

Max 8 and 8 Plus VoIP Gateway

Version 1.5.40

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 Net2Phone'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 A 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 Net2Phone'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, the Net2Phone equipment or one of its peripheral devices probably caused it. 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. Net2Phone 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 Net2Phone or its suppliers have been advised of the possibility of such damages.

Max 8, Max 8 Plus, net2phone, and the Net2Phone logo are registered trademarks of Net2Phone, Inc. in the US and certain other countries. All other trademarks mentioned in this document are the property of their respective owners.

Max 8 and 8 Plus User Guide

Rev. 1.5.4 September 2004

Copyright © 2004, 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
	<i>New Features and Functionality.....</i>	<i>5</i>
	Package Contents.....	5
	System and Service Requirements	5
	<i>General Requirements.....</i>	<i>5</i>
	<i>Hardware Requirements.....</i>	<i>6</i>
	About this Guide.....	7
	<i>Symbols.....</i>	<i>8</i>
2	Getting Started	9
	Overview	9
	Installing the Max 8	9
	Installing the Max 8 Plus	10
	<i>Connecting the Max 8 Plus FXS Ports to a PBX.....</i>	<i>11</i>
	<i>Connecting the Max 8 Plus FXO Ports to a PBX.....</i>	<i>13</i>
	Connecting the Max 8 or 8 Plus's FXS Ports to a Fax Machine....	14
	Connecting the Max to a LAN	14
	<i>Connecting the Max to a DHCP LAN.....</i>	<i>14</i>
	Obtaining the Max DHCP IP Address via Telephone	
	Keypad.....	15
	Connecting to the Max through a Serial Cable	16
	<i>Connecting to a LAN with Static IP Addresses</i>	<i>19</i>
	Entering a Static IP Address from a Telephone Keypad.	19
	Entering Static IP Addresses via HyperTerminal	22
3	Logging into the Max Web Manager	27
	Overview	27
4	Using the Max Web Manager.....	31
	Overview	31
	Port Configuration	31
	Network and Voice Configuration.....	32
	Configuring Firewalls.....	34

Account Configuration	37
<i>Single Account Management</i>	38
<i>Multiple Account Management</i>	39
<i>The Login Button</i>	40
<i>Announce Account Balance</i>	40
Routing Table Configuration	40
<i>Logical Port Numbering</i>	42
<i>Adding an Entry to the Current Routing Table</i>	42
<i>Deleting an Entry from the Current Routing Table</i>	44
Interactive Voice Response (IVR) Configuration	45
<i>Remote Access IVR Configuration</i>	45
<i>Max-to-Max IVR Configuration Table</i>	48
Configuring Max-to-Max Calling	50
Receiving Max-to-Max Calls	51
Inbound Allow List Configuration	53
Class of Service Configuration	55
Port Class Configuration	57
Local Dialing System	59
System Information and Commands	60
Load Default Config	62
Show Log Messages	62
Restart System	63
Download Latest Firmware	63
<i>Preparing for the Upgrade</i>	64
<i>Performing the Upgrade</i>	65
5 Configuring Voice Messages	67
Overview	67
Voice Message Files	67
Voice Message File Download	71
<i>Voice Message File Download Procedure</i>	71
<i>Voice Message File Upload Procedure</i>	73
6 Placing Calls	75
Overview	75
The Pound Key	75
Placing Calls to the PSTN	75
<i>Placing calls to destinations within North America</i>	75
<i>Placing international calls</i>	76
Max-to-Max Calling	76

