

Max 410/420/430™

Version 1.5.30



User's Guide

The specifications and information regarding the products in this manual are subject to change without notice. All statements, information, and recommendations in this manual are believed to be accurate but are presented without warranty of any kind, express or implied. Users must take full responsibility for their application of any products.

The software license and limited warranty for the accompanying product are set forth in the information packet that shipped with the product and are incorporated herein by this reference. If you are unable to locate the software license or limited warranty, contact your Net2Phone representative for a copy.

The following information is for FCC compliance of Class A devices: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.

The following information is for FCC compliance of Class B devices: The equipment described in this manual generates and may radiate radio-frequency energy. If it is not installed in accordance with 's installation instructions, it may cause interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in part 15 of the FCC rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

Modifying the equipment without 's written authorization may result in the equipment no longer complying with FCC requirements for Class A or Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

You can determine whether your equipment is causing interference by turning it off. If the interference stops, it was probably caused by the Net2Phone equipment or one of its peripheral devices. If the equipment causes interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the equipment to one side or the other of the television or radio.
- Move the equipment farther away from the television or radio.
- Plug the equipment into an outlet that is on a different circuit from the television or radio. (That is, make certain the equipment and the television or radio are on circuits controlled by different circuit breakers or fuses.)

Modifications to this product not authorized by Net2Phone could void the FCC approval and negate your authority to operate the product. Notwithstanding any other warranty herein, all document files and software of these suppliers are provided "as is" with all faults. and the above-named suppliers disclaim all warranties, expressed or implied, including, without limitation, those of merchantability, fitness for a particular purpose and non-infringement or arising from a course of dealing, usage, or trade practice.

In no event shall Net2Phone or its suppliers be liable for any indirect, special, consequential, or incidental damages, including, without limitation, lost profits or loss or damage to data arising out of the use or inability to use this manual, even if or its suppliers have been advised of the possibility of such damages.

Max 410/420/430, Net2Phone, and the logo are registered trademarks of , Inc. in the US and certain other countries. All other trademarks mentioned in this document are the property of their respective owners.

Max 410/420/430 User's Guide

Rev. 1.5.30 November 2003

Copyright © 2002, Net2Phone, Inc. All rights reserved

The use, disclosure, modification, transfer, or transmittal of this work for any purpose, in any form, or by any means, without the written permission of Net2Phone is strictly forbidden.

WARNING:

Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause [cancer, and] birth defects or other reproductive harm. Wash hands after handling.

Table of Contents

1	WELCOME.....	1
	OVERVIEW	1
	PRODUCT FEATURES	1
	NEW FEATURES AND FUNCTIONALITY	3
	PACKAGE CONTENTS.....	5
	SYSTEM AND SERVICE REQUIREMENTS.....	5
	<i>General Requirements</i>	5
	<i>Hardware Requirements</i>	6
	ABOUT THIS GUIDE	6
	<i>Symbols</i>	8
2	GETTING STARTED.....	9
	OVERVIEW	9
	LOCATING YOUR FXS AND/OR FXO PORTS	10
	<i>Physical Port Numbering</i>	10
	INSTALLING THE MAX 410/420/430.....	10
	CONNECTING THE MAX TO A PBX	12
	<i>Connecting the Max 410's FXO Ports to a PBX</i>	12
	<i>Connecting the Max 420's FXS Ports to a PBX</i>	13
	<i>Connecting the Max 430's FXS/FXO Ports to a Telephone/PBX</i>	14
	CONNECTING THE MAX 420/430'S FXS PORTS TO A FAX MACHINE	15
3	CONNECTING THE MAX 410/420/430 TO A LAN.....	17
	CONNECTING THE MAX 410/420/430 TO A DHCP LAN	17
	<i>Obtaining the Max 420/430's DHCP IP Address via a Telephone Keypad</i>	18
	<i>Connecting to the Max 410 through a Serial Cable</i>	19
	Using the HyperTerminal Emulation Program	19
	Obtaining the Max's DHCP IP address via HyperTerminal	21
	CONNECTING TO A LAN WITH STATIC IP ADDRESSES	21
	<i>Entering Static IP Addresses from a Telephone Keypad</i>	22
	Disabling DHCP from a telephone keypad (Max 420/430)	22
	Entering an IP Address from a Telephone Keypad (Max 420/430)	23

Entering a Netmask Address from a Telephone Keypad (Max 420/430)	23
Re-enabling DHCP from a Telephone Keypad (Max 420/430)	24
Entering Static IP Addresses via HyperTerminal (Max 410).....	25
Turning DHCP On (or Off) from HyperTerminal	25
Entering an IP Address	25
4 LOGGING INTO THE MAX WEB MANAGER	29
OVERVIEW	29
LOGGING INTO THE WEB MANAGER	29
5 USING THE MAX WEB MANAGER	33
OVERVIEW	33
PORT CONFIGURATION	34
NETWORK AND VOICE CONFIGURATION	34
<i>Network Configuration Table</i>	35
<i>Voice Configuration Table</i>	36
<i>IP Configuration Table</i>	36
<i>CDR Configuration Table</i>	37
<i>Configuring Firewalls</i>	38
ACCOUNT CONFIGURATION	41
<i>Single Account Management</i>	42
<i>Multiple Account Management</i>	43
<i>The Login Button</i>	44
<i>Announce Account Balance</i>	44
ROUTING TABLE CONFIGURATION	44
<i>Logical Port Numbering</i>	45
<i>Adding an Entry to the Current Routing Table</i>	45
INTEGRATED VOICE RESPONSE (IVR) CONFIGURATION.....	47
<i>Remote IVR Configuration</i>	47
<i>Max-to-Max IVR Configuration</i>	51
Configuring Max-to-Max Calling	52
Receiving Max-to-Max Calls.....	54
INBOUND ALLOW LIST CONFIGURATION.....	56
CLASS OF SERVICE CONFIGURATION	58
PORT CLASS CONFIGURATION	60
LOCAL DIALING SYSTEM.....	61
SYSTEM INFORMATION AND COMMANDS	63

OTHER WEB MANAGER FUNCTIONS	64
<i>Load Default Config</i>	64
<i>Show Log Messages</i>	65
<i>Restart System</i>	65
<i>Upgrading the System Software</i>	65
Preparing for the Upgrade	66
Performing the Upgrade	67
<i>Help with your Max 410/420/430</i>	68
6 PLACING CALLS	69
OVERVIEW	69
THE POUND KEY	69
PLACING CALLS TO THE PSTN	69
<i>Placing Calls to Destinations within North America</i>	69
<i>Placing International Calls</i>	70
MAX-TO-MAX CALLING.....	70
<i>Calling a Max 420's FXS Port from Another Max</i>	70
<i>Calling a Max 410's FXO Port from Another Max</i>	70
7 APPENDICES	73
APPENDIX A – TROUBLESHOOTING	73
<i>Installation Problems</i>	73
<i>Network Problems</i>	74
<i>Configuration Problems</i>	76
<i>Calling Problems</i>	76
<i>Faxing Problems</i>	77
APPENDIX B – TECHNICAL SUPPORT.....	79
APPENDIX C – SYSTEM SPECIFICATIONS	80
APPENDIX D – PHYSICAL AND LOGICAL PORT NUMBER TABLE	82
APPENDIX E – APPROVALS AND LISTINGS	83
<i>For Max 410/ 430</i>	83
FCC Declaration of Conformity.....	83
FCC Compliance Statement:.....	83
<i>For Max 420</i>	83
FCC Declaration of Conformity.....	83
FCC Compliance Statement:.....	83
Party responsible for product compliance:	84
APPENDIX F – END USER WARRANTY	85
8 INDEX	87

1

Welcome

Overview

Congratulations on purchasing the **Max 410/420/430!**

The Max 410/420/430 is a Voice over Internet Protocol (VoIP) device that allows you to make multiple outgoing calls over the Internet using a single Ethernet Local Area Network (LAN) connection. The Max 410/420/430 works like a gateway to convert the analog signal from your telephones to Voice over Internet Protocol (VoIP). It then uses the LAN's broadband connection to send calls over the Internet via 's service platform. Since Net2Phone calls bypass most of the Public Switched Telephone Network (PSTN), the result is significant savings on long-distance communications services.



This chapter describes:

- * **Product Features**
- * **New Features and Functionality**
- * **Package Contents**
- * **System and Service Requirements**
- * **About this Guide**

Product Features

The Max 410, 420, and 430 is a stand-alone device that connects directly into an existing LAN through an RJ-45 port. The Max 410 contains four **FXO** ports, Max 420 contains four **FXS** ports and Max 430 contains 3 **FXS** ports and 1 **FXO** port.

FXS (Foreign EXchange Station) interfaces are used to connect standard analog devices such as corded and cordless telephones or fax machines. Optionally, they may be connected to the analog trunk card on a Public Branch

Exchange (PBX), Automatic Public Branch Exchange (APBX), or Key Phone System (KPS) systems. They are used to place outgoing calls over the Internet and to receive incoming calls from other devices.

FXO (Foreign EXchange Office) ports connect to the analog line card on a PBX, APBX, or KPS, or to an analog phone jack, to provide connectivity to the Max from phones both inside and outside of the PBX system.

In addition to the FXS functions, FXO ports provide limited Interactive Voice Response (IVR) functionality, which includes multiple options for caller greetings, passwords, and Internet call forwarding. This allows the Max 410 to assume many IVR functions when the PBX does not provide them.

A separate port with its own telephone line connection to the PBX, or to an analog telephone, is required for every concurrent telephone call (or conversation). For example, if capability for 3 concurrent calls is desired, then the Max must have at least 3 ports connected to the PBX or to analog telephones.

The Max 410, 420, and 430 feature several proprietary QoS (Quality of Service) enhancements, including:

- ★ G.168 echo cancellation
- ★ Voice Activity Detection (VAD)
- ★ Comfort Noise Generation (CNG)
- ★ Dynamic jitter buffer control

More feature highlights include:

- ★ **Improved Call Quality** – The Max 410, 420, and 430 are compatible with more state-of-the-art gateways such as Nuera and Cisco (when available), which greatly improves the quality of calls with reduced latency.
- ★ **Dropped Call Prevention** – The Max 410, 420, and 430 are now more reliable in retaining calls in progress by re-establishing connections to call controllers if an IP stream is lost. This feature will greatly improve dropped call problems for ADSL or Cable modem users as well as LAN network users.

- ★ **Account Balance Announcement by Port** – The Max 410, 420, and 430 have a Web configurable toggle switch that enables the IVR to announce the account balance *or* minutes remaining on the port that the call is going over.
- ★ **Greeting Message** - A greeting message will play prior to the dialed call being sent to the call servers.
- ★ **New Password Functionality** - When a user selects Password mode or Acc/Pin/Password mode and the password field is empty, an error message is displayed and the password value is not saved in flash memory.
- ★ **Call Detail Record (CDR) Generation** – Administrators can select to have CDRs generated and sent to the Max Automated Billing System (ABS).
- ★ **TX/RX Silence Detection** – The Max 410, 420, and 430 detects both TX/RX silence on an FXO port and then disconnects the call based on the duration of call silence.
- ★ **Multiple Frames per Packet Support** - The Max 410, 420, and 430 supports multiple frames per packet on the G.732 codec.
- ★ **Upgraded Vocfiles** – Updated vocfile included with software upgrade.

New Features and Functionality

Version 1.5.30 provides the following new features:

- ★ **T.38 Fax Protocol Supported** – This version features enhanced functionality of the industry standard T.38 fax protocol, including automatic fax detection, built-in redundancy, and higher success rates.



IMPORTANT: Before upgrading to version 1.5.30 to take advantage of the enhanced T.38 functionality, please refer to the Upgrading the System Software section on page 65 in this Guide.

