200:

- Verify the product package contents are complete. Refer to the contents sheet included in the packaging to determine if all the items were shipped in the box.
- Connect analog telephones and fax machines to the FXS ports on the QX's rear panel. You may connect up to two analog phones.
- Connect the LAN port on your PC via a straight CAT 5 cable with an RJ45 connector to the LAN socket of the QX IP PBX.
- Connect the IP phones to the switch and attach it to the LAN socket of the QX IP PBX via a straight CAT 5 cable with an RJ45 connector.
- Connect the WAN port of the QX IP PBX to the ISP network.
- Power the QX by connecting the power cable to a power strip with surge protection and a UPS.
- Power up any hub or switch followed by any PC and other devices on the LAN side.
- Check the LEDs: The green WAN LED will blink when cables are connected to these ports and all devices are powered up. If the green WAN LED does not blink, verify cabling and ensure that all devices are powered up.

  Please Note: CAT 5 cables can be faulty without any visual indication. The LAN and WAN LEDs verify that the Ethernet connection is established between the end points. If these LEDs are not illuminated, there is a connection problem between the QX IP PBX and the other device.

Step 2: Configuring the QX IP PBX

Verify functionality of both IP and PSTN calls:

- **PSTN telephony:** If the QX IP PBX is connected to the PSTN network via the E1/T1, FXO or ISDN interface, verify the functionality of PSTN calls:
  - o Make an outbound PSTN call by dialing **9 + PSTN number** or **0 + PSTN number** (see Emergency Codes and PSTN Access Code Settings).
  - o Arrange to receive an incoming call. The incoming PSTN calls will be routed to the Auto Attendant by default, and the caller has to enter a valid extension number, e.g., 101, followed by the # sign to reach a phone connected to the first FXS port of the QX IP PBX.
- **IP telephony:** Dial **88888#** and you will hear a voice message that confirms you have successfully established an IP call. If this call is not successful, go to Appendix: Checking the Connections for troubleshooting.

You may customize the following settings by logging in to the QX IP PBX's Web Management (see below).

- **Bandwidth** - to regulate the number of calls allowed by the QX IP PBX to avoid degradation in low bandwidth conditions.
- **Time/Date** - to ensure the correct time and time zone are used for call records.
- **Regional Settings** - if your QX IP PBX is located outside the United States, it is important to properly configure your line connections to the PSTN in your location.

Step 2.1: Logging in to QX IP PBX

- Start a browser (MS Internet Explorer, Google Chrome, Opera, Mozilla Firefox, etc.) on a PC connected to the QX IP PBX via the LAN or WAN interface.
- Since Firewall is disabled on the QX IP PBX by default, you may connect the Web GUI either from WAN or LAN side of the QX IP PBX. To connect the QX IP PBX's Web GUI from the WAN side, enter **http://Quadro_WAN_IP** (IP address assigned by the company's DHCP server) in the address field of your browser. If the PC is connected to the QX IP PBX's LAN side, enter **http://172.30.0.1** for QX50/QX200 (QX50/QX200's default IP address) and **http://192.168.0.200** for QX2000 (QX2000's default IP address) in the address field of your browser.
- The **Login** page of the QX IP PBX will be displayed (see Fig.I- 8).
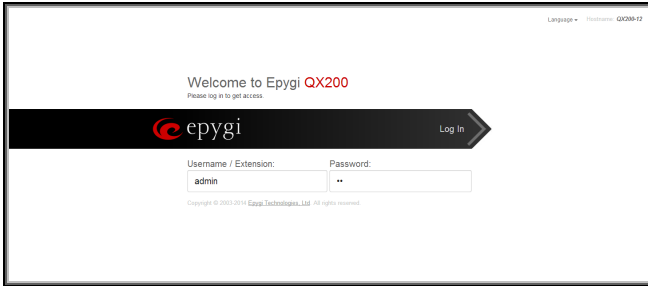
Fig.I- 8: Login page

Enter **admin** as the Username and **19** as the password to log in as the administrator. Once you log in, you will enter into the QX IP PBX Management Menu.

Please Note: If you consecutively enter a wrong password and/or username for five times the device will be unavailable for login for five minutes.

After log in, the **Epygi QX Management** page will be displayed.
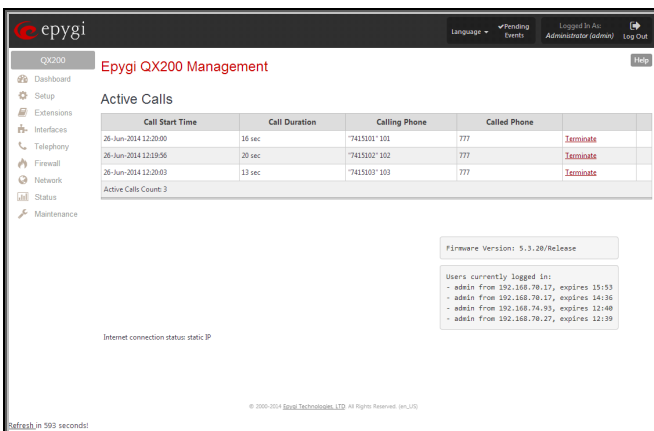
Fig.I- 9: Epygi QX Management page

Step 2.2: Basic Setup - System (LAN)

Select the **Basic Setup – System (LAN)** from the **Setup** menu for QX50/QX200 and **Basic Setup – System Configuration Wizard** from the **Setup** menu in case of QX2000 product. The **System Configuration Wizard** is a tool for the administrator to define the QX IP PBX's LAN settings and to specify regional configuration settings to make QX IP PBX operational in its LAN. **The System Configuration Wizard must be run upon QX IP PBX first startup.**

Some pages in this wizard may be skipped and left default for the basic configuration.

Please Note: It is strongly recommended that factory default settings are left unchanged if their meanings are not completely understandable to the party administrating the QX IP PBX.

The page **Getting Started** will be displayed:
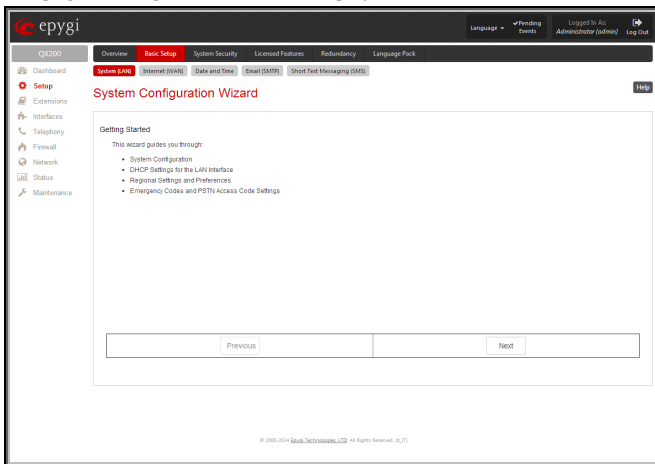
Fig.I- 10: System Configuration Wizard page

System Configuration Wizard

The first page of **System Configuration Wizard** shows all items to be configured. Click the **Next** button to start. Enter into the **Host Name** field the unique name (top left corner, under Epygi logo) for the QX IP PBX device. The **Domain Name** text field requires the LAN side domain name which the QX IP PBX belongs to.

For a basic configuration, the **LAN IP address** does not need to be changed, but if you must change it (for example, to integrate the device into an existing LAN), record the new LAN IP address and have it handy. You'll need it for subsequent access to QX IP PBX's management.
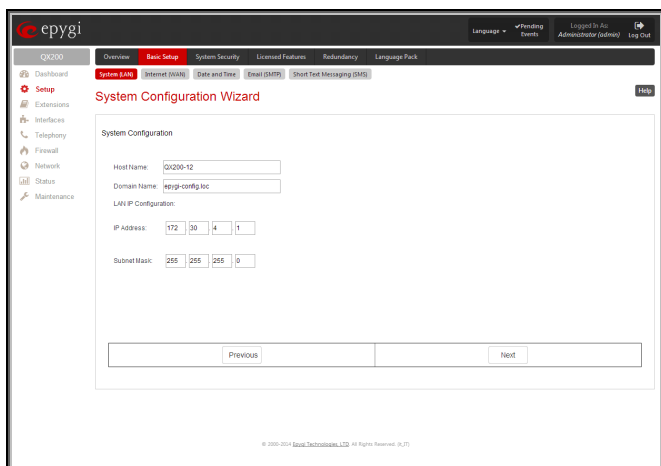
Fig.I- 11: System Configuration page

Clicking **Next** shows the page **DHCP Settings for the LAN Interface**.

DHCP Settings for the LAN Interface

If the DHCP server is enabled, the QX IP PBX will automatically assign dynamic IP addresses to the stations connected to its LAN port.