	<i>Calling a Max 8 or 8 Plus FXS Port from Another Max</i>	76
	<i>Calling a Max 8 Plus FXO Port from Another Max</i>	76
7	Appendix	79
	Appendix A – Troubleshooting	79
	<i>Common Installation Problems</i>	79
	<i>Account Issues</i>	80
	<i>Faxing</i>	81
	<i>Functionality</i>	82
	<i>General</i>	84
	<i>Setup/Connectivity</i>	86
	<i>Troubleshooting</i>	87
	Appendix B – Technical Support.....	92
	Appendix C – System Specifications.....	93
	<i>Max 8</i>	93
	Appendix D – Physical and Logical Port Number Table.....	97
	Appendix E – Approvals and Listings.....	98
	<i>FCC Declaration of Conformity</i>	98
	<i>FCC Declaration of Conformity</i>	98
	<i>FCC Compliance Statement:</i>	98
	Appendix F – End User Warranty.....	100
8	Index	103

1

Welcome

Overview

Congratulations on your purchase of the Max 8 or Max 8 Plus!

The Max 8 is a Voice over Internet Protocol device that allows you to make multiple ingoing/outgoing calls over the Internet using a single Ethernet LAN connection. The Max 8 works like a gateway to convert the analog signal from your telephone to *Voice over Internet Protocol* (VoIP). It then uses the *Local Area Network* (LAN)'s broadband connection to send calls over the Internet via Net2Phone'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 8** is a rack-mountable device that connects directly into the existing LAN through an RJ-45 port. It supports up to eight analog telephones or T.38 faxes, each connected to the unit through an individual FXS port (analog telephone port), and is intended for use by mid to large-sized groups.

The **Max 8 Plus** is a rack-mountable device that connects directly into an existing LAN through an RJ-45 port. It contains two removable interface cards, each containing four RJ-11 ports. Interface cards may contain either four **FXS** ports or four **FXO** ports. Max 8 Plus units are configured to order, and may have FXS only, FXO only, or both types of ports. Cards containing FXS ports are labeled **FSU**, while those containing FXO ports are labeled **FOU**.

- ★ **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 PBX, APBX, or KPS (Key Phone System) systems. They are used to place outgoing calls over the Internet and to receive incoming calls from other Net2Phone devices.
- ★ **FXO** (Foreign Exchange **Office**) ports connect to the analog line card on a PBX, APBX, or KPS (Key Phone System), 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 IVR (Interactive Voice Response) functionality, which includes multiple options for caller greetings, passwords, and Internet call forwarding. This allows the Max 8 Plus to assume many IVR functions when the PBX does not provide them. If you would like to send a fax through the FXO port, you must first connect the fax machine to the PBX analog line interface card.

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 the capability for five concurrent calls is desired, then the Max must have at least five ports connected to the PBX or to analog telephones.

The Max 8 and Max 8 Plus features several proprietary Quality of Service (QoS) enhancements, including

1. G.168 echo cancellation
2. Voice activity detection (VAD)

3. Comfort noise generation (CNG)
4. Dynamic jitter buffer control

More feature highlights include:

- ★ **Improved Call Quality** – The Max 8 and 8 Plus 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 8 and 8 Plus 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 8 and 8 Plus 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.
- ★ **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 8 and 8 Plus detect 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 8 and 8 Plus support multiple frames per packet on the G.732.1 codec.
- ★ **Upgraded Vocfiles** – Updated vocfile included with software upgrade.
- ★ **T.38 Fax Protocol Supported** – The Max 8 and 8 Plus feature enhanced fax functionality, including built-in redundancy and higher success rates.

- ★ **Multiple DID** – The Max 8 and 8 Plus support the DID service by using multiple port hunting for a single DID account.
- ★ **Outbound Call Allow List** – Each port has its own class to make a call as the PBX's CoS (Class of Service). The CoS is classified into several categories.
- ★ **Multiple Call Completion (MCC)** – The Max 8 and 8 Plus support the Multiple Call Completion feature. The user only needs to provide the account number and PIN once, after which the user can place multiple calls from the FXO port by pressing the “#”key after the first call is completed.
- ★ **Multiple Password Support** – The Max 8 and 8 Plus supply multiple passwords for port access.
- ★ **Local Dialing System** – This version features the addition of the Local Dialing System, which enables users to dial phone numbers on the Max 8 and 8 Plus 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 8 and 8 Plus that is as close as possible to the host country's dialing pattern.
- ★ **FTP Block** – The new FTP Block feature enables the Max 8 and 8 Plus to block an FTP connection. If a user wants to connect the Max 8 and 8 Plus through FTP for an upgrade, the user has to start the FTP server daemon in the Max unit. This is a good function to block unwanted outside connections.
- ★ **HTTP Port Change** – The Max 8 and 8 Plus include 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.