- ★ **Inbound Allow List** – The Inbound Allow List feature for FXO ports allows the user to specify the allowable inbound numbers that can make use of the port for outbound calls.
- ★ **Class of Service** – The new Class of Service feature sets the call authorization classes for restricting outbound calls. Users cannot make a call to the restricted numbers that are in both his/her own class and a higher class.
- ★ **Local Dialing System** – This version features the addition of the Local Dialing System, which enables users to dial phone numbers on the Max 410, 420, and 430 products as they normally do on their ordinary phones. That is, users do not have to dial an international call access number and country code number if the call destination is the same country where user lives. Similarly, the area code can be omitted for calls made to the same area. Users can configure a dialing pattern on the Max 410, 420, or 430 that is as close as possible to the host country's dialing pattern.
- ★ **FTP Block** – The FTP Block feature enables the Max to block an FTP connection. For example, if you want to upgrade the Max via FTP, you must start the FTP server daemon in the Max unit. This is an important security measure to help block unwanted connections.
- ★ **HTTP Port Change** – This version includes a feature that allows the HTTP port number to be changed from the standard port 80 using HyperTerminal and telnet. Changing the port number to a number other than 80 increases the security for users accessing the Web Manager.

If you have an older version of the Max 410, 420, or 430 software, and you want to take advantage of these new features, you can download the software from:

<http://web.com/partnersupport/devicesoftware/>

Package Contents

You should find the following contents in your Max 410, 420, or 430 package:

- ★ Max 410, 420, or 430 device
- ★ Power adapter
 - 100-250V AC input 0.5A
 - +5V DC output 3.0A
- ★ One telephone cable (RJ-11)
- ★ User's Guide (if not available in your package, please contact your distributor)
- ★ Warranty card

System and Service Requirements

You will need the following items/services to use your Max 410, 420, and 430:

General Requirements

To configure and manage the unit, you will need:

- ★ A PC workstation with any recent Web browser, connected to the LAN.
- ★ For the Max 410, which has FXO ports only (for initial LAN configuration):
 - The HyperTerminal PC application (included in all Microsoft operating systems), or an equivalent terminal-emulator application.
 - A standard serial cable



NOTE: On the Max 410, LAN settings must be configured using a PC with a serial cable connection. For details, refer to *Connecting to the Max 410 Through a Serial Cable* on page 17 of this Guide.

Hardware Requirements

To use the Max 410, 420, or 430, you will need:

- ★ A Max 410, 420, or 430 unit and power cord.
- ★ A Local Area Network (LAN) with a broadband connection, which **must not** have proxy server caching.
- ★ If your LAN uses static addresses you will also need: an IP address, netmask, and gateway address for the Max (all available from your Network Administrator).
- ★ With FXS ports: a corded or cordless analog telephone, and additional analog devices as desired for each port. Optional: a PBX, APBX, or KPS with an analog trunk card installed.
- ★ With FXO ports: a PBX, APBX, or KPS with an analog line card installed.
- ★ A Net2Phone account number and PIN (available from your reseller).
- ★ A separate port with its own telephone line connection to the PBX, or to an analog telephone, is required for each concurrent telephone call desired. For example, if capability for 3 concurrent calls is desired, then the Max must have at least 3 ports, each connected to the PBX or to an analog telephone.

About this Guide

This User's Guide, as well as the other instructional literature that accompanies the Max 410, 420, and 430, is intended for people who have a moderate degree of experience installing networking equipment such as routers, hubs, servers, and switches, and are familiar with basic wiring and cabling practices.

In addition to this User's Guide, the Max 410/420/430 is shipped with a product manual containing four modules:

- ★ A **Quick Start Guide** describing hardware installation, cabling, and configuration for a basic, uncomplicated installation.

- ★ A **Hardware Installation Guide** describing hardware installation, cabling, and safety-related issues.
- ★ A **User Guide** outlining how to install, configure, and use the Max.



NOTE: This Net2Phone User's Guide, marked with the latest version number, supersedes the User Guide included in the manual shipped with the device..

- ★ A **Command Reference Guide** describing advanced configuration of the Max 410/420/430 through a serial connection.





The table below provides a brief overview of the main topics covered in this Guide.

FOR INFORMATION ON...	GO TO...
Product features	Chapter 1, <i>Welcome</i>
Hardware requirements	Chapter 1, <i>Welcome</i>
Installing the Max 410, 420, or 430	Chapter 2, <i>Getting Started</i>
Connecting the Max to a PBX	Chapter 2, <i>Getting Started</i>
Connecting the Max 420 or 430 to a Fax Machine	Chapter 2, <i>Getting Started</i>
Connecting to a DHCP LAN	Chapter 3, <i>Connecting the Max 410, 420, and 430 to a LAN</i>
Connecting to a LAN with a Static IP Address	Chapter 3, <i>Connecting the Max 410, 420, and 430 to a LAN</i>
Accessing the Max's Web Manager	Chapter 4, <i>Logging into the Max Web Manager</i>
Configuring Accounts	Chapter 5, <i>Using the Max Web Manager</i>

FOR INFORMATION ON...	GO TO...
IVR Configuration	Chapter 5, <i>Using the Max Web Manager</i>
Upgrading the Firmware	Chapter 5, <i>Using the Max Web Manager</i>
Max-to-Max Calling	Chapter 6, <i>Placing Calls</i>
Troubleshooting	Chapter 7, <i>Appendices</i>
Technical Support	Chapter 7, <i>Appendices</i>

Symbols

Throughout the user's guide, you will see information highlighted for you with the following fun symbol icons:

SYMBOL	REPRESENTS
	Chapter Description
	Note
	Tip
	Important

2

Getting Started

Overview

To start using your Max 410, 420, or 430, you simply have to:

1. Install the Max 410/420/430 unit in its location and connect the cabling.
2. Configure the LAN settings on the Max 410/420/430 so that it communicates with your LAN.
3. Log in to the Max 410/420/430 Web Manager.
4. Finish configuring your FXS ports via the Web Manager.
5. Test your installation by making an Internet telephone call.

This chapter covers the first step in the process: installing and connecting the Max 410/420/430 to a PBX or fax



This chapter describes:

- * **Locating your FXS and FXO ports**
- * **Installing the Max 410/420/430**
- * **Connecting the Max 410/420/430 to a PBX**
- * **Connecting the Max 410/420/430 to a fax machine**

Locating Your FXS and/or FXO Ports

You need to be able to identify the Max's physical port numbers before you can begin configuring its LAN settings.

The RJ-11 sockets are visible on the Max's rear panel. Figure 1, below, shows the rear panel of a Max with 4 ports.

Physical Port Numbering

Figure 1 illustrates the physical port numbering on the Max 410/420/430's rear panel for a unit with 4 ports installed. These numbers are referenced by the *Max Web Manager* when identifying ports, setting up the Max's features and configuring calling accounts.



Figure 1 – Physical Port Numbering

As the illustration shows, the ports are numbered from left to right. The left-most port is port number 1 and the last one on the right is number 4.

Ports also have **logical** numbers, used by the Routing Table, which are different from their physical numbers. Logical port numbering is where the FXS and FXO ports are counted separately, and the count starts from **zero** instead of one (See the **Routing Table Configuration** section on page 42 in this Guide).

Installing the Max 410/420/430

Proceed with installation as follows:

1. Install the unit in a well-ventilated area. If it is to be placed on a surface rather than in a rack, be sure that all four rubber feet are in place to allow

for proper air circulation. Do not place objects in excess of 20 pounds on top of the unit.



IMPORTANT: Please refer to the Max 410/420/430 Hardware Installation Guide and observe the safety precautions listed.

2. Connect an analog telephone to any one of the FXS ports. (Max-420).



NOTE: For the Max 410, initial LAN configuration is done via a PC connected to the Max through its serial port, using the HyperTerminal terminal emulator application (or equivalent), which is included with all Microsoft™ operating systems. This procedure is explained in *Using the HyperTerminal Emulation Program* on page 18 in this Guide.

3. Connect the RJ-45 LAN port to a hub or switch.
4. Connect your FXS and/or FXO ports to your PBX as per the illustrations in Figures 2, 3, and 4, below.

Connecting the Max to a PBX

The following images illustrate the connections necessary when connecting the Max 410, 420, or 430 to a PBX.

Connecting the Max 410's FXO Ports to a PBX

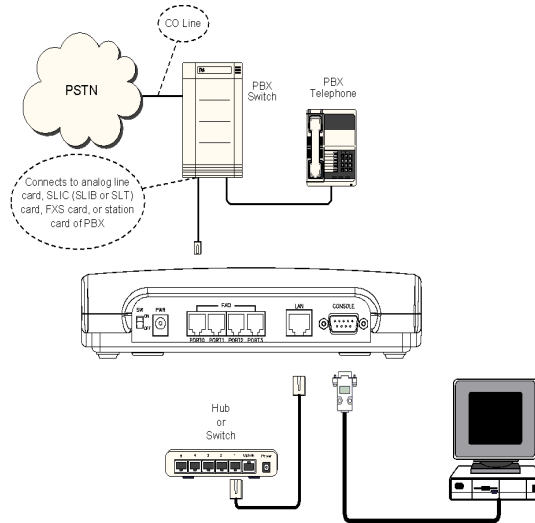


Figure 2 – Max 410 Connections to a PBX

LEGEND:

COIC/COIB: Central Office Interface Card or Board

PBX: Private Branch Exchange

PSTN: Public Switched Telephone Network

Trunk or CO Line: Line from Central Office switch

Connecting the Max 420's FXS Ports to a PBX

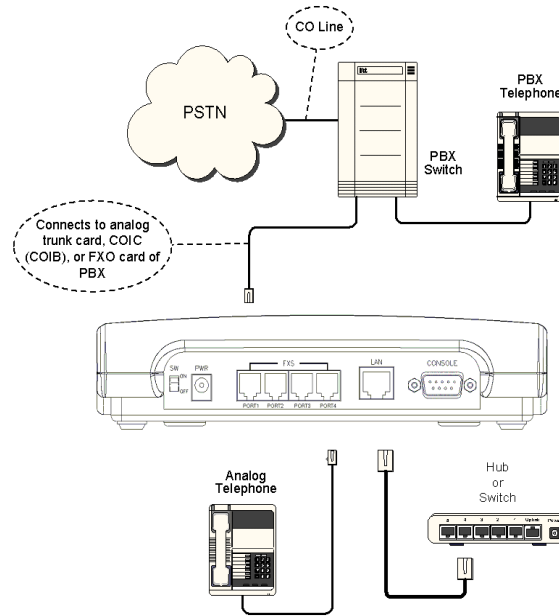


Figure 3 – Max 420 Connections to a PBX

LEGEND:

SLIC/SLIB: Subscriber Line Interface Card/Board

SLT: Single Line Terminal or Telephone (analog telephone)

Trunk or CO Line: Line from Central Office switch

Connecting the Max 430's FXS/FXO Ports to a Telephone/PBX

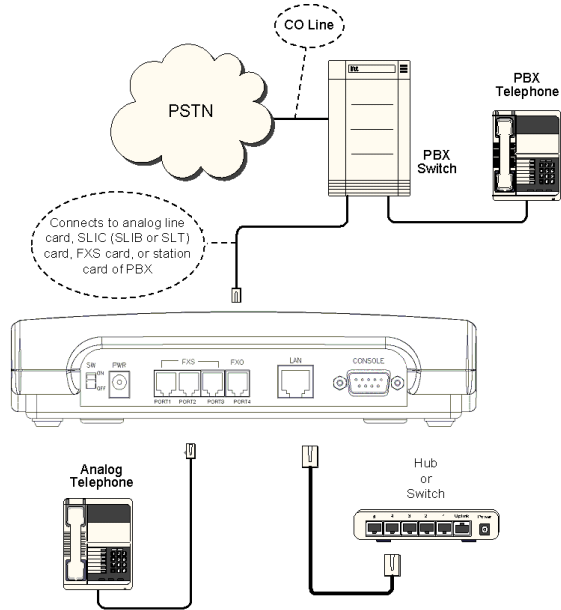


Figure 4 – Max 430 Connections to a PBX

When you have finished connecting the Max's FXS and FXO ports as illustrated in one of the images above, plug the unit into a power outlet and turn it on.

Your Max 410/420/430 hardware setup is now complete. The next step is to configure the unit to communicate with your LAN so that you can browse the *Max Web Manager*.