If you didn't change the default LAN IP address of the QX IP PBX, you also may leave the default values for the **IP Address Range**. Make sure your connected LAN devices belong to the same network as the LAN port of your QX IP PBX.

Please Note: Make sure there is only one DHCP server on the LAN, otherwise, unpredictable network behavior can occur.
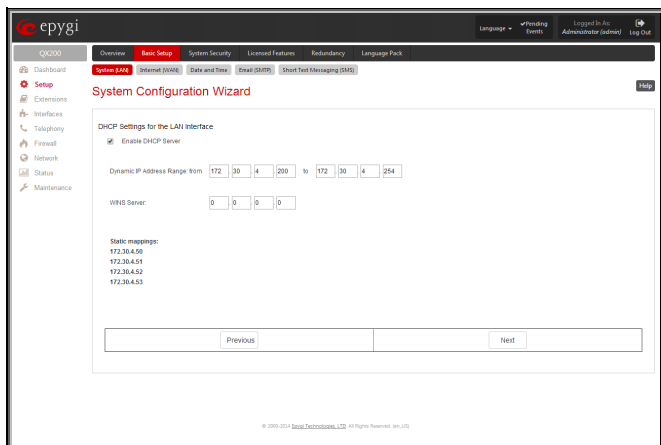
Fig.I- 12: DHCP Settings for the LAN Interface page

Click on **Next** to display the **Regional Settings** page.

Regional Settings and Preferences

If your QX IP PBX is located outside of the United States, it is important to properly configure your line connections to the PSTN in your location.
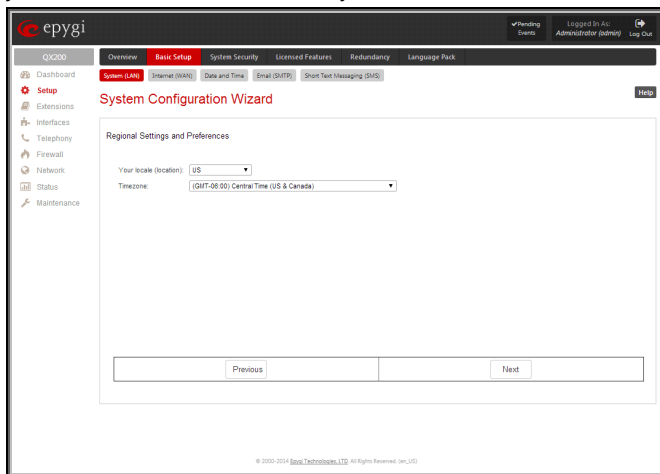
Fig.I- 13: Regional Settings page

Proper configuration of **Regional Settings** is important for the functionality of the voice sub-system. The **Regional Settings** determine the proper telephony parameters on the LINE and PHONE ports of the QX IP PBX for the specified country. Select the country where the QX IP PBX is located. If you do not find your country in the list, pick the closest in your timezone.

The QX IP PBX obtains the correct time automatically over the Internet from a time server. If you are not located in the US/Central standard time zone, you will need to change the **Time-zone** to your region.

Click on **Next** to display the **Emergency and PSTN Access Code Settings** page.

Emergency Codes and PSTN Access Code Settings
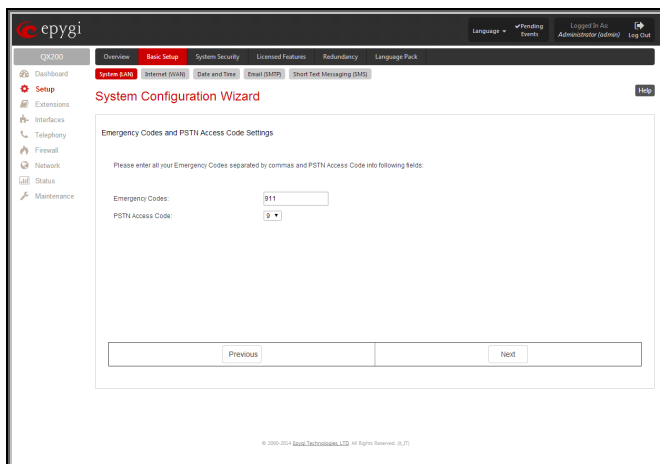
Fig.I- 14: Emergency Codes and PSTN Access Code Settings page

You may enter your local specific emergency codes into the appropriate field. For example, in the United States the emergency number is 911, whereas in Germany it is 112, 110. In case of an emergency you can then pick up any FXS phone and dial your configured emergency code without any prefixes for PSTN calls.

The PSTN Access Code is the prefix number you choose to dial to tell the QX IP PBX to "make this call over PSTN". Users in the United States will usually choose 9 here. European users usually would want to enter zero (0). If you do not enter anything into this field, the PSTN Access Code configuration should be done manually from the Call Routing table.

Click on **Next** to display the **Summary Page**.

Finishing the System Configuration Wizard
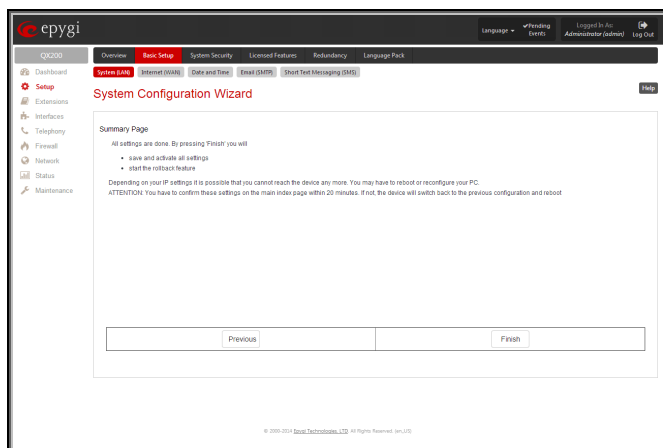
Fig.I- 15: System Configuration Wizard finishing page

Click on **Finish** to complete the System Configuration Wizard. The QX IP PBX will then stop internal functions and apply the changes made in the Wizard.
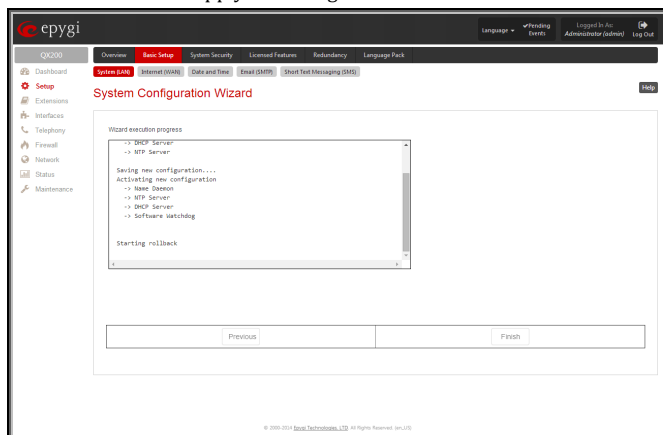
Fig.I- 16: System Configuration Wizard Execution Progress page

After this is complete, the QX IP PBX will reply with the **Confirm Settings** page requesting confirmation of the changes. Press on **OK** to confirm the settings.
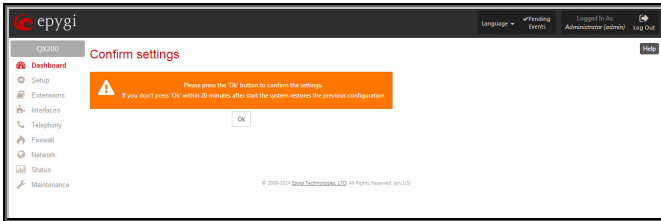
Fig.I- 17: Confirm Settings page

Please Note: You must confirm the settings within 20 minutes. Otherwise the device will **revert back to the previous configuration and reboot**.

Please Note: If you do not use DHCP for your LAN and you have changed your LAN settings, make sure that the IP address of the PC connected to QX IP PBX is still within the specified IP address range, otherwise your PC may not establish a connection to QX IP PBX.

If you changed the network configuration of the LAN, restart your LAN connection to receive a new IP address from the new network. Then you can access the Web Management of the QX IP PBX on the new IP address you've assigned to the QX IP PBX.

Step 2.3: Internet (WAN) – Internet Configuration Wizard

Select the **Basic Setup – Internet (WAN)** from the **Setup** menu for QX50/QX200 and **Basic Setup – Uplink Configuration Wizard** from the **Setup** menu in case of QX2000 product. The **Internet (WAN)/Uplink Configuration Wizard** is a tool for the administrator to configure the WAN settings and to adjust QX IP PBX's connectivity in the global network. It must be run if QX IP PBX is desired to be connected to the Internet.