New Features and Functionality

Version 1.5.40 provides the following new features:

- ★ **Polarity Reversal** – The new version of Max 8 now supports polarity reversal, which allows the Max 8 to connect to a billing machine that uses reverse polarity to determine the start and end of a call.



IMPORTANT: Before upgrading to version 1.5.40, please refer to the Download Latest Firmware section on page 63 in this Guide.

If you have an older version of the Max 8 or 8 Plus software and you want to take advantage of these new features, you can download the software from:

<http://web.net2phone.com/partnersupport/devicesoftware/>

Package Contents

You should find the following contents in your Max 8 or 8 Plus package:

- ★ Max 8 or 8 Plus device
- ★ Power cable
- ★ 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 8 or 8 Plus:

General Requirements

To configure and manage the unit, you will need:

- ★ A PC workstation with any recent Web browser, connected to the LAN.

- ★ If the Max 8 Plus has FXO ports only (for initial LAN configuration):
 - The HyperTerminal PC application (included in all Microsoft operating systems), or an equivalent terminal-emulator application, such as Telnet.
 - A standard serial cable

Hardware Requirements

To use the Max 8 or Max 8 Plus, you will need:

1. A Max 8 or Max 8 Plus unit
2. A corded or cordless analog telephone and from one to seven ancillary phones
3. A Local Area Network (LAN) with a broadband connection which **must not** have proxy server caching
4. A PC or Mac workstation with any recent Web browser, connected to the LAN (for initial setup and administration)
5. A Net2Phone account number and PIN
 - **With FXS ports:** a corded or cordless analog telephone, and additional analog devices as desired for each port. The Max 8 has all FXS ports. 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 separate port with its own telephone line connection to the PBX, or to an analog telephone, is required for each concurrent telephone call (or conversation) desired. For example, if the capability for five concurrent calls is desired, then the Max must have at least five ports each connected to the PBX or to an analog telephone.



NOTE: On the Max 8 Plus without FXS ports installed, the LAN settings *must* be configured using a PC with a serial cable connection. For details see **Connecting to the Max Through a Serial Cable** on page 16 in this Guide.

About this Guide

This User's Guide, as well as the other instructional literature that accompanies the Max 8 and Max 8 Plus, 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 Guide, the Max 8 and Max 8 Plus is shipped with two product manuals:

- ★ A Hardware Installation Guide that describes hardware installation, cabling, and safety-related issues.
- ★ A Command Reference Guide for advance configuration of the Max family of devices through a serial connection.

Highlights include:

FC 3 INFORMATION ON...	GO TO...
Product features	Chapter 1, <i>Welcome</i>
Hardware requirements	Chapter 1, <i>Welcome</i>
Installing the Max 8	Chapter 2, <i>Getting Started</i>
Installing the Max 8 Plus	Chapter 2, <i>Getting Started</i>
Connecting the Max to a LAN	Chapter 2, <i>Getting Started</i>
Logging into the Max 8 or 8 Plus Web Manager	Chapter 3, <i>Logging into the Max Web Manager</i>

FOR INFORMATION ON...	GO TO...
Configuring Max 8 or 8 Plus settings	Chapter 4, <i>Using the Max Web Manager</i>
Upgrading the firmware	Chapter 4, <i>Using the Max Web Manager</i>
Configuring IVR voice prompts	Chapter 5, <i>Configuring Voice Messages</i>
Calling another Max device	Chapter 6, <i>Placing Calls</i>
Troubleshooting	Chapter 7, <i>Appendix</i>
System Specifications	Chapter 7, <i>Appendix</i>
End User Warranty	Chapter 7, <i>Appendix</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