Connecting the Max 420/430's FXS Ports to a Fax Machine

Connecting your Max 420 or 430 to a fax machine is as simple as connecting the fax machine's RJ-11 cable to an FXS port on the Max 420 or 430.

To place a fax call, just use the fax machine as usual: dial the desired number and then send the fax.



NOTE: The Max 410 will not work with a fax machine because it has no FXS ports, only FXO ports.

3

Connecting the Max 410/420/430 to a LAN

Whether your LAN uses DHCP or static addresses, you can set the Max 410/420/430's LAN configuration in either of two ways:

- ★ via a touch-tone keypad, or
- ★ through a serial connection via the HyperTerminal terminal-emulator application.

This section explains how to set the Max 410/420/430's LAN configuration using either method.



This chapter describes:

- ★ **Connecting the Max 410/420/430 to a DHCP LAN**
- ★ **Connecting to a LAN with static IP addresses**



NOTE: On a Max 410, LAN settings must be configured using a PC with a serial cable connection using the HyperTerminal terminal emulator application, which is included with all MS operating systems.

Connecting the Max 410/420/430 to a DHCP LAN

This section explains how to connect your Web browser to the Max 410, 420, or 430 if your LAN uses DHCP addressing. If your LAN uses static IP addresses, skip to **Connecting to a LAN with Static IP Addresses**, on page 20 in this Guide.

The default configuration for the Max 410, 420, and 430 is for DHCP (Dynamic Host Configuration Protocol).

Therefore, if your LAN uses DHCP, the Max 410/420/430's IP address parameters were configured automatically when you connected it to the LAN. In this case, you only need to know the IP address that was assigned to the unit by the LAN before you can browse the *Max Web Manager*, Max 410/420/430's Web-based configuration system. If your LAN is using DHCP, configuring the Max 410/420/430 will entail the following steps:

1. Obtain the Max 410/420/430's current IP address (see ***Obtaining the Max 420/430's DHCP IP Address via a Telephone Keypad*** on page 17 in this Guide.).
2. Log in to the *Max Web Manager*.
3. Set the required configuration parameters in the *Max Web Manager*.

Obtaining the Max 420/430's DHCP IP Address via a Telephone Keypad

The handiest way to query the Max 420's current IP address is usually from a telephone keypad (if an FXS port is present). To use this procedure you will need a standard analog corded or cordless touch-tone telephone. Get a pencil and paper to write down the IP address.

1. Connect an analog telephone to any FXS port on the Max 410/420/430.
2. Pick up the telephone handset and dial *****1** (*****1** on the keypad).
The voice prompt responds: "Your address is..." and the IP address is announced.
3. Write down the address and hang up the telephone. If you need to hear the address again, hang up the telephone, then repeat step 2.

You are now ready to finish setting up the Max 410/420/430 using the *Max Web Manager*. Proceed to Chapter 4, *Logging In to the Max Web Manager*.

Connecting to the Max 410 through a Serial Cable

This section explains how to connect to the Max and obtain its DHCP IP address. The remaining configuration tasks can then be completed more easily via the *Max Web Manager*.



NOTE: For the Max 410 units, LAN settings can only be configured using this method.

Using the HyperTerminal Emulation Program

For this procedure you will need a standard serial cable (D-sub 9-pin, male-to-female, straight-through connection) as shown in Figure 5, and a PC running the HyperTerminal terminal-emulator program (or an equivalent), which is included with Microsoft operating systems. It is usually found in the **Programs** menu, under **Accessories**.

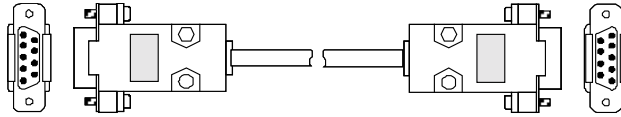


Figure 5 – Serial Cable Connection

1. With the power to the Max 410 turned OFF, connect the cable from the unit's serial port to one of the PC's serial ports. Note which of the PC's serial ports you are using.
2. Launch HyperTerminal and set up a new connection.
3. In the dialog box, specify the appropriate *serial port*, and set the serial communication parameters as follows:

Baud rate	19200
Parity	None
Character size	8
Stop Bit	1
Flow Control	None

4. Power-on the Max, then press the **Enter** key. The boot messages are displayed, followed by the command prompt **n2p:>**.



NOTE: **n2p** is the default system name with which the unit is shipped. This can be replaced by a system name you select, such as **MY_Max:>**. To change the system name, see **System Information and Commands** on page 49 in this Guide.

5. Press the **Enter** key.
The Login: prompt is displayed.
6. Three default user IDs are provided:
 - root
 - manager
 - sysadm

Type one of these user IDs at the *Login:* prompt, followed by the **␣** key.

For example, type **root**, and then press the **Enter** key.

The Password: prompt appears.

7. At the *Password:* prompt, type the default password, **n2p**, and then press the **Enter** key.
*The command line prompt **n2p:>** appears. You are now logged in.*



NOTE:

- The Max 410/420/430 provides three fixed user (or manager) names. You can change any manager's password, but managers cannot be created, deleted, or renamed.
- Manager names and passwords are case sensitive.

Obtaining the Max's DHCP IP address via HyperTerminal

If your LAN uses **static** addresses, refer to ***Entering Static IP Addresses via HyperTerminal*** on page 21 in this Guide.

1. Establish a serial connection from your computer to the Max 410 (refer to ***Using the HyperTerminal Emulation Program*** on page 18 in this Guide.)
2. After logging in to the Max 410, type `/config/ip` at the command prompt.
The active directory changes to /config/ip and the prompt becomes n2p: /config/ip>.
3. Type `s` followed by the **Enter** key.
The Max 410's IP address and netmask are listed on the screen. Write them down and keep them for future reference.

If your LAN uses DHCP, you are now ready to finish setting up the Max 410/420/430 using the *Max Web Manager*. Proceed to Chapter 4, ***Logging Into the Max Web Manager***.

Connecting to a LAN with Static IP Addresses

This section explains how to connect your Web browser to the Max 410/420/430 if your LAN uses static IP

addresses, using either a telephone keypad or serial connection. The process will entail the following steps:

1. Disable DHCP in the Max 410/420/430.
2. Enter a static IP address.
3. Enter a netmask address.
4. Reset the unit.
5. Log in to the *Max Web Manager*.
6. Set the required configuration parameters in the *Max Web Manager*.

Entering Static IP Addresses from a Telephone Keypad

If your LAN uses static IP addresses, the most practical way to set up the Max 420 or 430 is to enter an IP address and netmask from a telephone keypad. You can then finish setting up the unit while browsing the *Max Web Manager*.

Disabling DHCP from a telephone keypad (Max 420/430)

Since the Max 410/420/430 is shipped with DHCP enabled, you need to disable DHCP to use static IP addresses. To disable DHCP, proceed as follows:

1. Connect an analog telephone to any RJ-11 port on the Max 410/420/430.
2. Lift the handset and dial *****5** (the disable DHCP parameter code).
The voice prompt announces, "DHCP is disabled now. Please press pound".
3. Press the pound key (#).
4. Hang up the telephone.
DHCP is now disabled.

Entering an IP Address from a Telephone Keypad (Max 420/430)

Ask your Network Administrator for the IP address that will be assigned, the LAN's netmask address, domain name, and any other IP parameters that can be provided.

To enter an IP address:

1. Lift the telephone handset and dial *****2** (the IP address parameter code).
The voice prompt responds, "Please enter your IP address."
2. Dial the numbers for the IP address you wish to enter on the telephone keypad. Use the star key (*) to replace the periods in the address and end with the pound key (#).

For example, if you want to enter the IP address **192.168.172.19**, you would enter **192*168*172*19#** from your telephone keypad.
The voice prompt responds, "Your IP address is..." and repeats the address you entered.

3. If the new address is correct, simply hang up the telephone. If the new address is incorrect, hang up the telephone and repeat from step 1, above.
4. Reset the Max 420 to activate the changes. To do this, power-off the unit, wait 10 seconds, and turn it on again.

You are now ready to finish setting up the Max 420 using the *Max Web Manager*. Proceed to Chapter 3, **Logging Into the Max Web Manager**.

Entering a Netmask Address from a Telephone Keypad (Max 420/430)

To enter a netmask address:

1. Lift the handset and dial *****3** (the netmask parameter code).
The voice prompt responds, "Please enter your netmask."
2. Proceed as in step 2, above, entering the desired netmask address from the telephone keypad.

The voice prompt responds, "Your netmask address is..." and repeats the address you entered.

3. If the new address is correct, simply hang up the telephone. If the new address is incorrect, hang up the telephone and repeat from step 1, above.
4. Reset the Max 420 to activate the changes. To do this, power-off the unit, wait 10 seconds, and turn it on again.

The new netmask address is now in effect.

If you are using static IP addresses, you are now ready to finish setting up the Max 420 using the *Max Web Manager*. Proceed to Chapter 4, **Logging In to the Max Web Manager**.

Re-enabling DHCP from a Telephone Keypad (Max 420/430)

If you need to re-enable DHCP in the Max 420, proceed as follows:

1. Lift the handset and dial *****4** (the enable DHCP parameter code).
The voice prompt announces, "DHCP is enabled now. Please press pound."
2. Press the pound key (#).
DHCP is now enabled.

The telephone keypad configuration parameter codes are as follows:

Telephone Keypad Configuration Parameter Codes	
Read IP address	***1
Assign static IP address	***2
Assign netmask	***3
DHCP enable	***4
DHCP disable	***5

Entering Static IP Addresses via HyperTerminal (Max 410)

Although many of the Max 410's IP parameters can be set manually through the serial connection, if desired, this section will only show you how to set the IP address and netmask parameters. The procedure is as follows.



NOTE: For Max 410 units, LAN settings can only be configured by this method.

Turning DHCP On (or Off) from HyperTerminal

The Max's default DHCP setting is **DCHP enabled**. Before you can enter a static IP address, you must first disable DHCP. (The same procedure is used to re-enable it, if necessary.)

1. Start your HyperTerminal connection as directed in using the HyperTerminal Emulation Program on page 18.
2. After logging in:
 - a. From the root directory, type **NETUTIL R** to move to the network utility directory.
 - b. From the **n2p:/netutil>** prompt, type **dhcpd disable** and then press the **Enter** key.

Entering an IP Address

In step 3 of ***Obtaining the Max's DHCP IP Address via HyperTerminal*** on page 20, the menu illustrated in Figure 6 displays:

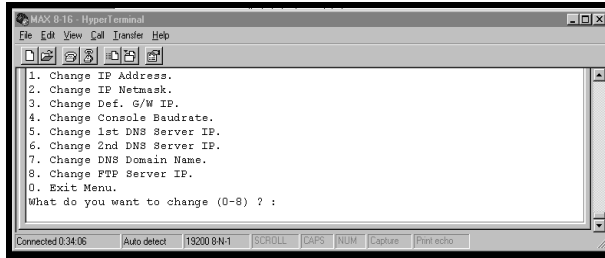


Figure 6 – HyperTerminal Window

To connect to the *Max Web Manager*, you will need to enter at least an IP address and netmask.

To enter the Max's IP parameters from this menu:

1. Type the number of the parameter you want to enter or change.
2. At the Enter <parameter>: prompt, enter the desired value.

For example:

- a. Enter **1** at the menu prompt to change the IP Address.
The Enter IP Address prompt appears (Figure 7).
- b. At the prompt, enter the IP address you wish to assign.