The page **Getting Started** will be displayed:
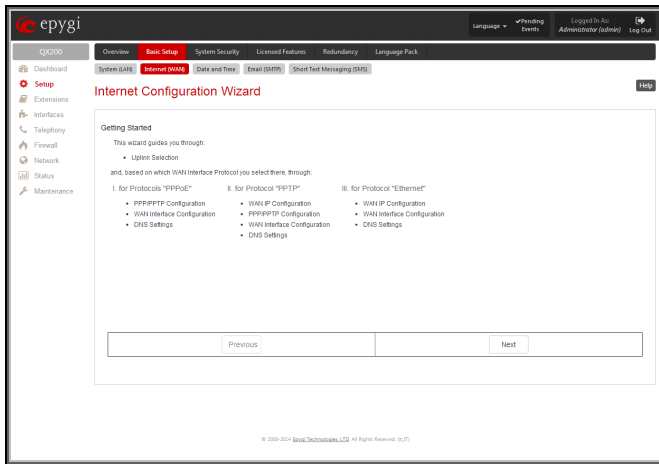
Fig.I- 18: Internet Configuration Wizard

This first page of the **Internet Configuration Wizard** is for informational purposes only and lists the items to be configured, Click on the **Next** button for the **Uplink Configuration** page.

Before configuring the WAN port to the Internet, you need to get the following information from your internet service provider:

- **Bandwidth** - the available upstream and downstream.
- **WAN IP Configuration** - is DHCP supported? If yes, no more information is needed. If DHCP is not supported, the following data is needed: the WAN IP address, the subnet mask, the IP address of the default gateway and the IP address of the Domain Name Server (DNS).
- **MAC address** - needed when the ISP requires a specific MAC address for the WAN.

Additionally, for Point-to-Point Protocol over Ethernet (PPPoE) WAN interface, you need to get the following information from your internet service provider:

- **PPP Configuration** - does your ISP use a dynamic or fixed WAN IP address? If the WAN IP address is dynamic, no more information is needed. If the WAN IP address is fixed, you will have to enter it.
- **Authentication** - does your ISP require authentication? If authentication is required, information about the corresponding method (PAP, CHAP or MSCHAP) is needed including the username and password of the PPPoE account.

This information will be needed to be inserted in the Internet Configuration Wizard.

Uplink Configuration

Select the desired WAN Interface Protocol and enter the **WAN Interface Bandwidth** to assure the quality of IP calls.
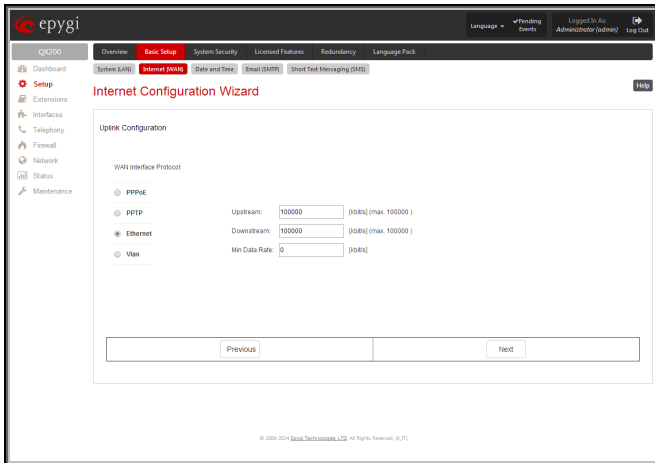

Fig.I- 19: Uplink Configuration page

If the available bandwidth is used to the point where the quality of an additional IP call would suffer, then new IP calls are rejected.

The bandwidth provided by your ISP must be specified for both **Upstream** and **Downstream** fields**.** The default entry in both fields is **100000,** the maximum bandwidth of the 100 Mb up-link module. For basic DSL and cable modem service in the United States, typical values are **300** for Upstream and **1500** for Downstream.

The **Min Data Rate** text field is used to specify the amount of bandwidth reserved for data ap-plications. The value entered here needs to be smaller that the value specified for **Upstream Bandwidth**.

Specify the **WAN Interface Protocol** by choosing between available WAN interface protocols: **PPPoE** (Point to Point over Ethernet), **PPTP** (Point to Point Tunneling Protocol) and **Ethernet**. Use Ethernet for DHCP or static IP.

For **Ethernet**, clicking **Next** will display the **WAN IP Configuration** page**.** If **PPPoE** is the se-lected WAN Interface Protocol**,** the next page will be PPP/PPTP Configuration. For **PPTP** WAN Interface Protocol**, PPP/PPTP Configuration** page will follow the **WAN IP Configuration.**

PPP/PPTP Configuration

Enter the IP address of the PPTP server into the **PPTP Server** text field.

Choose the encryption for the traffic over the PPTP interface from the **Encryption** drop down list.

Please Note: PPP/PPTP Settings are not available for QX2000.

Authentication Settings require the Username and the Password used for the authentication on the ISP server.

Dial Behavior radio buttons:

- **Dial Manually** - if this radio button is activated, a button will be displayed in the main management window that serves to switch the Internet connection on/off. When accessing the Internet, every station of the connected LAN has to connect to QX IP PBX first.
- **Always connected** - QX IP PBX stays in the always connected mode. This will allow QX IP PBX always remain online in the network.

The **IP Address Assignment** field is used to specify the external IP address given to the QX IP PBX. Usually it is a dynamic address but in some cases you may be given a static IP address.
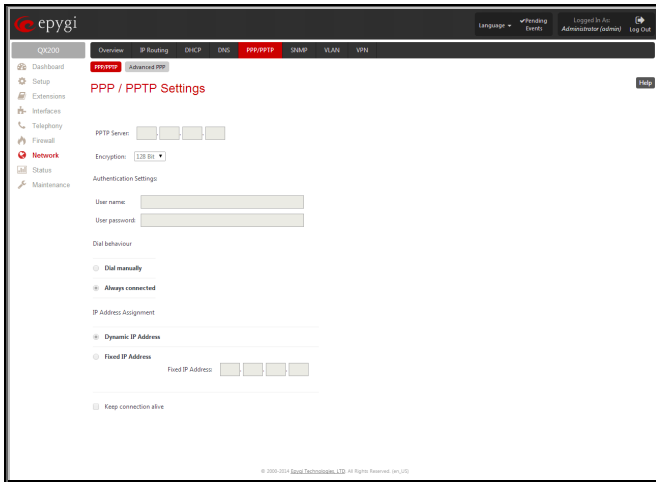
Fig.I- 20: PPP/PPTP Configuration page

If your ISP assigns a dynamic IP address, activate the **Dynamic IP Address** radio button, otherwise activate the **Fixed IP Address** radio button and enter the IP address you were assigned by your ISP.

Keep Connection alive checkbox enables keeping the connection alive by sending control packets dedicated for the link state verification.

WAN IP Configuration

Your Internet Service Provider (ISP) should provide this information.

- **Assign automatically via DHCP** - The parameters are set automatically by the ISP. This is common with cable modem and DSL service.
- **Assign Manually** requires the administrator to enter the external **IP Address**, the corresponding **Subnet Mask**, and the IP address of the **Default Gateway**. This is common when you have a static IP address with your ISP.
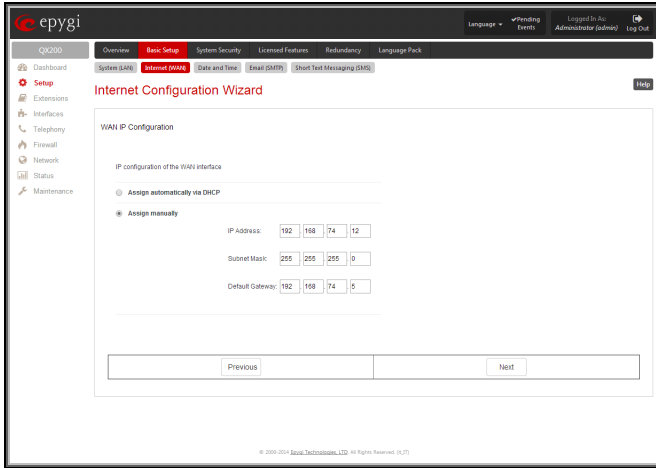

Fig.I- 21: WAN IP Configuration page

Click on **Next** to display the **WAN Interface Configuration** page.

WAN Interface Configuration

If your ISP requires a specific MAC address (for example, for authentication), it can be entered on this page. The required MAC address can be entered into the **User defined** field. If a specific MAC address is not required, leave the default selection **This device** selected.
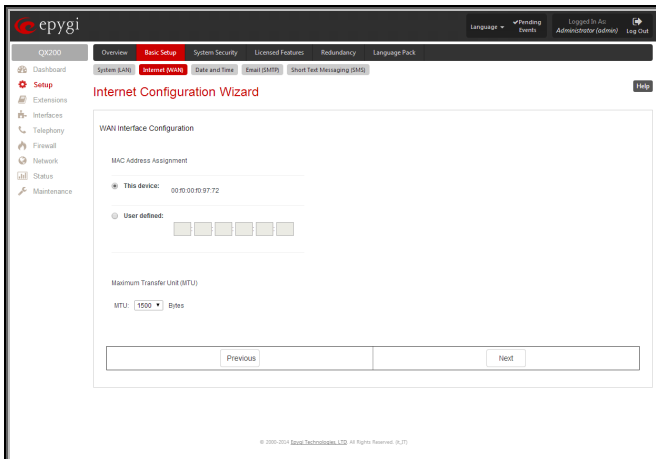
Fig.I- 22: WAN Interface Configuration page

Use the **MTU** drop down list to select the maximum packet size on the Ethernet (in bytes).
Click **Next** to display the **DNS Settings** page.

