



## **X-PRO User's Guide**

**Operations and Configuration Guide to X-PRO  
Xten's Full-Featured Softphone**

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# 1 Installation and Setup

## 1.1 Minimum System Requirements

The following section outlines the hardware and software requirements for an installation of XPRO.

### 1.1.1 X-PRO for Windows

Processor: Pentium II 300 (or equivalent)

Memory: 128 MB RAM

Operating System: Windows 98SE, ME, 2000, or XP

Connection: Wired or wireless Internet connection (including dial-up)

### 1.1.2 X-PRO for Macintosh

Hardware: Suggested configuration\* for Mac OS X version 10.2

Operating System: Mac OS X version 10.2 or later

Connection: Wired or wireless Internet connection (preferably broadband)

## 1.2 Audio Device Requirements

Since X-PRO is a software telephone application, you will require both speaker and microphone devices to make calls. Any of the following configurations are acceptable:

- External speakers and microphone (*requires a full-duplex sound adapter*)
- Dual-jack multimedia headset (*requires a full-duplex sound adapter*)
- Built in microphone and speakers (*requires a full-duplex sound adapter*)
- USB multimedia headset
- USB phone

### 1.3 The Audio Tuning Wizard

The X-PRO softphone includes an *Audio Tuning Wizard* which allows you to select an available audio device (or devices) to be used for calling. For example, if you have a USB phone connected to your computer, the Audio Tuning Wizard will make sure that this is the device used by X-PRO for your calls.

The Audio Tuning Wizard will automatically appear the first time you run X-PRO. It is strongly advised that you complete the wizard to make sure that your audio devices are working properly and are set at the right level. Follow the steps below to complete the Audio Tuning Wizard:

1. Click *Next* to begin the wizard.
2. Choose the appropriate audio devices (speaker and microphone). (see Figure 2)
3. Choose the speaker and microphone mixers – these will typically be either your sound adapter or USB device, depending on what you choose in step 2. Click *Next* to advance.
4. Adjust the speaker volume to a comfortable level. Click *Next* to advance.
5. Adjust the microphone volume; listen to the playback of the recorded sample and make changes if necessary. Click Next to advance.
6. Perform the microphone calibration as instructed. Click Next to advance.
7. Choose your connection speed, either Dial-up or Cable/DSL/LAN. Click Next to advance.
8. Click Finish to complete the wizard.

**Note:** The Audio Tuning Wizard will automatically appear the first time you start X-PRO. You will have to launch the wizard manually each time after that. Details on how to do this are included in Section 3.9 later on in the guide.



Figure 1 - Audio Device Selection

## 2 Using the Softphone

### 2.1 The Dial Pad

The X-PRO softphone provides an easy-to-use dial pad as the user interface allowing for quick access to both basic and advanced calling features.

Refer to Figure 3 below for an illustration of the X-PRO dial pad.



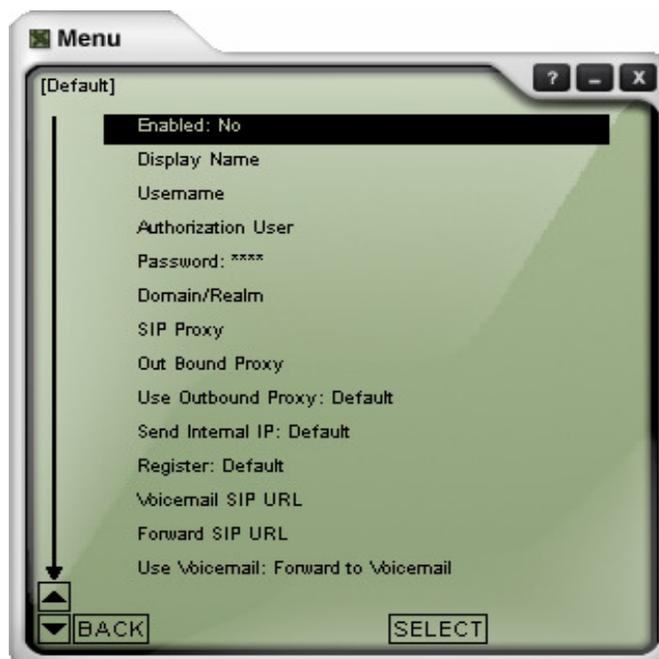
Figure 2 - The X-PRO Dial Pad

## 2.2 Logging in to Your Provider

Upon start-up, when the dial pad first appears you should see *Discovering Firewall...* in the call status. This is normal behavior and indicates that the softphone is discovering your network environment.