The Max confirms your entry. The confirmation scrolls by quickly, so you need to scroll up to see it.

```

MAX 416 - HyperTerminal
File Edit View Ctrl Transfer Help
[Icons]
1. Change IP Address.
2. Change IP Netmask.
3. Change Def. G/W IP.
4. Change Console Baudrate.
5. Change 1st DNS Server IP.
6. Change 2nd DNS Server IP.
7. Change DNS Domain Name.
8. Change FTP Server IP.
0. Exit Menu.
What do you want to change (0-8) ? : 1
Enter IP Address : 192.168.172.20
----- LAN Parameters -----
LAN IP          - 192.168.172.20
LAN Subnet Mask - 255.255.254.0

```

Figure 7 – HyperTerminal Window (Enter IP Address)

3. When you finish making changes, reset the Max 410 to activate the changes. You may either:
 - type `/system/reset` at the command line, or
 - power-off the unit, wait 10 seconds, and turn it on again.
4. (Optional) **Ping** the Max from a PC, as illustrated below, using the new IP address, to confirm that the correct parameters have been entered and stored successfully.

```

C:\>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<10ms TTL=64
Reply from 192.168.1.1: bytes=32 time<10ms TTL=64
Reply from 192.168.1.1: bytes=32 time<10ms TTL=64

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>

```

Figure 8 – Pinging the Max

The new IP address and netmask are now in effect. If you are using static IP addresses, you are now ready to finish setting up the Max 410 using the *Max Web Manager*. Proceed to Chapter 4, *Logging In to the Max Web Manager*.

4

Logging into the Max Web Manager

Overview

Before you can log in to the Max Web Manager, you need to know the Max's current IP address. To obtain its IP address via a telephone keypad or serial connection, refer to the procedures in Chapter 3, **Connecting the Max 410/420/430 to a LAN**.



This chapter describes:

- ★ Logging into the Max 410/420/430 Web Manager



REMINDER:

- If you want to query the unit from a telephone keypad, see *Obtaining the Max 420/430's DHCP IP Address via a Telephone Keypad* on page 17 in this Guide.
- If you want to query the unit through a serial cable, see *Connecting to the Max 410 through a Serial Cable* on page 17 in this Guide.

Logging into the Web Manager

Once you know the Max 410/420/430's IP address, you are ready to log in to the unit through a Web browser as follows:

1. Open a new browser window and enter the Max 410/420/430's IP address in the address box.
The Max Web Manager Door page appears.



Figure 9 – Max 410/420/430 Door Page

2. Click the **enter - Open the door** area.
The Network Password dialog box appears.

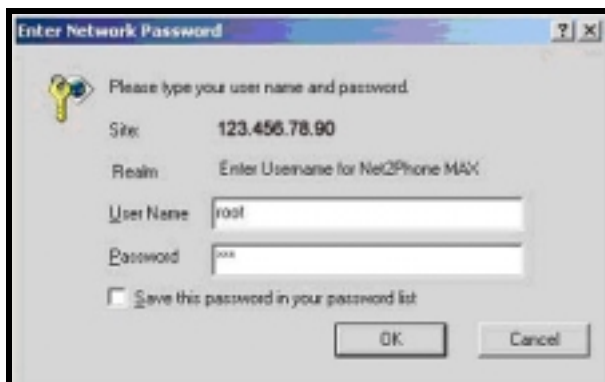


Figure 10 – Network Password Dialog Box

3. Enter your *User Name* and *Password*.



NOTE: The default user name is **root** and the default password is **n2p**.

You are now logged in. The Max Web Manager Site Map page displays.



Figure 11 – Max Web Manager Site Map Page

5

Using the Max Web Manager

Overview

The Max Web Manager is a powerful tool that allows you to configure and manage your Max 410/420/430. The menu options provide access to network, account, and IVR configuration, just to name a few. You can also assign the default settings to the Max 410/420/430 or download the latest version of the firmware.

Upon logging into the Web Manager (see Chapter 4, **Logging into the Web Manager** for details), the Site Map page displays. This page outlines the menu options and the functions within each of them. You can navigate through the site using this page or you can use the sidebar menu on the left-hand side of the page.

This chapter describes the pages accessible via the Web Manager and how to use them to configure the Max 410/420/430.



This chapter describes:

- * **Port Configuration**
- * **Network and Voice Configuration page**
- * **How to configure firewalls**
- * **Account Configuration**
- * **IVR Configuration page**
- * **Current routing table**
- * **System Information page and commands**
- * **Other Web Manager functions**

Port Configuration

In the Address Table Configuration table on the Port Configuration page, you can assign a local address to each port, allowing you to simulate a local PBX in which the ports can easily communicate with each other.

To assign an address to a port:

1. Click the **Port Configuration** link on the Site Map page or on the sidebar menu.
2. Click in the **Local Address** field corresponding with the port number you would like to configure.
3. Enter the local address.
4. Click the **Save** button to save your setting.

Address Table Configuration			
PORT	Interface	Logical Port Number	Local Address
PORT1	FXS	0	<input type="text" value="5"/>
PORT2	FXS	1	<input type="text" value="7"/>
PORT3	FXS	2	<input type="text" value="8"/>
PORT4	FXD	0	<input type="text" value="9"/>

Figure 12 – Port Configuration Page

Network and Voice Configuration

The Network and Voice Configuration Page contains four separate tables:

- ★ **Network Configuration**
- ★ **Voice Configuration**
- ★ **IP Configuration**
- ★ **CDR Configuration**

To access the Network and Voice Configuration page, click the **Network and Voice Config** link in the sidebar

menu. To modify any parameters on the page, simply enter the desired values into the respective boxes.



NOTE:

DHCP users: If your LAN uses DHCP addresses, you do not have to configure this page. You may proceed directly to *Account Configuration*, later in this chapter.

Static address users: Your IP address and Subnet netmask are already present in the IP Configuration table. Now you need to enter the additional IP parameter information you obtained from your LAN administrator. See the *IP Configuration* section for more details.

Network Configuration Table

The Network Configuration table displays the doorman IP addresses and ports, and the TCP/UDP start ports; the Port numbers parameters must be changed to permit access when a LAN's firewall permits only pre-assigned TCP/UDP port numbers to be used.

Doorman	Primary IP	cell1.netOpPhone.com	Port	8081
	Secondary IP	cell2.netOpPhone.com	Port	8081
Client	TCP Start Port	4808	UDP Start Port	21808
	Opal Start Port	7808	NSC	<input type="checkbox"/> On NSC View/Change NSC

Figure 13 – Network Configuration Table

The table includes the following fields:

- ★ **Doorman**
 - Primary IP
 - IP Address
 - Port
 - Secondary IP
 - IP Address
 - Port

★ **Client**

- TCP Start Port
- OPAL Start Port
- UDP Start Port
- NIC

Voice Configuration Table

The Voice Configuration table allows you to set the Jitter Buffer Bounds, which are used to control Quality of Service (QoS). The default values in the **Voice Lower Bound** (3) and the **Voice Upper Bound** (5) fields should not normally be changed.

Voice Configuration	
Jitter Buffer Bounds	Voice Lower Bound: 3
	Voice Upper Bound: 5

Figure 14 – Voice Configuration Table

IP Configuration Table

In the IP Configuration table, you can enter the Max 410/420/430's IP-related parameters, such as Netmask address, default gateway address, and DNS IP addresses.

IP Configuration	
	Use DHCP IP
IP Address	100.101.100.100
Net Mask	100.101.100.100
Default Gateway	100.101.100.100
DNS Server IP (Primary)	100.101.100.100
DNS Server IP (Secondary)	100.101.100.100
Domain Name	100.101.100.100

Figure 15 – IP Configuration Table

If you are using a static IP address, you need to enter the IP information in this table:

- ★ **IP Address** (may already be populated)
- ★ **Netmask Address** (may already be populated)
- ★ **Default Gateway**
- ★ **DNS Server IP (Primary)**
- ★ **DNS Server IP (Secondary)**
- ★ **Domain Name** (if applicable)

CDR Configuration Table

The CDR Configuration table allows you to enable the call detail record (CDR) feature and assign the CDR server IP addresses. It also displays the connection status of each server.

CDR Configuration		
CDR function enable <input checked="" type="checkbox"/>		
CDR Server 1 IP	XXX.XX.XXX.XX	Connected
CDR Server 2 IP	XXX.XX.XXX.XX	Connected

Figure 16 – CDR Configuration Table

The CDR Configuration table contains the following fields:

- ★ **CDR function enable** checkbox – click to enable the CDR feature
- ★ **CDR Server 1 IP** – to the right of the field is the connection status:
 - **Connected** – the device is successfully communicating with Max ABS
 - **Disconnected** – the device is not able to communicate with Max ABS or Max ABS is not set up
 - **Idle** – CDR is not enabled
- ★ **CDR Server 2 IP** – to the right of the field is the connection status:
 - **Connected** – the device is successfully communicating with Max ABS
 - **Disconnected** – the device is not able to communicate with Max ABS or Max ABS is not set up

- **Idle** – CDR is not enabled



NOTE: If a default gateway address or a DNS server address is not used the value 0.0.0.0 must be entered into their respective boxes. If the boxes are left blank the modified configuration settings will not be saved.



REMINDER: Configuration changes you make in the Max 410/420/430 are not applied until you reset the unit. To do this, you may either:

- ★ go to the Restart System page (see Restart System on page 52 in this Guide) and click Restart,
- ★ type `/system/reset` at the command prompt, or
- ★ power-off the unit, wait 10 seconds, and turn it on again.

Configuring Firewalls

In Max-to-Max calling (when you call any Max unit from another Max), if either Max is connected to a LAN that employs a firewall, you will need to configure settings on both the Max and the firewall before Max-to-Max calls can be placed. This section will explain how to make the necessary adjustments.

If your connection to the Internet utilizes a firewall, several ports will have to be opened to allow your Net2Phone Max gateway to make and receive calls to other Net2Phone devices.

UDP Port 6801 must be opened. The following port types/ranges must also be opened (the numbers displayed are the default start points for each):

- ★ UDP Port (OPAL) 7000
- ★ TCP Port 4000

★ UDP Port 21000

The table below explains the procedure for opening firewall ports for your Max gateway. This example illustrates the UDP Port (OPAL) assignments (with a default start point of 7000) for a 4-port Max gateway.

MAX PORT #	FIREWALL PORT TYPE	FIREWALL PORT NUMBERS
1	UDP Port (OPAL)	7000 - 7001
2	UDP Port (OPAL)	7002 - 7003
3	UDP Port (OPAL)	7004 - 7005
4	UDP Port (OPAL)	7006 - 7007

In this example, the range to be opened is 7000 to 7015. The range is determined by the following formula:

Max Default Start Port + (Number of Max Ports * 2) – 1
or in this example:
7000 + (4*2) – 1 = 7007

The table shows the firewall port assignments based on the default start port. If the Max gateway default start ports noted above are in conflict with your corporate firewall settings, you may assign port numbers in the range of 4000 to 65000 by applying the same principle illustrated in the table.

The TCP Port and UDP Port start parameters in the Network Configuration table must match the open firewall ports.

If there are multiple Max gateways behind a firewall, this process must be repeated for each unit, using different UDP ports & TCP ports.



NOTE: The Net2Phone Max gateway will not work behind a proxy server.



NOTE: The TCP start port and UDP start port parameters in the Network Configuration table must match the open firewall ports. If there are multiple Max gateways behind a firewall, this process must be repeated with different UDPPORT & TCPPOINTs for each unit.



NOTE: If you have more than one Max behind the same firewall you must repeat the process for each unit opening a different UDPPORT and TCPPOINT for each.

In Max-to-Max calling (when you call a Max unit from another Max), if either Max is connected to a LAN that employs a firewall, you will need to configure settings on both the Max and the firewall before Max-to-Max calls can be placed. This section will explain how to make the necessary adjustments.

1. On the Firewall:
 - a. Open UDP Port 6801.
 - b. Open an additional UDP Port in the range of 21000-65535.
 - c. Open a TCP Port in the range of 4000 – 4015 for 8 ports and 4000 – 4031 for 16 ports. This must not be the same number port you opened in the previous step. (The maximum number in the range is determined by the following formula:
Maximum = 4000 + (number of ports * 2) – 1.)
2. Access the Network Configuration Table on Max's Network and Voice Configuration page.