DNS Settings

For DNS, the selection is set to **Dynamically by Provider**. When using a static IP address, fixed values must be entered.
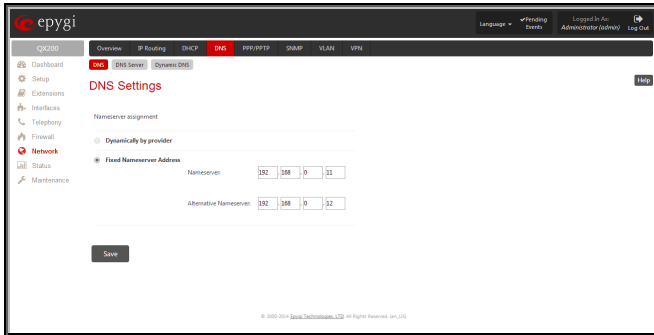
Fig.I- 23: DNS Settings page

The QX IP PBX will suggest the correct settings. If **Dynamically by Provider** is selected, the DNS server settings will be set automatically whenever a connection to the Internet is established.

If **Fixed Nameserver Address** is selected, manually enter the IP addresses provided by your ISP for the name server and the alternative name server.

Clicking **Next** shows the summary page of the Internet Configuration Wizard.

Finishing the Internet Configuration Wizard
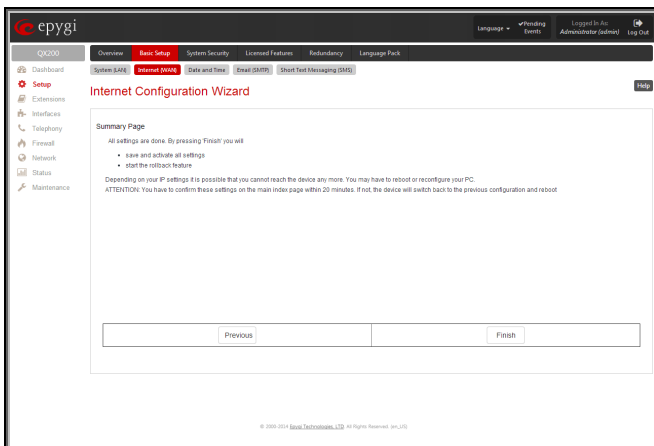
Fig.I- 24: Internet Configuration Wizard Summary page

Click the **Finish** button to complete the Internet Configuration Wizard. The QX IP PBX will then stop internal functions and apply the changes made in the Wizard. After this is complete, the QX IP PBX will display the **Confirm Settings** page requesting confirmation of the changes.

Press the **OK** button to confirm the settings.

Please Note: The settings should be confirmed within 20 minutes; otherwise, the device will **revert back to the previous configuration and reboot**.

Step 2-A: Using IP Lines

Before starting the IP Lines specific configuration, the appropriate IP Phone (the list of SIP phones supported by QX IP PBX is presented below) should be connected to the QX IP PBX either through its LAN or WAN port. If the phones are placed on the QX IP PBX LAN, please ensure that the **Configure IP phones from LAN** side option is enabled on the **IP Line Settings** page (see Fig.I- 25).

The QX IP PBX provides two options for configuring IP phones:

- **Plug-and-Play:** This option does not require any specific configuration except that the **Enable PnP for IP lines** checkbox should be enabled on the **Interfaces – IP Lines – IP Line Settings** page (see Fig.I- 25).

- **Auto-Configuration**: This option requires specifying some basic parameters on the QX IP PBX and restarting the phone (see Fig.I- 27).
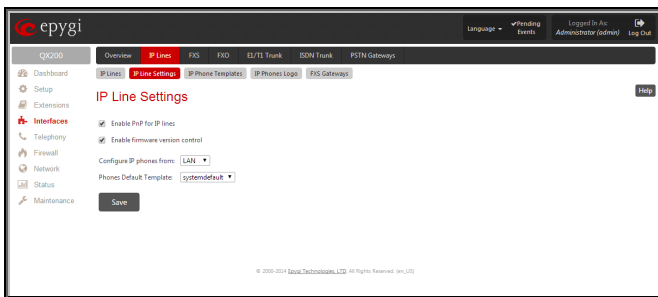
Fig.I- 25: IP Line settings page

Each IP line should be configured individually from the **Interfaces – IP Lines – IP Line #** page.
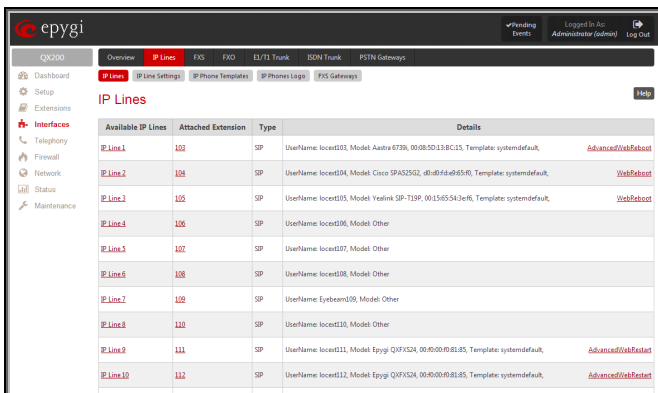
Fig.I- 26: IP Lines page

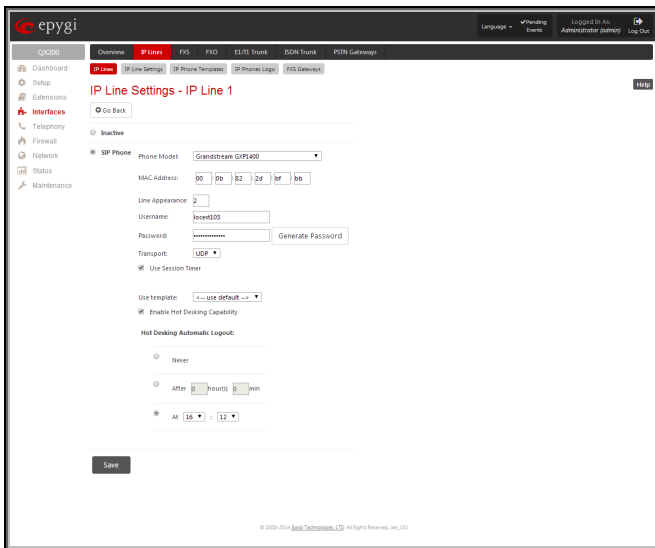Click on the IP Line number to enter the **IP Line Settings** – **IP Line#** page.

Fig.I- 27: IP Line Settings – IP Line page

Select the **SIP Phone** radio button. Select the SIP IP phone model from the **Phone Model** drop down list. Insert the SIP Phone's **MAC address** in the corresponding fields. The MAC address of an IP phone is usually printed on the back of the phone's base unit.

In the **Line Appearances** text box, enter the number for simultaneous calls supported by the SIP IP phone – which is the sum of the number of active and held calls. For example, if this field is set to **1**, only one active call is possible to have on the phone and making or accepting a second call while the other is on hold will not be allowed. Note, that this number depends on the phone brand and model, and cannot exceed the number of simultaneous calls supported by the phone.

To simplify the configuration procedure, QX IP PBX generates unique identification parameters (see **Username** and **Password**). You may use either these values or specify new ones. The **Password** field is checked against its strength and you may see how strong is the inserted password right below that field. A well protected, strong password has a minimum of 8 characters of letters in upper and lower case, symbols and numbers. If you are unable to define a strong password, press **Generate Password** to use one of the system defined strong passwords.

The **Transport** drop down list is used to select the SIP protocol transport layer - UDP, TCP or TLS. For TLS you may activate the TLS certificate update mechanism from IP Phone to obtain the latest certificate generated by the QX IP PBX.

The **Use Session Timer** enables the SIP session timer for the corresponding IP line. This checkbox enables advanced mechanisms for connection activity checking. This option allows both user agents and proxies to determine if the SIP session is still active.

The **Enable Hot Desking Capability** checkbox is used to enable the **Hot Desking** feature on the corresponding IP line (for details, see Manual II – Administrator's Guide).