After this, you may see the message *Awaiting proxy login information*. This indicates that you have to enter your VoIP Service Provider information (mentioned in section 2.1.2 earlier) so that the softphone can login to the network. You will also see the X-PRO menu as shown below in Figure 4 which will prompt you for that information.

**Note** that you will be asked to enter the information for your *default* provider. This is normally the provider that you are most likely to use when placing a call. X-PRO allows you to configure the softphone to use more than one provider. Setting up the softphone for multiple providers is covered in section 5.5.



**Figure 3 - VoIP Service Provider Information**

*Shown to the right is the X-PRO menu window which allows you to enter and/or edit the settings for your softphone. The menu can be launched at any time by clicking on the menu button on the dial pad. Use your up and down keys on your keyboard to move from one item to the next. You can also click on the arrows at the bottom left of the menu window to move between items. Double-click on an item or highlight the item and click on SELECT to reveal the list of choices. Click BACK to return to the previous menu. The flashing cursor next to the item indicates that you can enter text for that item. Some items contain a list of choices such as “Yes” or “No. Double-click on your choice and click BACK to return to the previous menu. When finished entering a group of settings, click BACK to save them.*

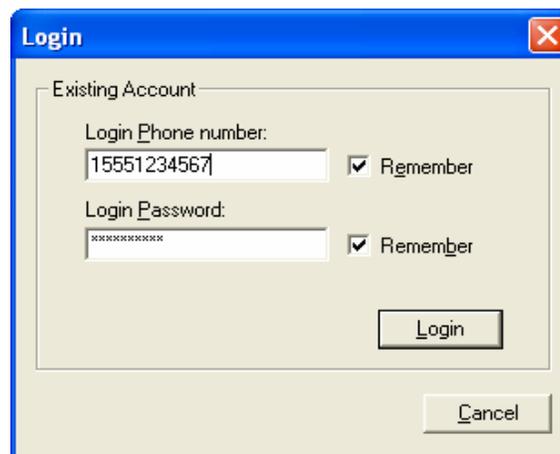
Fill in the following items needed to login to your provider's network. As noted, not all of the items need to be filled in, depending on your provider.

Enabled	- Yes
Display Name	- [SIP Username] (often your phone number)
Username.	- [SIP Username] (often your phone number)
Authorization User	- [SIP Username] (often your phone number)
Password.	- [SIP Password]
Domain/Realm.	- registrar.mobiweb.com.my
SIP Proxy.	- registrar.mobiweb.com.my

When finished entering all of the information, click BACK to save the settings. If you have entered all of the required information, the softphone will attempt to login to the provider's network. This will be indicated by a Logging in message in the call status.

**Important:** When you see the message Logged in in the call status then you are ready to make and receive calls. If you see the message Login failed! Contact Network Admin then you have not logged in successfully and will not be able to make a call. If this is the case refer to Appendix A which includes troubleshooting tips for problems like this and various other issues.

Some versions of X-PRO come preconfigured with your provider's network information. For these versions, you will see a login dialog upon start-up which will prompt you for your username (or phone number) and password.



**Figure 4 - Login Dialog**

Some versions of X-PRO come preconfigured with your provider's network information. For these versions, you will see a login dialog upon start-up which will prompt you for your *username* (or *phone number*) and *password*.

*The login dialog included with some versions of X-PRO allows you to login to your provider's network by entering your username (or phone number) and password.*

*Click the Remember check boxes so that you do not have to re-enter the information each time that you start X-PRO.*

## 5. The Phonebook

To bring up the X-PRO Phonebook click on the Phonebook button on the dial pad.

*Double-click the New Entry item to create a new contact. Enter the following information for the contact:*

- *Name*
- *Phone Number or SIP URL*
- *Type (double-click to reveal a list of contact types, i.e. Work, Home, Mobile)*
- *Proxy ID*
- *Speed No.*

*Click Back to save the contact.*



**Figure 5 - The Phone Book**

Click on a contact to highlight it, and then click on SELECT to edit its information.

You can also double-click on the contact without having to click SELECT.

With a contact highlighted, click onDELETE to remove the contact from thephone book.