After opening the appropriate UDPPORT and TCPPOINT on the firewall (or having your Broadband Service Provider open a port on the

firewall for your Max 410/420/430 unit), you must specify these open ports on the Max device(s):

- a. Change the TCP Start Port to the port you opened in step 1-c. For example, if you opened TCP:PORT 21057 in step 1-c, enter 21057 for the TCP Start Port as shown in Figure 17, below, illustrating the Network Configuration Table on the [Network and Voice Configuration](#) page.
- b. Change the UDP Start Port to the port you opened in step 1-b. For example, if you opened UDP:PORT 21000 in step 1-b, enter 21000 for the UDP Start Port as illustrated in Figure 17, below.

Network Configuration				
Doomman	Primary IP	call1.netphone.com	Port	8081
	Secondary IP	call2.netphone.com	Port	8081
Client	TCP Start Port	4808	UDP Start Port	21808
	Opal Start Port	7808	W3C	<input type="checkbox"/> On USB View/Change MAC

Figure 17 – Network Configuration Table

3. After you have made the desired changes, click the **Save** button at the bottom of the page to save the new settings, then restart the Max.
The new settings should now be in effect.



NOTE: Some firewalls require the opened port to be forwarded to the Max's IP address. Consult your LAN administrator to determine if this is the case with your firewall.

Account Configuration

Click the **Account Config** link to access the Account Information page, illustrated in Figure 18 below.

Account Information						
Port	Subarea	Account	PIN	Login (Use Net2Phone)	Login (Use Max)	Accounting Account Balance
1	F90			Y N	00000	Y N Y
2	F90			Y N	00000	Y N Y
3	F90			Y N	00000	Y N Y
4	F90			Y N	00000	Y N Y

Save Changes

Figure 18 – Account Information Table

The Max 410/420/430 allows accounts to be managed in either of two ways:

- ★ **Single Account Management** - All of the ports on the Max 410/420/430 can operate from a single account number and PIN, or
- ★ **Multiple Account Management** - You can use a different account and PIN for each port.

The multiple DID feature enables Max 410, 420, or 430 to receive multiple incoming calls on a single DID account. Simply enter a single DID account, and click the **Use account for all ports** button.

When you click the **Announce Account Balance** box in the Account Information screen, you can now check the remaining balance on your Net2Phone account.

Single Account Management

For single account management:

1. Click in the **Account** field corresponding with the port you would like to configure, and enter a Net2Phone account number.
2. In the **PIN** field, enter the Personal Identification Number for that account.
3. Check the **Use account for all ports** checkbox.
4. If you wish to be able to receive incoming Max-to-Max calls on a given port, select the **Y** radio button in its **Login** column.

5. Click the **Save** button at the bottom of the page to save the settings.
6. Click the **Restart System** link on the Site Map page and then click the **Restart** button to reboot the system.



NOTE:

- To receive Max-to-Max calls when multiple ports are sharing a single account, only one of the ports sharing the account may have the Y selected.
- Only one call at a time can be made using any given account number. If a net2phone account number is entered for an FXO port in the Account Configuration Table, the account entered acts as a “default” account for the port. Charges incurred by callers through that port automatically accrue to this account.
- Whenever a selection in the Login column is modified, the Max must be restarted before the change will take effect.

Multiple Account Management

For multiple account management:

1. For each port that is connected to a telephone or PBX/KPS, enter the account number and PIN that you intend to use with that port.
2. Make sure that **Use account for all ports** is NOT checked.
3. Click the **Save** button after the desired changes have been entered.
4. Click the **Restart System** link on the Site Map page and then click the **Restart** button to reboot the system.

The Login Button

The **Yes** radio buttons in the **Login** column (shown in Figure 18 above) are used to enable a port to receive incoming Max-to-Max calls.

Announce Account Balance

The Max 410/420/430 lets the user designate how it will announce the balance to the user, either by minutes remaining, or balance in dollars remaining on the account.

You can also shut this function off if you don't want an announcement after a call has been placed.

This function also lets you designate the port on which the message will be heard, allowing the user to customize each port by the caller.

Routing Table Configuration

Click the **Routing Table Config** link to access the Current Routing Table page, illustrated below.

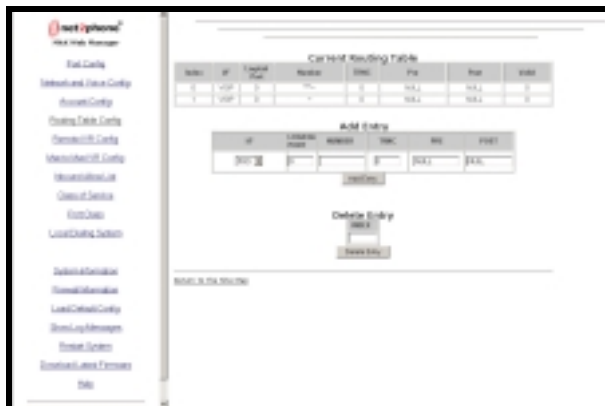


Figure 19 – Current Routing Table Page

The Routing Table is used to set up routing between two or more telephone extensions connected to a single Max's FXS ports. An entry must be added to the Current Routing Table for each extension that must be able to receive calls

from other extensions connected to the unit through an FXS port, and only FXS ports can be configured for this function.

If a customized numbering scheme is desired, entries for each number can be added to the table.

The Current Routing Table displays the following fields for each entry:

- ★ **Index** – index number
- ★ **I/F** – interface type
- ★ **Logical Port** – logical port numbers
- ★ **Number** – the phone number to be routed
- ★ **TRNC** – the truncation length *
- ★ **Pre** – the prefix number *
- ★ **Post** – the postfix number *
- ★ **Valid** – the validity of the table entry *

* The items marked with an asterisk are intended for special circumstances. The items should be left unchanged in typical applications.

Logical Port Numbering

The difference between physical and logical port numbering is that, in logical port numbering, the FXS and FXO ports are counted separately, and the count starts from **zero** instead of one. So the first FXS port will be **FXS 0**, and the first FXO port will be called **FXO 0**.

A *Physical and Logical Port Number Table* (Appendix D in this Guide) has been provided for you to write down the positions of your FXS and FXO ports so that they are available for future reference.

Adding an Entry to the Current Routing Table

To add an entry to the Current Routing Table:

1. Select FXS for the interface type.

INTERFACE TYPE	DESCRIPTION
FXS	interface for analog telephone
VoIP	interface for IP network

2. Enter the **logical** number of the port, referring to the table you prepared in Appendix D.
3. Enter the telephone or extension numbers that are to be directed to the port using the characters in the following table:

CHARACTER ENTRIES	
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, *	The characters that can be input from a telephone keypad
?	Represents any single character
~	Represents a string of characters of any length

- **Example 1:** "1???" signifies any number that begins with a 1, followed by any 3 digits.
- **Example 2:** "011~" signifies any number that begins with 011, followed by any number of digits.

The Max 410/420/430 only uses the pound character (#) as an end-digit indicator, so it is not needed in the call routing table.

4. To delete an unwanted entry, simply type its index number in the Delete Entry box and click the **Delete Entry** button.



NOTE: The two VoIP entries in the Current Routing Table cannot be deleted, as they are necessary for correct operation of the Max 410/420/430 system.

After the desired changes have been entered, click the **Save** button to save them. The unit must then be rebooted as described in **Restart System** on page 53 to activate the new settings.

Integrated Voice Response (IVR) Configuration

This section describes the remote IVR and Max-to-Max IVR configuration methods.

Remote IVR Configuration

The remote access IVR and Max-to-Max IVR supports multiple passwords. You can enter up to ten (10) different passwords, up to five digits each. When entering multiple passwords, separate each password with a comma (,).

Remote access IVR is supported for FXS/FXO ports, and Max-to-Max IVR is supported for FXO ports. For FXS IVR, user must add the IVR access number to the routing table for IVR access. The IVR access number can be generated by adding an entry in the routing table with the IVR interface type.



REMINDER: A separate port with its own telephone line connection to the PBX or to an analog telephone is required for each concurrent telephone call desired. For example if capability for 3 concurrent calls is desired then the Max must have at least 3 ports each connected to the PBX or to an analog telephone.

To access the IVR Configuration page, click the **Remote IVR Config** link on the Site Map page or on the sidebar menu.

Port	Interface	IVR Off	Play Welcome Only	Request Password Only	Request Account and PIN	Request Password Account and PIN	Multi Password (up to 3 digits each)	Use Forwarding Number	Forwarding Number
1	FXO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	123456789
2	FXO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	
3	FXO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	
4	FXO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1111	<input type="checkbox"/>	

"Thank you" Message

Figure 20 – Remote Access IVR Configuration Table

- ★ Multiple passwords are supported for more flexibility.
- ★ A "Thank you" message can be enabled by clicking the **"Thank you" Message** check box.

The Remote Access IVR function permits system managers to select the announcement that will greet callers to an FXO port, as well as the security, call forwarding, or other options that may be applied to the port.

The Remote Access IVR Configuration Table (Figure 20) allows you to configure these options to suit your requirements.

To configure the Remote IVR Configuration Table, proceed as follows:

1. Make sure the FXO port you are configuring is connected to the analog line card of a PBX unit.
2. Be certain that a PBX or PSTN telephone number has been assigned to the port.
3. Select one of the following six modes for the port (only one mode at a time may be selected):
 - **IVR Off** – When IVR Off is selected for a port, callers to the port get an immediate

VoIP dial tone and can make VoIP calls without restriction.

- **Play Welcome Only** – When this option is selected, callers to the port hear a welcome message, “Welcome to Net2Phone. Please enter the number you wish to call.” Callers can then make VoIP calls without restriction.
- **Request Password Only** – This option prevents unauthorized access to the FXO port on which it is set. Callers are asked to enter a password through the telephone keypad before access to VoIP calling is permitted. Callers can then make VoIP calls without restriction.

To configure this option, you must create a password (in the port's Password column), which may consist of up to 5 (numeric only) characters.

- **Request Account and PIN** – This feature requires the caller to enter a net2phone account number and PIN before VoIP calling is enabled. If the caller then incurs charges while using the Max, they will accrue to the caller's account.



IMPORTANT: If a Net2Phone account number is entered for an FXO port in the Account Configuration Table (see *Configuring Accounts* on page 35 in this Guide) the account entered acts as a “default” account for the port. Charges incurred by callers through that port automatically accrue to this account.

- **Request Password Account and PIN** – This option combines the two functions described above.
- **Use Forwarding Number** – Select this IVR option for a port if you wish to have

incoming calls to that port forwarded to a specified number automatically, without notice to the caller. Any PSTN telephone number, or a net2phone account number preceded by *72, may be entered in the **Forwarding Number** column.

If a PSTN number is entered, it must include any required preliminary digits, such as a 1 for long-distance calling.

If **Request Account and PIN** or **Request Password Account and PIN** is selected, and a caller enters an incorrect or invalid account number, the call is disconnected.

Unless this arrangement suits your needs, you must clear any account number that may have been entered for an FXO port in the Account Configuration Table when **Request Account and PIN** or **Request Password Account and PIN** are selected.

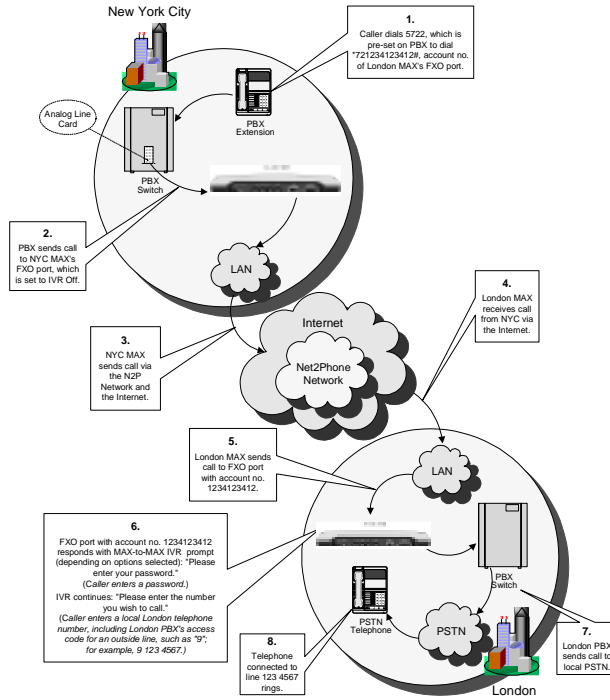


Figure 21 – Max 410/420/430 Call Flow (FXO Port)

Figure 21 illustrates the call-flow of a telephone call placed through a Max 410/420/430's FXO port. In this scenario, four FXO ports are connected to the PBX in a hunt group set up at extension 4000.