The **Hot Desking Automatic Logout** section is used to configure **Hot Desking** functionality expiration on the corresponding IP line. This may be useful when someone who logged in to

the public phone with the extension attached to this line forgot to log out after using it. With this option enabled, once the expiration time arrives, the extension will automatically log out from the public phone.

The following options are available:

- **Never** – the extension will never expire and will remain logged in to the public phone.
- **After the defined period of time** – requires the period after which the extension will automatically log out from the public phone.
- **At the certain moment** – requires the moment (hour and minute) when the extension will automatically log out from the public phone.

Press **Save** to apply the settings for the IP line.

Reset the SIP Phone to factory default. After restart, the appropriate configuration will be automatically downloaded from the QX IP PBX to the SIP Phone.

Please Note: For automatic configuration, some SIP phones may require additional actions to follow the restart. You may also find the detailed installation instructions of the Epygi's supported IP Phones in the "**Configuring Epygi Supported IP Phones**" document published on Epygi's Web portal.

To make sure the line configuration works properly, do the following:

- Go to **Status – System Status – IP Lines Registration** tab to see if IP Line registration is successful.
- Dial ***74** to get the line information.
- Make outgoing and accept incoming calls.

Supported SIP Phones

Below is the list of SIP phones that are officially supported by Epygi and can be configured to work with QX IP PBX using both Plug and Play and the automatically configuration options, as well as the full set of advanced features, like paging and intercom:

• Aastra 9112i	• Grandstream GXP2000	• SIPUra SPA 841
• Aastra 9133i	• Grandstream GXP2100	• snom 190
• Aastra 480i	• Grandstream GXP2110	• snom 200
• Aastra 480iCT	• Grandstream GXP2120	• snom 220
• Aastra 9143i(33i)	• Grandstream GXP2124	• snom 300
• Aastra 9480i(35i)	• Grandstream GXP2140	• snom 320
• Aastra 9480iCT	• Grandstream GXP2160	• snom 360
• Aastra 6751i	• Grandstream GXP2200	• snom 370
• Aastra 6753i	• Grandstream GXV3140	• snom 710
• Aastra 6755i	• Grandstream GXV3175	• snom 720
• Aastra 6757i(57i)	• Grandstream HT286	• snom 760
• Aastra 6757iCT (57iCT)	• Grandstream HT386	• snom 820
• Aastra 6730i	• IpDialog SipTone II	• snom 821
• Aastra 6731i	• Linksys SPA921	• snom 870
• Aastra 6735i	• Linksys SPA922	• snom M3
• Aastra 6737i	• Linksys SPA941	• snom PA1
• Aastra 6739i	• Linksys SPA942	• snom m9
• Aastra MBU400	• Linksys SPA2002	• snom MeetingPoint
• Akuvox SP-R53P	• Linksys PAP2T	• Swissvoice IP 10S
• Alcatel Temporis IP200	• Panasonic KX-UT136	• Telematrix IP550 Spectrum Plus
• Alcatel Temporis IP600	• Panasonic KX-UT123	• Telematrix IP 3300
• Alcatel Temporis IP800	• Panasonic KX-TGP550T04	• Telematrix IP9600 MWD5
• AudioCodes 310HD	• Polycom SoundPoint IP 300SIP	• Thomson ST2030S
• AudioCodes 320HD	• Polycom SoundPoint IP 330SIP*	• Yealink SIP-T19P
• Berkshire (ATL) 5000	• Polycom SoundPoint IP 331SIP*	• Yealink SIP-T20P
• CISCO 7960	• Polycom SoundPoint IP 335SIP*	• Yealink SIP-T21P

• CISCO SPA525G2	• Polycom SoundPoint IP 450SIP*	• Yealink SIP-T22P
• CISCO SPA303	• Polycom SoundPoint IP 501SIP	• Yealink SIP-T26P
• CISCO SPA501G	• Polycom SoundPoint IP 550SIP*	• Yealink SIP-T28P
• CISCO SPA509G	• Polycom SoundPoint IP 601SIP	• Yealink SIP-T41P
• Fanvil C58/C58P	• Polycom SoundPoint IP 650SIP*	• Yealink SIP-T32G
• Fanvil C62/C62P	• Polycom SoundStation IP 5000*	• Yealink SIP-T38G
• Fanvil F52/F52P	• Polycom SoundStation IP 6000*	• Yealink SIP-T42G
• Grandstream BT100	• POLYCOM VVX 1500*	• Yealink SIP-T46G
• Grandstream BT200	• Polycom VVX 300/310*	• Yealink W52P
• Grandstream GXP1400	• Polycom VVX 400/410*	• Yealink VP-2009/ VP-2009P
• Grandstream GXP1405	• POLYCOM KIRK wireless server 6000	• Yealink VP530
• Grandstream GXP1450	• POLYCOM KIRK wireless server 300	

To use Plug and Play (PnP) option for IP phones, connect them to LAN/WAN for the QX IP PBX and power up. If the phone is in default settings then it will automatically select a free IP line and attach to an extension. If not, reset the phone to factory defaults manually.

Please Note: To use PnP the appropriate option should be selected in the **Interfaces - IP Lines – IP Line Settings** page.

Please Note: In the model's list the Polycom phones with (*) sign are also presented as **Polycom-xx-Pre-3.3.0** due to backward incompatibility of UCSoftware 3.1.1 configuration. It is recommended to use **Pre-3.3.0** models with Application SIP software 3.2.2.0477.

Step 2-B: Using Receptionist

If you wish to use the Receptionist's features, the Receptionist should be set up on the QX IP PBX. The QX IP PBX's basic configuration should be done in the same way as described in the Step 2.

The Receptionist related setup, with detailed instructions on how to configure the QX IP PBX and the attached IP Phones, is described in the "**Receptionist Setup on Epygi IP PBX**" document, which you can find at the Epygi's Web portal.

Step 3: Registering on Epygi's Technical Support

It is recommended that you register your QX IP PBX on the Epygi Technical Support web page. Registration will give you access to the Technical Support Database.

The **Register Your Device in Technical Support Center** page appears when administrating an unregistered QX IP PBX, and it has been created for customer support purposes. The page requires customer registration at the Epygi Technical Support Center.
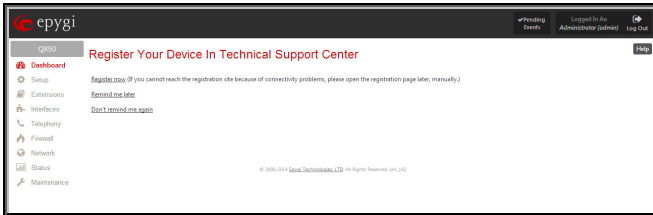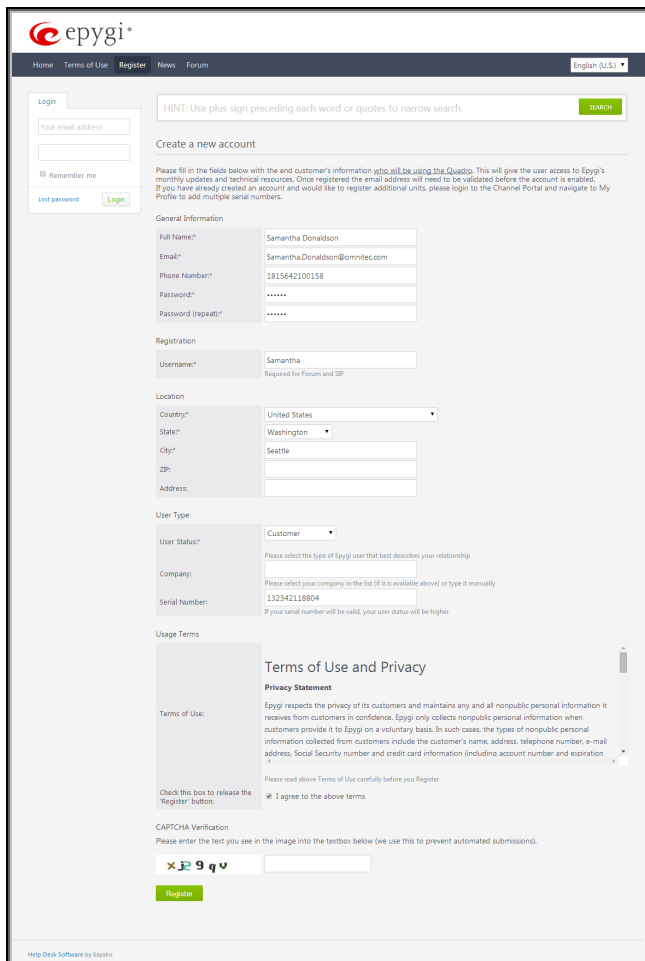
Fig.I- 28: Device Registration page

There, you can submit requests concerning technical problems as well as refer to the E-pygi Forum section. In addition, the technical support page allows users to download new firmware, manuals and other information. You can access the support section only if you are registered. Additionally, registration at Epygi's Technical Support web page gives you the username and password to login to the Epygi SIP Server.