You may dial a number in the phone book by clicking the Dial button on the dial pad with a phone book entry hi-lighted. You may also dial the Speed No. of the contact to call that person. To close the phone book window, click its close button (x) or click the phone book button on the dial pad.

## Appendix A: X-PRO Troubleshooting

The following is a guide to troubleshooting various issues that may arise when using the X-PRO softphone. You may find that the problem you are experiencing is explained within.

### Networking Problems

**Note:** This guide assumes that your Internet connection is working normally. If this is not the case, please contact your Internet Service Provider.

#### **Login Timeout**

If you are getting a “Login Timed Out” error message, you may have entered your username or password incorrectly. Double-check these values with your VoIP service provider. You also may have problems contacting your SIP proxy server. Make sure you can ping the following computers listed in Table 3 below. If you cannot contact any one of these computers, you may experience difficulties.

**Table 3 - Relevant Network Hosts**

Computer	X-PRO Menu Location (or ask your provider)
SIP Proxy	System Settings -> SIP Proxy -> [Your SIP Proxy] -> SIP Proxy
Outbound SIP Proxy (if applicable)	System Settings -> SIP Proxy -> [Your SIP Proxy] -> Outbound SIP Proxy
STUN Server	System Settings -> Network -> Primary/Secondary STUN Server
DNS Server	System Settings -> Network -> Primary/Secondary DNS Server
X-Tunnels Server (if applicable)	System Settings -> X-Tunnels -> X-Tunnels Host

Ping is network utility used to determine if your computer can reach another machine and if the remote machine is alive.

#### **How to Ping A Computer (Windows):**

1. Click the **Start** button
2. Click **Run...**
3. Type command
4. Click the **OK** button
5. The Windows Command Prompt will open
6. Type `ping computer address`, where *computer address* is the domain name or IP address of one of the computers in the above table.
7. If the result is “could not find host”, or “request timeout”, that computer is not available. Please contact your VoIP service provider for assistance.

### How to Ping a Computer (Mac OS X):

1. Launch the *Network Utility* found in your *Applications/Utilities* folder.
2. Click on *Ping* from the list at the top.
3. Enter the address of the computer and click *Ping*.

### Firewall and NAT Issues

If your computer is behind a firewall, certain ports must be open for X-PRO to be able to communicate with your VoIP service provider. The required ports are listed below in Table 4. Please see your firewall documentation for help on opening ports.

**Table 4 - Required Ports**

Port Type and Number	Service
UDP 3478	STUN
UDP 5060	SIP
UDP 8000	RTP
UDP 8001	RTCP

Two additional ports after 8001 are required for each additional line used. *For* example, if using a second line, UDP ports 8002-3 will be used.

If you are behind a firewall for which it is impossible to open such ports, contact your VoIP service provider regarding firewall traversal solutions, such as Xtunnels.

**Note:** If your firewall restricts incoming connections, you may have to use an Outbound Proxy to properly receive audio. Ask your VoIP service provider for the Outbound Proxy address and port number, and enter it into X-PRO in the following location:

Menu -> System Settings -> SIP Proxy -> [Your SIP Proxy] -> <Outbound\_Proxy>:<Port>

You must also set the *Use Outbound Proxy* field (found with the above setting) to *Always*.

Port forwarding is not required on your NAT.

### Multiple X-PRO Clients behind Your NAT

X-PRO uses X-NAT to assign random ports to each client behind your NAT. If you are using XLite, you will have to manually assign different SIP and RTP listening ports for each client. To change listening ports:

Menu -> System Settings -> Network

From here, you must assign both a unique *Listen SIP Port* and a unique *Listen RTP Port* for each X-Lite client behind your gateway.

### **Multiple IP Addresses on the Same Computer**

If your computer has more than one IP address X-PRO may have difficulty choosing the correct one. To manually set the correct IP address, configure the following settings as instructed below:

Menu -> System Settings -> Network -> Auto-Detect IP: *No*

Menu -> System Settings -> Network -> Listen On IP: *[Your Computer's IP]*

Another solution is to temporarily disable all but one network adapter before X-PRO starts.

### **RPort Attribute**

Some VoIP providers do not support the “rport” signaling attribute. Check with your provider. To turn off “rport” configure the following setting as instructed below:

Menu -> Advanced System Settings -> SIP Settings -> Use SIP rport: *No*

## **Audio Problems**

This guide assumes your computer’s sound system is working normally, and that you have run the Audio Tuning Wizard. To run the Audio Tuning Wizard, right-click over the dial pad, and select *Audio Tuning Wizard*.