Max-to-Max IVR Configuration



NOTE: If your unit does not have FXO ports or will not be receiving any Max-to-Max calls, this section is not applicable.

Click the **Max to Max_IVR Config** link on the Site Map page or on the sidebar menu to access the Max-to-Max IVR Configuration Table, illustrated below in Figure 22.

Port	Interface	Max only	Max Welcome only	Request Password only	Welcome and password	Max Password (up to 10 digits max)	Max Forwarding Number	Forwarding Number
1	FXS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	FXS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	FXS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	FXS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Figure 22 – Max-to-Max IVR Configuration Table

Configuring Max-to-Max Calling



NOTE:

- If the LAN to which either Max is connected employs a firewall, you need to configure settings on both the Max unit and the firewall before you can place Max-to-Max calls. For information about configuring a firewall, refer to *Configuring Firewalls* on page 32 in this Guide.
- In Max-to-Max calling, the receiving port's Account Information table settings must be configured to permit it to receive calls. For details, refer to *Receiving Max-to-Max Calls* on page 45 in this Guide.

Callers may access a port on a remote Max 410/420/430 from another Max device (Max-to-Max) by dialing *72 followed by the receiving port's virtual number, which is the first ten digits of its account number.

If the receiving port is an FXS port, the telephone connected to the port will ring.

If the receiving port is an FXO port, it permits callers to use its PBX as though they were on a local PBX telephone extension, subject to the options set by the receiving unit's system manager in its Max-to-Max IVR Configuration Table. Callers must use the remote PBX's dialing plan. For example, if PBX users at the remote site dial **9** for an outside line, the callers must also do so.

The Max-to-Max IVR Configuration Table allows the system manager to configure the way a Max 410/420/430's FXO ports will respond to VoIP calls it receives from other Max units.

In the Max-to-Max IVR Configuration Table:

1. Make sure the FXO port you are configuring is connected to the analog line card of a PBX unit.
2. Select one of the following five modes for the port (only one mode at a time may be selected):
 - **IVR Off** – When **IVR Off** is selected for a port, callers to the port get an immediate PBX dial tone and can use the PBX's facilities without restriction.
 - **Play Welcome Only** – When this option is selected, callers to the port hear a welcome message, "Welcome to Net2Phone. Please enter the number you wish to call." It then permits them to use the PBX as if they were on one of its local telephones. Callers must use the remote PBX's dialing plan. For example, if a PSTN number is entered, it must include any required preliminary digits, such as **9**, to get an outside line.
 - **Password Request Only** – This option prevents unauthorized access to the FXO port on which it is set. Callers are asked to enter a password through the telephone keypad before access to the PBX is permitted.

To configure this option, you must create a password in the Password column. The

password may consist of no more than 5 numeric characters.

- **Welcome and Password** – This option combines the two functions described above.



IMPORTANT: If a Net2Phone account number is entered for an FXO port in the Account Configuration Table (see *Account Configuration* on page 35 in this Guide) the account entered acts as a “default” account for the port. Charges incurred by callers through that port automatically accrue to this account.

- **Use Forwarding Number** – Select this IVR option for a port if you wish to have incoming calls to that port forwarded to a specified number automatically, without notice to the caller. Any PSTN telephone number, or a net2phone virtual number (*72 plus the first ten digits of a net2phone account number), may be entered in the **Forwarding Number** column. If a PSTN number is entered, it must be entered using the PBX's dialing plan. For example, if PBX users dial **9** for an outside line, the PSTN telephone number must be preceded by a **9**.

Receiving Max-to-Max Calls

For the Max 410/420/430 to be able to receive Max-to-Max calls, the Account Information page must be configured.

To designate a port to receive incoming Max-to-Max calls, select the **Y** radio button in its **Login** column.



NOTE:

- Only one of the ports sharing a single account may have the Y in its Login column selected, designating it to receive calls.
- Each port can place outgoing calls using the single account, which may be acceptable when account usage is not tracked. But note that only one port has been designated to receive incoming calls. Only one call at a time can be made using any given account number.
- Whenever settings on this page are changed, the Max must be rebooted before the change will take effect.
- See your reseller for Max-to-Max calling rates.

Figure 23 on the next page represents the call-flow in one type of Max-to-Max telephone call. Other calling configurations are also possible.

See your reseller for Max-to-Max calling rates.

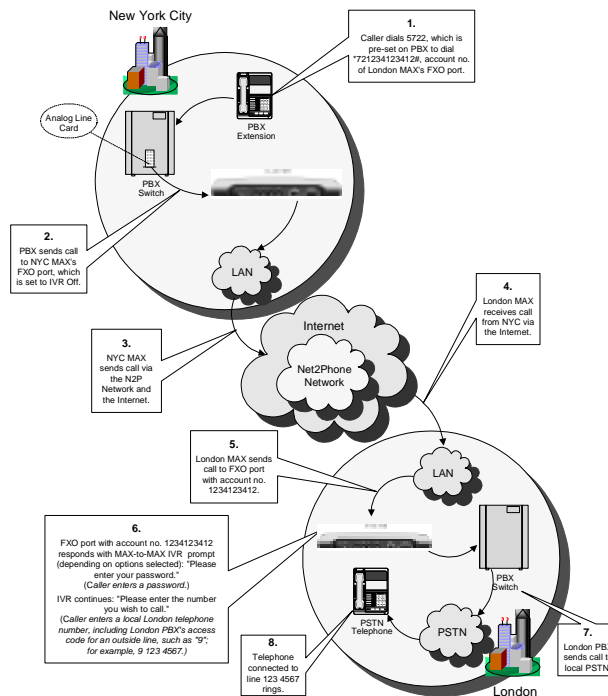


Figure 23 -- Max-to-Max Call Flow

Inbound Allow List Configuration

This function blocks calls from unauthorized callers. The Max 410, 420, and 430 have remote accessible ports, so an unauthorized person can use the port without admission control.

This feature allows the user to specify the allowable inbound numbers that can make use of the port as shown in Figure 24 below.

When a call comes in to the Max 410, 420, or 430, it looks at the incoming caller ID, compares it to the list for the port, and if the caller is in the allow list, admits the call. The maximum number of characters in the **Allow List** field

is 100. If one caller ID length is 10 digits, then the total number of allowable callers will be 9, since the comma (,) that separates the different numbers occupies one digit.

The inbound allow list table contains the following columns:

- ★ **Port** – identifies the port number that you are configuring on the Max.
- ★ **Interface** – displays whether the port is an FXO or an FXS port.
- ★ **Allow List** – click in this field to enter the telephone numbers that you would like to allow.
- ★ **Allow All Callers** radio button – this setting, which is the default, permits all calls, regardless of whether or not they are included in the **Allow List** field for that port; it disables the allow list feature without forcing you to delete all the numbers in the **Allow List** field.
- ★ **Disconnect Unauthorized Caller** radio button – if this radio button is selected, all callers who are not in the allow list for that port will be disconnected.
- ★ **Request Account and PIN From Unauthorized Callers** radio button – if this radio button is selected, all callers who are not in the allow list for that port will be prompted for their account number and PIN; callers who enter them correctly will be permitted.

Port	Interface	Allow List	Allow All Callers	Disconnect Unauthorized Caller	Request Account and PIN From Unauthorized Callers
1	FXO		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	FXO		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	FXO		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	FXO		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Save

Figure 24 – Inbound Allow List

To add a number to the inbound allow list:

1. Click in the **Allow List** box for the port that you would like to configure.
2. Enter the number(s) that you would like to allow for that port. Separate numbers with a comma (,).
3. Select the radio button that represents how you would like unauthorized callers to be handled. Click one of the following radio buttons: **Allow All Callers**, **Disconnect Unauthorized Caller**, or **Request Account and PIN From Unauthorized Callers**.
4. Click the **Save** button to save the setting.
A page displays the message, "Command executed successfully."

Class of Service Configuration

This function is to set the call authorization classes for restricting outbound calls. There are 6 classes: A, B, C, D, E, and U. Class A has the most outbound call access capability. Class B has the second most outbound call access capability, and so on. Applying the restricted first digit string to a class means that the restriction is applied to all lower classes and not to higher classes. Class U has the same meaning as OFF – there is no outbound call control.

To add restricted digits to a class definition:

1. In the **ADD** Command table, click the **Class** drop-down menu to select the class to which you would like to define restricted digits.
2. In the **Restricted First Digit** box, type up to eight (8) digits of the number you would like to restrict.
 - For example, if you want to create a class that does not allow outbound calls to any numbers beginning with 1-973, you would enter **1973**.
 - You can also enter **973** to restrict callers who do not enter the 1 prefix.

3. Click the **ADD** button to save the class definition. *The restricted digits appear next to the class you defined.*



NOTE: Users cannot make a call to the restricted numbers that are in both his/her own class and a higher class. This feature must work with the port class system and the local dialing system.

To delete restricted digits from a class definition:

1. In the **DEL** Command table, click the **Class** drop-down menu to select the class that contains the restricted digits you would like to delete.
2. In the **Restricted First Digit** box, type the restricted digits you would like to remove.
3. Click the **DELETE** button to delete the restricted digits from that port class definition.



Figure 25 – Class Configurations Page

Port Class Configuration

This function allows you to assign a call authorization class to each port to restrict outbound calls.

There are 6 classes: A, B, C, D, E, and U. Class A has the most outbound call access capability. Class B has the second most outbound call access capability, and so on. Class U has the same meaning as OFF – there is no outbound call control.



NOTE: Class U is the default setting.

A port's class determines its level of outbound call capability. A port that is set to class A has the most call capability, while a port set to class C is more restricted and has less call capability. The authorization classes can be defined in the Class of Service Configuration page (covered on the previous page).

Port Class Configuration

Port Number	Interface	Class
1	PXO	U
2	PXO	U
3	PXO	U
4	PXO	U

Port Class Setting

Command	PORTCLASS
Port Number	<input type="text"/>
Class	<input type="text" value="A"/>

Figure 26 – Port Class Configuration Page

To assign a class to a particular port:

1. In the **Port Class Setting** table, enter the port number to which you would like to assign a class.
2. In the **Class** drop-down menu, select the class you would like to assign to the specified port.
3. Click the **OK** button to save the class assignment.

The class appears in the row corresponding to the port you defined.

Local Dialing System

The local dialing system feature enables users to dial phone numbers on the Max 410, 420, and 430 products as they normally do on their ordinary phones. That is, users do not have to dial an international call access number and country code number if the call destination is the same country where user lives. Similarly, the area code can be omitted for calls made to the same area. Users can configure a dialing pattern on the Max 410, 420, and 430 that is as close as possible to the host country's dialing pattern.

Local Dialing System			
1	Country Code	INTERNATIONAL	The access number to make a call from another country (USA: 01)
2	Area Code	Use area code (Use Without Leading Zero)	The access number to dial when calling from another area (Brazil: USA: 910)
3	International Call Prefix No.(Access Code)		The access (prefix) number to make an international phone call (USA: 011)
4	Long Distance Call Prefix No.		The access (prefix) to the area code) number to make a long distance phone call (USA: 1)
5	Call Phone Prefix No. (Access Code)		The access (prefix) number dialed before a cell phone number (if applicable)

If This function follows the ITU-T E.164 recommendation.
If All of the current routing table values will be deleted if you click OK button.
You must check it out before you finish this.

Bold fields are required.