To register, you need to know the serial number of your QX IP PBX, which is located on a label on the bottom of QX IP PBX. You will also need the date of purchase. Next, open the Epygi support page (http://support.epygi.com) and click on **Register**. The online registration page will appear:

Fig.I- 29: Registration form

Complete all fields and record the **Login Name** and **Password** in a safe place. You will need it for the SIP server.

Please Note: In some cases, the QX IP PBX units will be shipped preconfigured from the factory with the Support login and password already set up. In this case, an information sheet is included in the packaged contents indicating the username and password to access Epygi's Online Support and the Epygi SIP Server.

Appendix: Changing the Admin Password

For security reasons, it is recommended that you change the default admin password. The username of the administrator (**admin**) cannot be changed.

To change the administrator password, go to the **Maintenance** - **User Rights** - **Users** page.
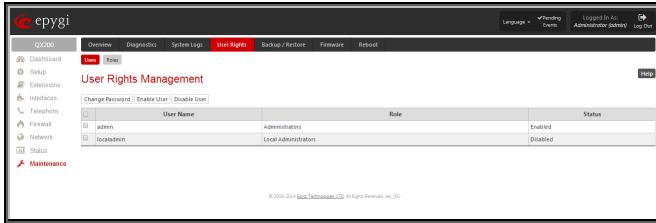

Fig.I- 30: User Rights page

Choose **admin** from the list and press the **Change Password** functional button from the **Users** tab.

For **Administrator** account the page contains two parts - one for **GUI Access Password**, the other one for **Phone Access Password**.

The **GUI Access Password** offers the following components:

- The **Old Password** field requires the current password of the **Administrator**. An error message prevents entering the wrong password.
- The **New Password** field requires a new password for the **Administrator**. Reentering the new password in the **Confirm New Password** field will confirm the new password. The **New Password** field is checked against its strength and you may see how strong is the inserted password right below that field. Up to twenty (0-20) digits and symbols are allowed.
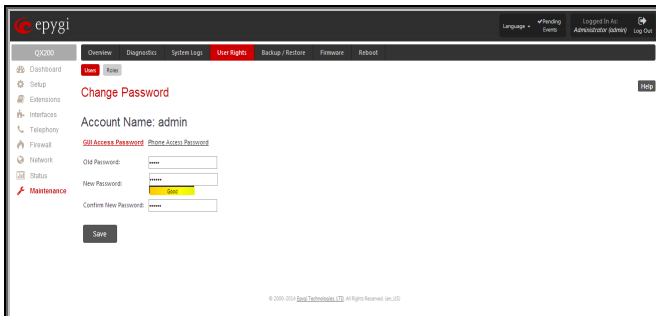

Fig.I- 31: Change Password page

The **Phone Access Password** offers the following components:

- The **Old Password** field requires the current password of the **Administrator**. An error message prevents entering the wrong password.

- The **New Password** field requires a new password for the **Administrator**. Reentering the new password in the **Confirm New Password** field will confirm the new password. The **New Password** field is checked against its strength and you may see how strong is the inserted password right below that field. The password can consist of numeric values only. Up to twenty (0-20) digits are allowed. A corresponding warning appears if any other symbols are inserted.
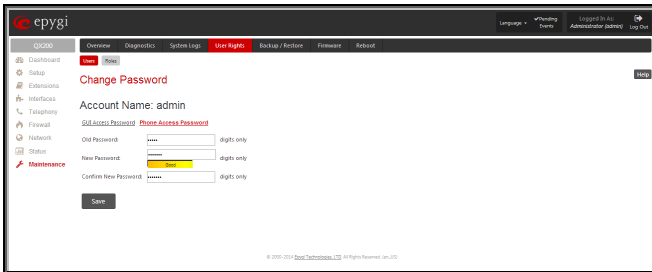

Fig.I- 32: Change Password page

Write down the password somewhere and keep it in a secure place. If the password is lost, a factory reset will be required on the unit (see Manual II - Administrator's Guide). All settings are lost after a factory reset. After a factory reset the default password (19) will be restored.

Appendix: Configuring NAT Traversal

NAT or Network Address Translation is a common feature to expand the use of connected PCs and other networked devices without having to use multiple public IP addresses. Most ISP's will assign one public IP address to each customer that is connected to the Internet. Third-party routers typically are providing NAT capability and creating a private network of PCs and other devices not visible from the Internet. This method offers security and also eliminates the need to assign public IP addresses to each device on the LAN.

The QX IP PBX initiates and receives SIP calls from the Internet (or the network connected to the WAN port). To receive SIP calls, the QX IP PBX must be able to receive packets from the SIP server or any other device that is trying to make an incoming call. If the QX IP PBX is placed behind a router with NAT, the QX IP PBX will not be able to receive calls. To resolve this issue, either STUN must be enabled on the QX IP PBX or SIP NAT traversal must be set up in the router and in the QX IP PBX to route the incoming calls properly.

Please Note: NAT traversal only works with Internet connections that have static IP addresses. Verify from your provider that this is the case for your Internet connection. Some ISPs provide dynamic IP addresses that may change from time to time, and are not appropriate for SIP NAT traversal.

Please Note: If you have more than one router between the QX IP PBX and the Internet, the same port forwarding must be configured on each of them.

NAT Traversal Setup
- Install the QX IP PBX behind the router. If the QX IP PBX is configured with its factory default settings, it is already configured for DHCP and will obtain an IP address automatically from the router.
- Connect a PC to the QX IP PBX LAN port and power it up.
- Verify the QX IP PBX can connect to the Internet by opening a browser and browsing to a WEB site. If the QX IP PBX cannot reach the Internet, verify the LAN/WAN LEDs and the cabling. Verify that Assigning Automatically via DHCP option is enabled on QX IP PBX and the router has DHCP server enabled.
- Find the address of the router and log into the router. Refer to the router's user manual on how to open the router configuration.
- Set up port forwarding on the router to forward TCP port 5060, RTP/RTCP port 6000-6255 to the IP address assigned to the QX IP PBX. You can see the IP address of the QX IP PBX in the   **Status - System Status - Network Status** page**.** The IP address will be listed as the WAN IP address. Your router also may indicate the IP address assigned to the QX IP PBX.
- Find out the public Internet address (WAN IP address) of the router. To do so, open a browser and go to www.whatismyip.com. The site will return your public Internet IP address. Record this IP address.
- From the **Telephony** menu of the QX IP PBX Management go to the **NAT Traversal** - **General** page and set the **NAT Traversal for SIP** to **Force**. **Save** the selection.
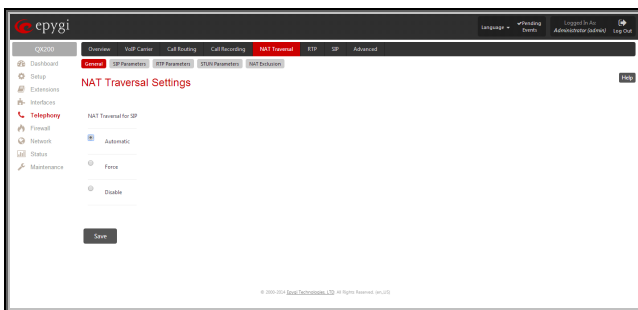
Fig.I- 33: NAT Traversal – General Settings page

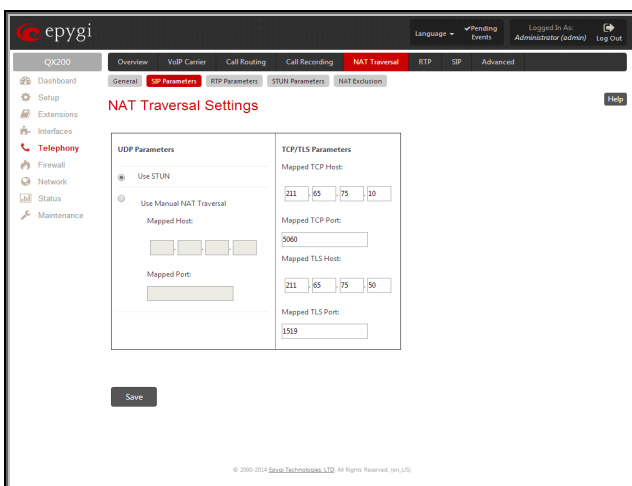- Go to the **SIP Parameters** page.