The steps you will follow to set up your Max 8 and Max 8 Plus are:

1. Install the Max 8 or Max 8 Plus unit in its location and connect the cabling.
2. Configure the LAN settings on the Max 8 or Max 8 Plus so that it communicates with your LAN.
3. Log in to the Max Web Manager.
4. Finish configuring your FXS ports via the Web Manager.
5. Test your installation by making an Internet telephone call.

The Max 8 and 8 Plus have separate installation instructions. Please follow the ones appropriate for your device.

Installing the Max 8

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 8 and 8 Plus Hardware Installation Guide and observe the safety precautions listed.

To install the Max 8:

1. Connect the analog telephones to the RJ-11 ports.
2. Connect the RJ-45 LAN port to an Ethernet socket, router, hub, or switch.
3. If your installation includes a PBX, connect it as illustrated in Figure 1 below.
4. Plug the Max 8 into your power outlet and turn the unit on.

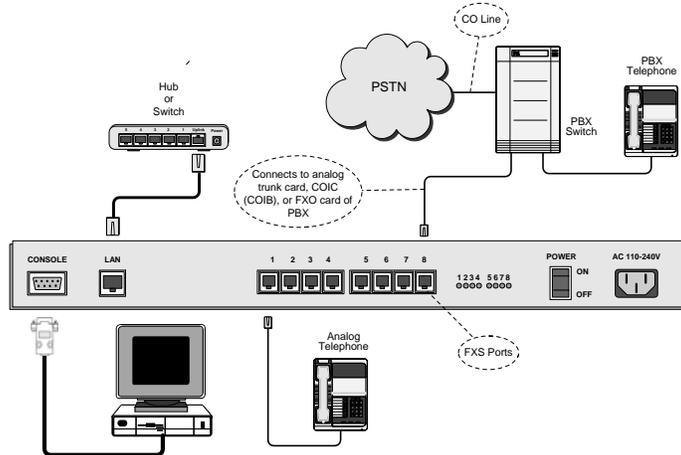


Figure 1 – Max 8 PBX Connections

Your Max 8 hardware setup is now complete. The next step is to connect the unit to your LAN so that you can browse the Max Web Manager.

Installing the Max 8 Plus

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 8 and 8 Plus Hardware Installation Guide and observe the safety precautions listed.

1. Connect an analog telephone to any one of the FXS ports.



NOTE: If no FXS ports are installed on the Max 8 Plus, 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 is optional when FXS ports are present.) This procedure is explained in Using HyperTerminal on page 16 in this Guide.

2. Connect the RJ-45 LAN port to an Ethernet socket, router, hub, or switch.
3. Connect your FXS and/or FXO ports to your PBX as per the illustrations in Figures 2 and 3.

Connecting the Max 8 Plus FXS Ports to a PBX

The following images illustrate the connections necessary when connecting the Max 8 Plus to a PBX.



NOTE: FXS ports do not support IVR functionality.

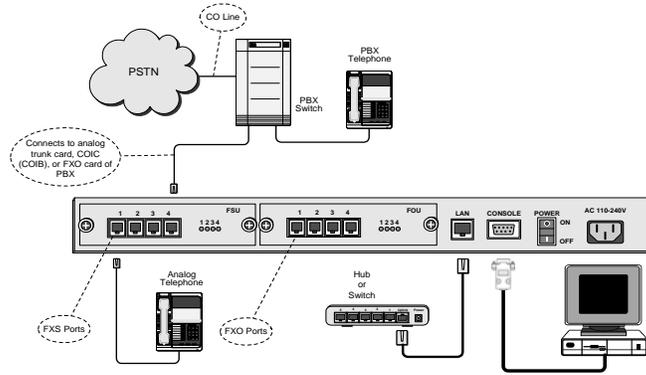


Figure 2 – Max 8 Plus PBX Connections (FXS)