Figure 27 – Local Dialing System Page

On the Local Dialing System page, enter the following information to ensure that calls are routed correctly:

- ★ **Country Code** – The access number you dial when placing a call from another country. For example, in the US, the country code is 1.
- ★ **Area Code (city code)** – The access number for the area or city in which you live. For example, in Newark, New Jersey (US), the area code is 973. You can also indicate how the area codes are to be used:
 - **YES Without a Leading Zero** – select this for countries that use area codes beginning with numbers other than zero; for example, the US does not use leading zeros, so this setting would apply.
 - **With a Leading Zero** – select this for countries that use area codes beginning with zero.
 - **Area Codes Not Required** – select this for countries in which area codes are not required; for example, small countries may have only one area code.
- ★ **International Call Prefix No.** – The prefix you dial when placing international calls. For example, in the US, the international prefix number is 011. (Only a single entry is allowed).
- ★ **Long Distance Call Prefix No.** – The access number you dial when placing a long distance call. For example, in the US, the long distance prefix is 1.
- ★ **Cell Phone Prefix No.** – The access number you dial when placing a call to a cell phone, if applicable. You can separate up to 10 multiple entries by using a comma (,).

After entering this information, you must reset the Max 410, 420, or 430 to apply the modified values.

The N2P call is made based on the local dialing system setup environment. All the prefix numbers are automatically added to the actual dialed numbers.

For example, if the user placed a call to a local phone number, the N2P call is made by the Max 410, 420, or 430 with the international call access number, country code

number, and area code number added to the local phone number.

By placing this information in the Local Dialing System:

- ★ the user does not have to dial his/her telephone country code for domestic calls, and
- ★ the user does not have to dial his/her telephone area code for local calls.

System Information and Commands

Click the **System Information** link to access the System Information page, illustrated below.

The screenshot displays three sections of the System Information page:

- System Name Change:** A form with two input fields. The first is labeled "Current System Name" and contains the text "ADP". The second is labeled "Changing System Name" and is empty. Below the fields is a "Save Changes" button.
- Change Password (Up to 8 characters each):** A form with four input fields. The first is labeled "Current Login" and contains the text "root". The other three fields are labeled "Current Password", "New Password", and "Confirm New Password", all of which are empty. Below the fields is a "Change Password" button.
- Current System Version:** A table with two rows and two columns.

Hardware Version	MPU 1.0 Lat1.1 (69f2h)
Software Version	MAX410 1.5.30

Figure 28 – System Information Page

The System Information page displays:

- ★ **System Name Change**

- **Current System Name** -- the current name assigned to the Max
- **Changing System Name** – allows you to enter a new system name
- ★ **Change Password**
 - **Current Login** – the user name currently logged into the Max Web Manager
 - **Current Password** – the current password assigned to the user name
 - **New Password** – allows you to enter a new password to be associated with the current login
 - **Confirm New Password** – confirms the password entered in the New Password field
- ★ **Current System Version**
 - **Hardware Version** – the version of the Max device
 - **Software Version** – the firmware version

The system manager has the options of changing the system name and the current password.

To change entries on this page, just enter the new information into the desired fields, click the **Save** button, and restart the Max.

If changes are made on this page, the system must be restarted as discussed in **Restart System** on page 62 before the changes take effect.

Other Web Manager Functions

Load Default Config

Click the **Load Default Config** link to access the **Click to load factory settings** page, illustrated below.

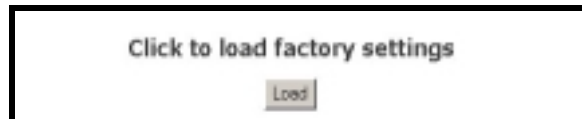


Figure 29 – Load Default Configuration Page

Click the **Load** button to restore the Max 410/420/430's default factory configuration.



CAUTION: This command causes *all* of your configuration settings and parameter values to be deleted.

Show Log Messages

Click the **Show Log Messages** link to access the Current System Log Messages page, illustrated below.

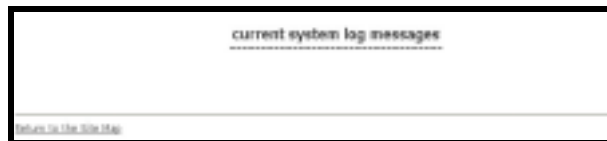


Figure 30 – Show Log Messages Page

Restart System

Click the **Restart System** link to access the Restart System page, illustrated below.

To restart the system, click the **Restart** button.



Figure 31 – Restart System Page

Upgrading the System Software

Click the **Download Latest Firmware** link to access the Software Upgrade page, illustrated below.



Figure 32 – Download Latest Firmware Page



IMPORTANT: Before upgrading to version 1.5.30, you should follow the Preparing for the Upgrade section below to ensure that the Max's fax features will work properly.

Preparing for the Upgrade

BEFORE upgrading to version 1.5.30, follow these procedures:

1. If you do not have a copy of your Max 410/420/430 configuration settings, including any fields that you modified from the original factory default settings, you may want to take a snapshot of the settings for future reference. Simply print each configuration page from the Web Manager and save the hard copy for future reference.
2. Check the **FAX Only** port settings via the Web Manager. If any ports are set to **Yes (Y)**, you must clear the settings before upgrading. Doing so will

ensure that after the upgrade, the faxes will be transmitted using the T.38 fax protocol on the Net2Phone network.

- a. In the Web Manager, click the **Account Config** link in the sidebar menu.
- b. For each port that has a setting of **Y** in the **FAX Only** field, click the **N** radio button. If no ports are set to **Y**, you can proceed to the **Performing the Upgrade** section below.
- c. Click the **Save Changes** button at the bottom of the page to save the settings.

Once you have completed this procedure, proceed to the following section, **Performing the Upgrade**.

Performing the Upgrade

To upgrade the Max firmware:

1. Click the **Download** button to download the executable file to the C:\Net2Phone\Upgrade folder.
2. Open your Windows Explorer and navigate to the C:/net2phone/upgrade folder. Double-click the **max4x0up.exe** file to begin the upgrade process.
3. You will be prompted for the following information:
 - a. User Name
 - b. Password
 - c. Max IP Address
4. Follow the remaining prompts to complete the upgrade.

If you encounter any problems after you have upgraded the Max, including faxing, calling, receiving calls, etc., re-load the factory default settings and re-enter your configuration settings.

To re-load the factory default settings and re-enter your configuration settings:

1. In the Web Manager, click the **Load Default Config** link in the sidebar menu.

2. Click the **Load** button.
3. Reboot the device.
4. In the Web Manager, re-enter any settings that you may have modified from the original default configuration based on the configuration settings that you printed out before the upgrade.



NOTE: If you encounter problems with the Max after upgrading, Net2Phone recommends that you reset the factory defaults and re-enter your settings.

Help with your Max 410/420/430

Click the **Help** link (shown below in Figure 32) to directly connect with the Net2Phone Partner Support website. From this site you can access FAQs, product documentation, and the latest software downloads for your Max product.



Figure 33 – Help Page

6

Placing Calls

Overview

With the Max 410/420/430, you can quickly and easily place calls next door or overseas! This chapter describes how to make regular phone calls and Max-to-Max calls.



This chapter describes:

- ★ **The pound key**
- ★ **How to place regular calls with the Max 410/420/430 (via the PSTN)**
- ★ **How to place Max-to-Max calls**

The Pound Key

The pound key (#) is used by the Max to indicate the end of a dial string. If the pound key is omitted, the Max waits three seconds for additional input, and then places the call. This delay is adjustable through a HyperTerminal connection.

Placing Calls to the PSTN

Placing Calls to Destinations within North America

Pick up the handset on a telephone connected to one of the Max 420's ports and dial:

1 + the area code + the local number + the # key.

For example, if the area code is 212 and the local number is 555-6791, you would dial **1 212 5556971 #**.

Placing International Calls

Pick up the handset and dial:

011 + the country code + the city code + the local number + the # key.

For example, if the country code is 9, the city code is 81 and the local number is 223-4567, you would dial **011 9 81 2234567 #**.

Max-to-Max Calling

Calling a Max 420's FXS Port from Another Max

We will imagine that you are calling from a telephone connected to your Max's FXS port in New York City to a telephone connected to a Max's FXS port in Los Angeles. The account number assigned to the remote Max's port is 1234567890.

1. Dial ***72 1234567890 #**.
2. The telephone attached to the port in Los Angeles rings.

Calling a Max 410's FXO Port from Another Max

Let us imagine that you are planning a trip to England and you need to call Windsor Castle's 24 hr. information line. To call from London, you would dial 0753 (the city code) + 831118 (the local number). To place the call directly from your PBX extension in your office in the US, you would dial 011 01 753 831118 (omitting the 0 before the city code).

We will place the call as a Max-to-Max call, using the Max 410 in your company's New York City office and the Max 410 in your company's London office.

Before we place the call, let us assume the following conditions.

On the New York City (local) Max unit:

- ★ The New York City Max's four FXO ports have been configured for Max-to-Max calling and their Max-to-Max IVR setting is **IVR Off**.
- ★ Extension number **4000** on the PBX has been assigned to this group. The group is configured on the PBX as a **hunt group** so that, when 4000 is dialed from an extension on the PBX, the PBX connects the caller to the first available unoccupied port on the Max within the group.

On the London (remote) Max unit:

- ★ The account number of the London unit is 1234567890.
- ★ The **Welcome and Password** option has been selected on that unit's Max-to-Max IVR Config table.

Now we can proceed with the call.

1. Dial **4000** from your office PBX extension.
You hear an Internet dial tone.
2. Dial ***72** + the remote FXO port's account number, e.g., ***72 1234567890 #**.
The Max in the London office greets you, "Welcome to . Please enter your password."
3. Enter the password.
The Max in London responds, "Please enter the number you wish to call."
4. Enter Windsor Castle's city code and local number as if you were dialing an inter-city call from London: **0753 831118**.
The voice prompts you receive from the remote unit would depend on how its Max-to-Max IVR options were configured.

Depending on the options set by the remote system's manager:

- ★ you might immediately be asked for a number you wish to call,
- ★ you might be asked for a password, or

- * your call may be automatically forwarded to another number (without any notification to you).



NOTE:

- If the LAN to which either Max is connected employs a firewall, you need to configure settings on both the Max unit and the firewall before you can place Max-to-Max calls. For information about configuring a firewall, refer to *Configuring Firewalls* on page 32 in this Guide.
- In Max-to-Max calling, the receiving port's Account Information table settings must be configured to permit it to receive calls. For details, refer to *Receiving Max-to-Max Calls* on page 45 in this Guide.
- Refer to your Reseller for information about 's Max-to-Max calling rates.

7

Appendices

Appendix A – Troubleshooting

Installation Problems

If there appears to be a malfunction, first check all cables and connections. If these appear to be in order, see the following table for specific troubles and solutions.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Power LED off	Power source switched off	Switch power source ON
	Faulty power cable	Check/replace power cable
	Faulty power source	Check/correct input power
	Faulty internal power supply	Contact Technical Service Center or your reseller
No initialization response from N2P Max 410/420/430	Faulty console terminal	Check/replace terminal
	Faulty cabling to terminal	Check/replace cable
	Faulty N2P Max 410/420/430	Contact Technical Service Center or your reseller

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Unit shuts off after operating for some time	Overheating	Check ventilation
	Faulty N2P Max 410/420/430	Contact Technical Service Center or your reseller
Console screen display freezes	Console fault	Reset/replace console
	Software error	Repeat power-up procedure
	Faulty N2P Max 410/420/430	Contact Technical Service Center or your reseller

Network Problems

When I attempt to connect to my Max 410/420/430 through a serial cable connection, I do not see any text, or the text that appears is distorted.

- ★ Make sure the connection settings are as follows:

Baud rate	19200
Parity	None
Character size	8
Stop Bit	1
Flow Control	None

- ★ Make sure the serial cable is connected and fastened to both the Max 410/420/430 and your computer.

My network supports DHCP, but my Max 410/420/430 cannot obtain correct network settings.

- ★ Make sure DHCP is enabled.

- ★ Make sure the RJ-45 LAN cable is connected securely to your Max 410/420/430 and LAN, hub, or router.
- ★ Make sure that all network ports, routers, or hubs are live.

I set DHCP to ON, but my Max 410/420/430 cannot obtain correct network settings.