Fig.I- 34: NAT Traversal - SIP Parameters page

Select **Use Manual NAT Traversal** and enter the WAN IP address of the router into the **Mapped Host** text field. For **Mapped Port**, enter the router's corresponding port number, in this case **5060**. **Save** the entries.
- Go to the **RTP Parameters** page and select **Use Manual NAT Traversal.**
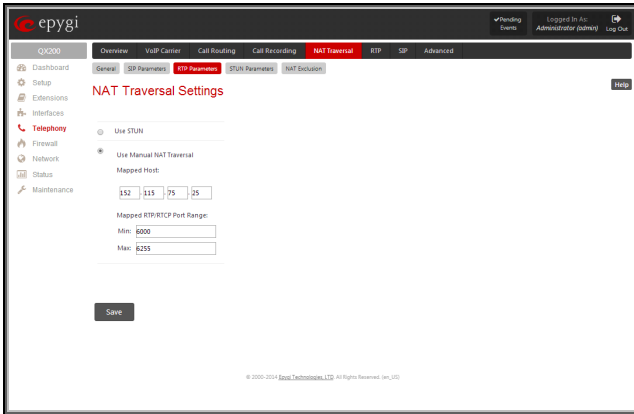
Fig.I- 35: NAT Traversal - RTP Parameters page

- Enter the WAN IP address of the router into the **Mapped Host** text field. Set the **Mapped RTP/RTCP Port Range** according to the values specified on the router, in this case to **6000 (Min)** and **6255 (Max),** respectively. Click the **Save** button to save the contents.

The QX IP PBX will activate the settings and register the extensions on the Epygi SIP Server after a few minutes. You can verify the settings from the **Status - System Status - SIP Registration** tab.

Appendix: Registering on Epygi's SIP Server

Epygi maintains a SIP Server that can be used to call between QX IP PBX devices. QX IP PBX extensions may already be defaulted to register to the SIP Server. To create additional registrations you may login directly to Epygi's SIP Server if you have registered your QX IP PBX at Epygi's Technical Support Center. If you have not registered with Epygi Technical Support, you cannot login to the Epygi SIP Server.

Log in to the Epygi SIP Server at http://sip.epygi.com/. Use the same login name and password you used for Epygi Support for Customer Login.
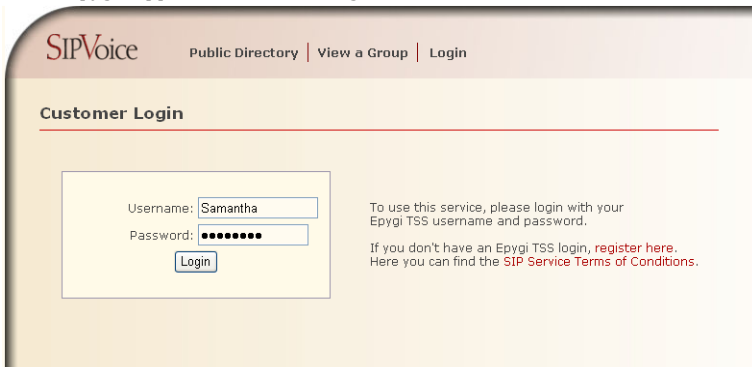

Fig.I- 36: SIP Services Login page

Read the **SIP Service Terms and Conditions** and accept it to proceed. The displayed page now welcomes you and allows you to **Subscribe a New Extension**.
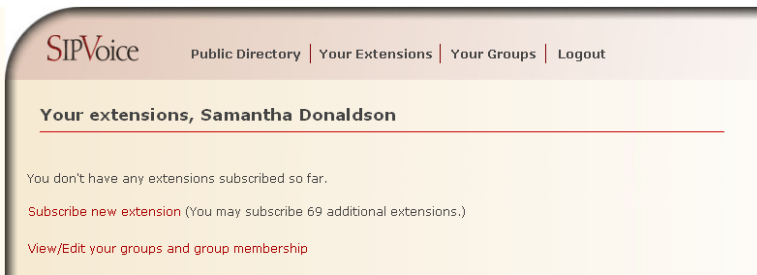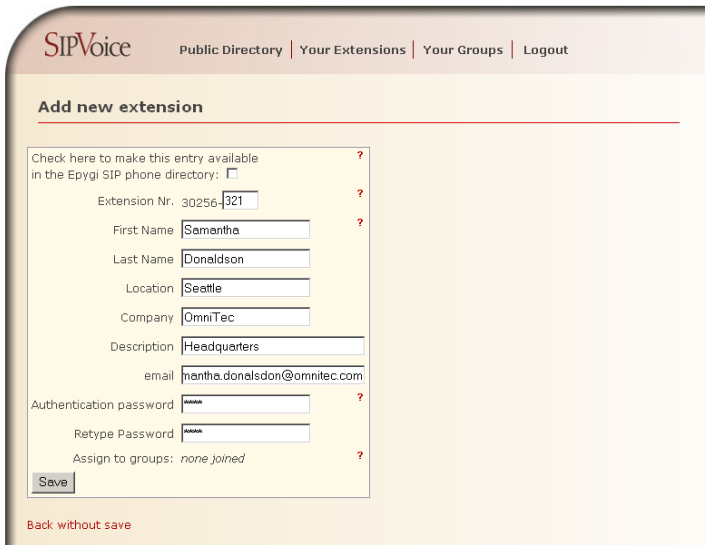

Fig.I- 37: SIP Services Welcome page

Selecting **Subscribe a New Extension** leads you to a page where you can enter the user information as shown below. The **Extension Nr.** is the eight-digit SIP number assigned to your extension. The first five are fixed by the SIP Server and cannot be changed and the last three are user defined. Notice the check box to enable this extension to be shown in the Epygi **Public SIP Directory**.

Please Note: If you enable this extension to be shown in the Epygi **Public SIP Directory**, all information related to this extension will be published in the Public SIP Directory, which is accessible by anyone from the Internet. To maintain privacy, do not check this box.
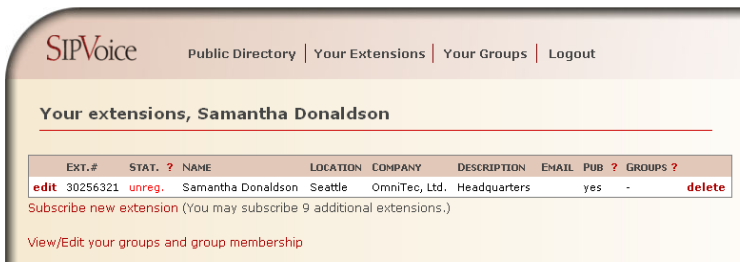
Fig.I- 38: SIP Services Add New Extension page

The **Authentication password** validates the entry and must match the password entered on the QX IP PBX later. Make sure to record the name, Authentication Password and SIP extension number for entry into the QX IP PBX later.

Save will store the entered information and conclude the basic SIP registration. The following page then will be displayed:

Fig.I- 39: SIP Services Your Extension page

This table shows **unreg.** in the **Stat**. column. This entry will change to **reg**. when the required settings in the QX IP PBX are complete and the QX IP PBX successfully registers on the SIP Server.
Repeat this for all four extensions on the QX IP PBX and the Auto Attendant.

Appendix: Configuring QX IP PBX Extensions

Login to the QX IP PBX and go to **Extensions** menu (see Fig.I- 41).

When this page is accessed for the first time after the QX IP PBX's initial boot-up or the default configuration settings restore, an intermediate page is displayed where the length of the extension should be defined.
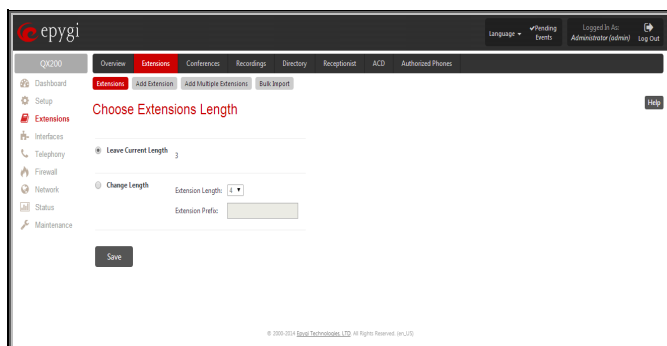

Fig.I- 40: Choose Extensions Length page
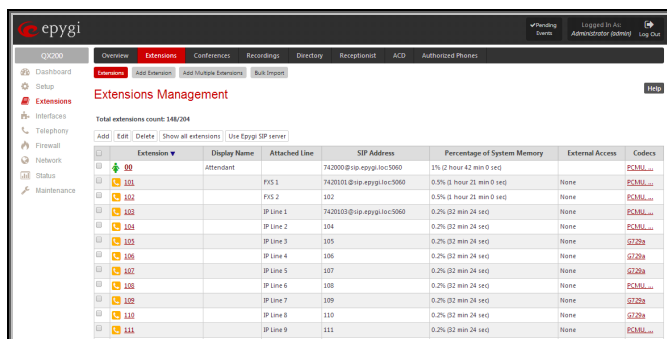
Fig.I- 41: Extensions Management page

Select the first extension to change by clicking the appropriate checkbox and press **Edit** functional button. The **Extensions Management – Edit Entry** page will be displayed.