There are several factors that may affect sound quality when using X-PRO. These include the quality of the network connection, network device quality, and headset model. Some of the problems you may experience are given below along with some useful tips on how to minimize their effect.

### **Audio Contains Pops at Loud Points in Voice**

Popping sound is a symptom of over-modulation. Ask the other party to decrease the microphone slider and/or adjust the microphone gain.

### **Audio Contains Bothersome Background Noise**

Significant background noise can be due to the level of the silence threshold. Have the other party adjust their silence threshold. They can do so by running the Audio Tuning Wizard covered in Section 2.7 earlier.

### **Audio Sounds Choppy in a Conference**

Poor conference audio may be caused by upload bandwidth limitations. For example, some sites have 1 Mbps download bandwidth, but only 128 kbps upload bandwidth. In these conditions, try multiple hosts for the conference, or have all participants disconnect and switch to a lesser bandwidth audio compression codec such as G.729.

### **Poor Sound**

Poor or scratchy sound is a symptom of a problem with your network connection, or network card. The following issues could contribute to poor sound quality:

- There may be packet loss on the IP network. Check the network performance, latency, and throughput. A 200 millisecond round trip latency as determined from a ping should deliver good quality audio.
- Network devices may have performance problems. Make sure you are using the latest driver.

### **Audio Contains an Echo**

The following tips may be useful for reducing echo heard during the conversation:

- Try using a headset with your sound card. Another suggestion is to use a USB-enabled headset, which bypasses system sounds as it acts as its own sound device.
- Are you using a boom type headset? It has been noted that some boom headsets that sit on the ear can create feedback between the boom microphone and the headset.
- The microphone balance is not muted in the playback section of Windows audio controls. When you are configuring sound, you may need to examine the volume control setting.
- You will hear echo if your microphone can pick up your speaker sounds, such as when not using a headset.
- Microphone level may be too high or amplifier is turned on in the generic Windows audio controls.

### **One-Way Audio**

Some IP telephones do not obey “Reverse UDP Mapping Rules”, which can cause one-way audio in your conversation. Try your call with this setting:

Menu -> Advanced System Settings -> RTP Settings -> Obey Reverse UDP Mapping Rules: *No*

Also, if your firewall restricts incoming connections, you may get one-way audio. Configure XPRO to use your provider’s Outbound Proxy (if available) as explained under *Firewall and NAT Issues* earlier in this appendix.

### **Diagnostic Log**

X-PRO writes diagnostic information to a log file. You can view this log file by pressing F9 on your keyboard. It is rather cryptic, but if you are having difficulties with X-PRO it may be necessary for you to e-mail it to your technical support representative.

## Diagnostics

### Log

```
© 2004 Xten Networks, Inc. All rights reserved.
X-PRO release 1103a build stamp 13984
License key: 6BC40A776CC24AC2A61BDE316928D94E

Established SIP protocol listen on: 192.168.0.60:5060

Discovered Port Restricted Cone NAT Firewall

SIP: 192.168.0.60:8808
RTP: 192.168.0.60:8810
NAT: 64.180.205.133

Attempting SIP protocol listen on: 192.168.0.60:8808

Established SIP protocol listen on: 192.168.0.60:8808

PROXY#0: 192.246.69.223:5060

OUTBOUND-PROXY#0: 65.39.205.114:5082

SEND TIME: 21034437
SEND >> 65.39.205.114:5082
REGISTER sip:fwd.pulver.com SIP/2.0
Via: SIP/2.0/UDP 192.168.0.60:8808;rport;branch=z9hG4bK15BD6AA1E2D348B8BF529425344E040B
From: "Xten Networks, Inc." <sip:270073@fwd.pulver.com>;tag=1741188067
To: "Xten Networks, Inc." <sip:270073@fwd.pulver.com>
Contact: "Xten Networks, Inc." <sip:270073@192.168.0.60:8808>
Call-ID: 036E2FD80C534212B1620AAF104BB93E@fwd.pulver.com
CSeq: 6950 REGISTER
Expires: 1800
Max-Forwards: 70
User-Agent: X-PRO release 1103a
Content-Length: 0
```

Figure 6- The Diagnostic Log