- ★ Make sure your network supports DHCP.
- ★ Make sure your RJ-45 LAN cable is securely connected to both the Max 410/420/430 and to the LAN, hub, or router.
- ★ Make sure that all network ports, routers, or hubs are live.

My analog phone does not have a period; how do I enter the periods in my IP address and netmask?

- ★ Use the star key (*) in place of the periods.

When I enter a static IP Address into my Max 410/420/430 and restart the unit, the IP Address I entered is not saved.

- ★ Make sure DHCP is set to OFF.
- ★ If you entered the IP address through an analog phone, make sure you press the # key before hanging up.

I changed the login password on my Max 410/420/430 and I forgot the new password.

- ★ Log in as **manager** or **sysadm**. Note that the *default* password for both is **n2p**.

When I attempt to access the Max Web Manager, I am prompted for a user name and password. But when I enter them and press the OK button, the Password page reappears.

- ★ Make sure both the user name and password are correct (note that the user name and password are case sensitive).

Configuration Problems

In the Max Web Manager Network and Voice Configuration page, I omitted the DNS server field because it does not apply to me, but now the Max Web Manager will not let me save the settings.

- ★ The DNS fields must not be left blank. If you do not wish to enter DNS Servers, you must enter **0.0.0.0** in those fields.

In the Max Web Manager's Account Configuration page, I accidentally checked the "Use account for all fields" check box and saved the changes. Now the different accounts I had in each port are no longer present. How can I put them back?

- ★ You must make sure the **Use account for all fields** checkbox is unchecked, and enter the account information again manually.

When I dial the extension that I routed to port 1, it rings port 2, and when I dial the extension I routed to port 2, it rings port 3, etc...

- ★ In the Routing Table Configuration page, make sure you routed each extension to the *logical port number* of the desired port, not the labeled or *physical* port number. To find the logical port number for each port, refer to **Logical Port Numbering** on page 48 in this Guide.

Calling Problems

When I attempt to make a call, I hear a *fast busy* signal.

- ★ Click the **Show Log Messages** link to access the Current System Log Messages page (see **Show Log Messages** on page 51 in this

Guide). Then check to see if 00 REL DM_NOT_SPECIFIED is displayed. This would indicate that the doorman servers couldn't be found. Make sure that the DNS server IP parameter values are correct so that the doorman can be reached.

When I attempt to call into my Max 410/420/430 from another unit via *72, I get a busy signal.

- ★ Make sure the account number you are calling from is valid and has a correct PIN.
- ★ Make sure the account you are calling from has sufficient funds.
- ★ Make sure you entered the correct number to be dialed.
- ★ Make sure you entered *72 before the number.
- ★ If the port you are calling is sharing an account number with other ports, make sure that only the port you dialed is set to Login in the Account Information table. See **Configuring Accounts** on page 35 in this Guide.

When I attempt to make a call from either an FXS or FXO port, I get immediately disconnected.

- ★ Use the ping command to determine that the Max's connection to the LAN is functioning. The ping command is discussed in **Entering an IP Address** on page 26 in this Guide.
- ★ Make sure that an account number has been entered for the port from which you are calling, and that there are funds in the account. This topic is covered in **Configuring Accounts** on page 35 in this Guide.

Faxing Problems

When I attempt to fax, either the fax quality is poor or I'm not able to fax at all.

- ★ If the **FAX Only** field (on the Account Configuration page of the Web Manager) for one or more ports was set to Y (yes) before

upgrading to version 1.5.30, that setting may not have been cleared by the upgrade process. As a result, you must re-load the factory defaults and re-enter your configuration settings. The following steps walk you through this process:

- Before re-loading the factory settings, take a snapshot of the configuration settings you customized by printing each configuration page in the Web Manager. You will need to refer to this hard copy later, after you have loaded the default configuration and are ready to re-enter your settings.
- In the Web Manager, click the **Load Default Config** link in the sidebar menu.
- Click the **Load** button.
- Reboot the device.
- In the Web Manager, re-enter any settings that you may have modified from the original default configuration. Use the hard copy of your configuration settings (from the first step in this procedure).



NOTE: If you are still unable to send faxes or the fax quality is poor, contact Net2Phone Reseller Support.

Appendix B – Technical Support

If you are experiencing a technical problem, please refer to Appendix A, *Troubleshooting*, in this Guide. If the problem remains unresolved, please contact your reseller for assistance.



CAUTION: Do not attempt to disassemble the Max 410/420/430. There are no user-serviceable parts inside the unit.

Appendix C – System Specifications

SYSTEM SPECIFICATIONS	
Analog voice interface	FXO, RJ-11 (Max 410) FXS, RJ-11 (Max 420) FXS/FXO, RJ-11 (Max 430)
LAN interface	10baseT, RJ-45, 1 port
Serial interface	EIA-232 {old RS-232C}, DB-9, 1 port Asynchronous serial communication at 19200bps
LED indicators	one active status indicator for system one alarm indicator for system malfunction one active status indicator for each analog voice port one LAN link indicator one LAN data receive indicator
VoIP protocol	proprietary protocol
Voice processing capabilities {compression/decompression} {QoS related capabilities}	G.711 G.723.1 Echo Cancellation (G.168) Voice Activity Detection Comfort Noise Generation
Management interface	Command line interface via console port or telnet client Web interface via any Web browser
Physical Size (H x W x D)	49.5 x 212.6 x 177.6 mm
Weight	0.5 Kg.

SYSTEM SPECIFICATIONS	
Input power	5V AC/DC adaptor: input 100 - 240 VAC, 1.5 A (max.), 50/60 Hz, 50 W (max.)
Main processor	Motorola MPC850DSL
Operation temperature	0 ~ 50° C
Storage temperature	40 ~ 85° C
Operation humidity	5 ~ 95 (NOTE: non-condensing)
Noise level	15 dB @ 1 m
Ringer Equiv. No.	0.5B

LED	MEANING
ALM	Alarm
LINK	Link active
OPR	Operational
LRX	Receive data

Appendix D – Physical and Logical Port Number Table

FXS PORTS		FXO PORTS	
Physical Port Number	Logical Port Number	Physical Port Number	Logical Port Number

Appendix E – Approvals and Listings

For Max 410/ 430

FCC Declaration of Conformity

- ★ Product name: **Max 410, Max 430**
- ★ FCC Rules: Tested to comply with FCC part 15, Class A & FCC part 68
- ★ Operating environment: for office use

FCC Compliance Statement:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For Max 420

FCC Declaration of Conformity

- ★ Product name: **Max 420**
- ★ FCC Rules: Tested to comply with FCC part 15, Class A
- ★ Operating environment: for office use

FCC Compliance Statement:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.





NOTE: Important! Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment. Use with an approved telephone set.

Party responsible for product compliance:

Net2Phone, Inc.
520 Broad Street
Newark, NJ 07102
USA

Appendix F – End User Warranty

This product is warranted to be free from manufacturing defects including original parts and workmanship for a period of one year from the date of original purchase. Should you find your unit is not operating properly during the one-year term of this warranty, you should contact your original place of purchase.

Providing the manufacturing defect is verified along with the date of purchase, and at the manufacturer's discretion, the defective unit will be repaired or replaced with either a new, refurbished, or equivalent model at no charge for up to one year from the date of original purchase.

The end-user should delete all personal account information from the product, as provided in the owner's manual, before returning the product to the distributor for repair or replacement.

This warranty is void if the product is:

- A) Damaged through negligence, abuse, misuse, accident, or acts of God.
- B) Modified or repaired by anyone other than an expressly authorized representative.
- C) Damaged resulting from the improper connection to equipment of other manufacturers.

This warranty does not cover:

- A) Costs incurred in the shipping of the product to and from the original place of purchase.
- B) Damage or improper operation caused by the failure to follow the operating instructions provided with this product.
- C) Routine adjustments to the product, which can be performed by the end-user as outlined in the owner's manual.
- D) Communication problems caused by external factors such as insufficient bandwidth or arising from the Internet service used by the end-user.

THIS WARRANTY IS NON-TRANSFERRABLE AND APPLIES SOLELY TO THE ORIGINAL END-USER AND DOES NOT EXTEND TO SUBSEQUENT END-USERS

OF THE PRODUCT. ANY APPLICABLE IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED IN DURATION TO A PERIOD OF THE EXPRESSED WARRANTY AS PROVIDED HEREIN BEGINNING WITH THE DATE OF THE ORIGINAL PURCHASE, AND NO WARRANTIES, WHETHER EXPRESSED OR IMPLIED SHALL APPLY TO THE PRODUCT THEREAFTER. THERE IS NO WARRANTY AS TO THE FITNESS OF THE PRODUCT FOR ANY PARTICULAR PURPOSE OR USE. ALL SERVICES PROVIDED WITH THE PRODUCT ARE PROVIDED "AS IS."

THE EXTENT OF LIABILITY UNDER THIS LIMITED WARRANTY IS THE REPAIR OR REPLACEMENT PROVIDED ABOVE AT THE SOLE DISCRETION OF THE MANUFACTURER. IN NO EVENT SHALL ANY LIABILITY EXCEED THE PURCHASE PRICE PAID BY THE PURCHASER. UNDER NO CIRCUMSTANCES SHALL THERE BE LIABILITY FOR ANY LOSS, DIRECT, INDIRECT, INCIDENTAL, FORESEEN, UNFORESEEN, SPECIAL, OR CONSEQUENTIAL DAMAGE ARISING OUT OF OR IN CONNECTION WITH THE USE OF THIS PRODUCT.

8

Index

A

Account Configuration page · 43
 accounts · 10, 43, 79
 AVU · 82

B

broadband · 1
 browser · 29, 30

C

CDR Configuration · 35

D

default gateway address · 37, 38
 DHCP · 17, 18, 22, 24, 25, **35**
 DNS server addresses · 37
 domain name · **37**

F

factory configuration · 67
 firewall · 35, 39, 41, 54, 75

G

gateway-server · 1

H

hunt group · 74
 HyperTerminal · 19

I

I/F · 46
 index number · 46, 48
 interface type · 46, 47
 IP address · 18, 24, 25, 29, 30
 IP Address · 37
 IP Configuration table · 34
 IP parameters · 19, 21, 25, 80

J

Jitter Buffer Bounds · **36**

L

LAN · 1, 17, 18, 35
Load Default · 66
 logical port number · 10, 46, 48, 79
 Login Button · 45

M

Max to Max · 41, 50
MAX to MAX · 44, 53, 54, 55, 57, 73, 74, 75
 multiple account · 43, 44

N

net mask address · 24
Netmask Address · 37
Network and Voice
 Configuration page · 35
Network Configuration · 34, 35,
 41, 42
Network Password · 30
Number · 46

P

password · 20, 21, 31, 66, 78
phone number · 46
physical port number · 10, 79
Ping · 27
Placing Calls · 72
Port Configuration · 34
Port Numbers · 35
Post · 47
postfix number · 47
Pre · 46
prefix number · 46
proxy server caching · 6
PSTN · 1, 12, 50, 52, 55, 56

R

Receiving Calls · 45, 54, 56
Remote IVR · 50
Remote IVR Config · 50
Restart System page · 39, 67
Routing Table · 10, 45, 46, 63,
 79

S

Save button · 42, 49
serial cable · 19, 21, 25, 29
serial cable connection · 5,
 17, 77
Show Log Messages page · 67
Site Map page · 31
Software Upgrade · 68
Static · 22, 35
System Information page · 65
system name · 66

T

telephone · 87
telephone keypad · 18, 22, 23,
 25, 29
TRNC · 46
truncation length · 46

U

User ID · 20
user name · 66, 78

V

Voice Configuration · 34, 41,
 42, 79
VoIP · 1, 49

W

Warranty · 88

Free Manuals Download Website

<http://myh66.com>

<http://usermanuals.us>

<http://www.somanuals.com>

<http://www.4manuals.cc>

<http://www.manual-lib.com>

<http://www.404manual.com>

<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

Golf course search by state

<http://golfingnear.com>

Email search by domain

<http://emailbydomain.com>

Auto manuals search

<http://auto.somanuals.com>

TV manuals search

<http://tv.somanuals.com>