Go to the **General Settings** page and adjust the **Display Name** as needed.
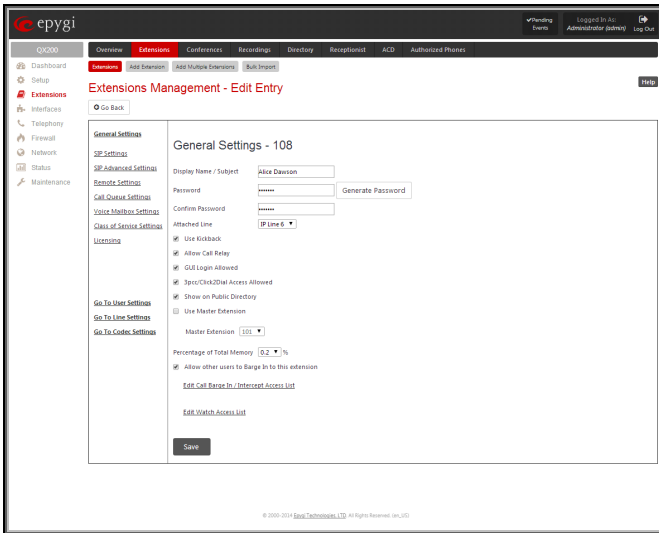
Fig.I- 42: Extensions Management - Edit Entry – General Settings page

Go to the **SIP Settings** page to enter the **SIP Registration Settings** you received from the Epygi SIP server.
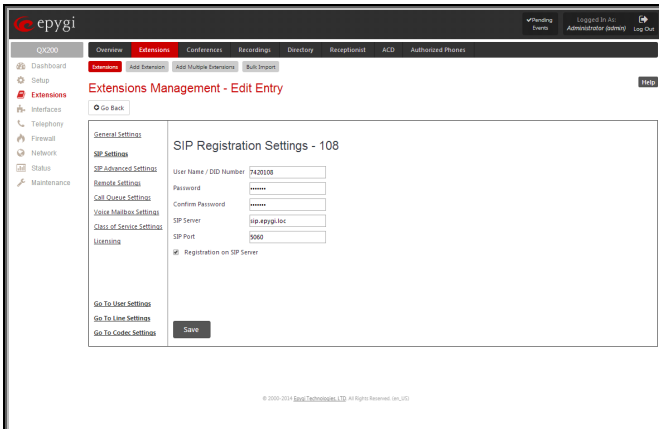
Fig.I- 43: Extensions Management - Edit Entry – SIP Settings page

- Enter the SIP registration number into the text field **Registration User Name/DID Number**.

- In the **Password** field, enter the password you specified when registering at the SIP server and confirm it in the field below.

- In **Registration SIP Server,** the selected SIP server address must be entered. If you use the Epygi SIP server, you may enter **sip.epygi.com**.

- Most SIP server providers, including Epygi, use port 5060 as the **Registration SIP Port**. You may leave the default entry as is.

- Select **Registration on SIP Server** if you want to establish and receive IP calls.

- Click the **Save** button to activate the settings.

Other settings of the extension might be also modified from **Extensions Management – Edit Entry** page (refer to the Manual II - Administrator's Guide).

Your settings will be verified, then after a few seconds the **Extensions Management** page is updated with the changes as shown in the example below (see Fig.I- 44).

Fig.I- 44: Extensions Management page

Appendix: Checking the Connections

If the system doesn't seem to be working properly, even when all the cables are connected properly, it may be helpful to **Start Network Diagnostics:** The WAN link, IP configuration, gateway, DNS server, and STUN-NAT will all be checked.

To start diagnostics, go to the **Maintenance - Diagnostics** page and click on **Start Network Diagnostics**.
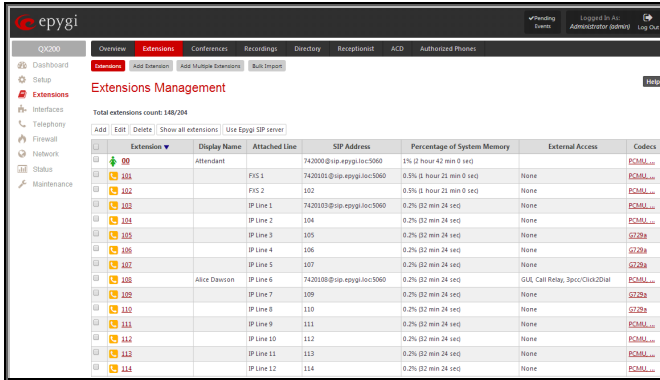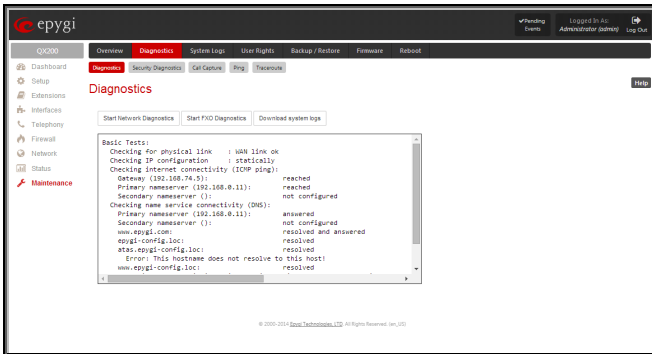

Fig.I- 45: Diagnostics – Start Network Diagnostics page

If the test passes, the output of the system may look as follows:

Basic Tests:

```
  Checking for physical link    : WAN link ok
  Checking IP configuration     : statically
  Checking internet connectivity (ICMP ping):
   Gateway (192.168.74.5):            reached
   Primary nameserver (192.168.0.11):     reached
   Secondary nameserver ():          not configured
  Checking name service connectivity (DNS):
   Primary nameserver (192.168.0.11):     answered
   Secondary nameserver ():          not configured
   www.epygi.com:                resolved and answered
   epygi-config.loc:            resolved
   atas.epygi-config.loc:         resolved
    Error: This hostname does not resolve to this host!
   www.epygi-config.loc:             resolved
    Warning: The domain is registered in the internet. If the domain does not resolve to this device you are not able to reach
hosts in that domain.
  STUN Network Address Translation (NAT) Check:
  Checking server/port: 166.78.19.22/5060
   External visible address     : 212.34.248.234
   Detected NAT type          : Symmetric NAT

  Performing MTU Discovery:
   preparing system
   Sending UDP Datagram of size 1500    got answer
   clean up

  Largest usable MTU size: 1500 Bytes

Test successful.

done.
```

Depending on where the test is failing, the diagnostic can give some advice on how to solve the problem. See the example below of a failed test:

Basic Tests:

Checking for physical link: no WAN link

Please check the physical connection of the WAN interface. Cable not plugged or broken?

Test failed.

If diagnostics are successful, but you are still unable to place a call to 88888# then check the SIP registration status.

Open the SIP Registration Status page using the QX IP PBX management **Status** menu item **System Status**. Besides the SIP registration information for the auto attendant and each connected extension, the **Detected Connection Type** is shown. If QX IP PBX is placed behind a NAT router and the STUN is enabled, the detected connection type and the IP address of this router's WAN port are displayed.
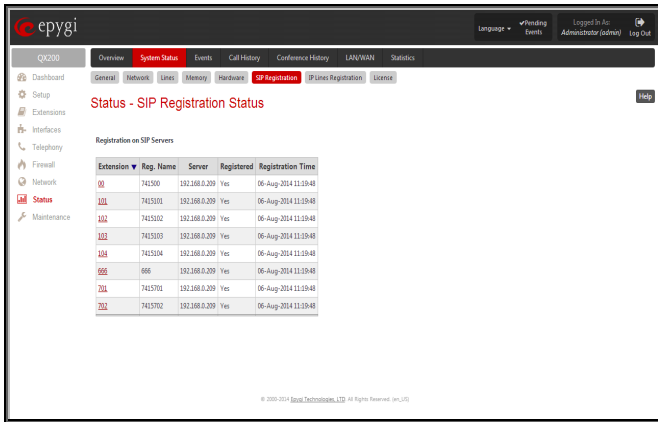
<div align="right">Fig.I- 46: SIP Registration Status page</div>

QX IP PBX cannot work behind your router if **Detected Connection Type** is one of the following:

- Unknown connection - unexpected error
- Symmetric NAT
- Symmetric Firewall
- Blocked UDP

If you get one of the above mentioned Detected Connection Types, either connect the QX IP PBX in front of the router, or configure NAT traversal manually as explained in Appendix: Configuring NAT Traversal.

If you are unable to resolve your problems, please send us a technical support request on the **Support** section of **http://www.epygi.com/**. Please prepare a system log file and attach it to your request.

To download the system logs, open the **Maintenance** - **Diagnostics** page and click on **Download system logs.**

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