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 or switch

Connecting the Max 8 Plus FXO Ports to a PBX

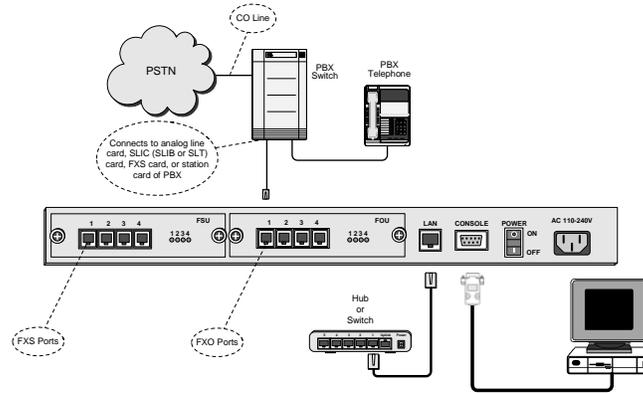


Figure 3 – Max 8 Plus PBX Connections (FXO)

LEGEND

- PBX** – Private Branch Exchange
- PSTN** – Public Switch Telephone Network
- SLIC/SLIB** – Subscriber Line Interface Card or Board
- SLT** – Single Line Terminal (or Telephone)
- Trunk or CO Line** - Line from Central office or switch

When you have finished connecting the Max 8 Plus FXS and FXO ports as illustrated above, plug the unit into a power outlet and turn it on.

Your Max 8 Plus 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 8 or 8 Plus's FXS Ports to a Fax Machine

Connecting your Max 8 or 8 Plus to a fax machine is as simple as connecting the fax machine's RJ-11 cable to an FXS port on the Max 8 or 8 Plus.

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



NOTE: You can connect the Max 8 Plus to a fax machine if it contains FXS ports. If the Max 8 Plus is configured with only FXO ports, it will not work with a fax machine.

Connecting the Max to a LAN

Whether your LAN uses DHCP or static addresses, you can set the Max 8 or Max 8 Plus LAN configuration in either of two ways:

1. Via a touch-tone keypad (to use this method for the Max 8 Plus, there must be an FXS card installed), or
2. Through the unit's console (serial) port.

This section explains how to set the LAN configuration using either method.

Connecting the Max to a DHCP LAN

This section explains how to connect your Web browser to the Max 8 or Max 8 Plus if your LAN uses DHCP addressing. If your LAN uses static IP addresses, skip to the next section, **Connecting to a LAN with Static IP Addresses**.

The Max 8 or Max 8 Plus default configuration is for DHCP (Dynamic Host Configuration Protocol). Therefore, if your LAN uses DHCP, the Max 8 or 8 Plus 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's Web-based configuration system. If your LAN uses DHCP, configuring the Max 8 or 8 Plus will entail the following steps:

1. Obtain the Max 8 or 8 Plus current IP address.
2. Log in to the Max Web Manager.
3. Set the required configuration parameters in the Max Web Manager.

Obtaining the Max DHCP IP Address via Telephone Keypad

For many users, the handiest way to query the Max 8's or Max 8 Plus's current IP address is usually from a telephone keypad. 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.



NOTE: To use this method for the Max 8 Plus, there must be an FXS card installed.

1. Connect your telephone to any FXS (RJ-11) port on the Max 8.
2. Pick up the telephone handset and dial *****1** (***) on the keypad).
The voice prompt responds, "Your IP 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.
4. You are now ready to finish setting up the Max 8 using the Max Web Manager.
5. Proceed to Chapter 3, ***Logging in to the Max Web Manager.***

Connecting to the Max through a Serial Cable

Although the serial connection allows you to set many of the Max 8 or Max 8 Plus's parameters, this section will only explain 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.

USING HYPERTERMINAL

For this procedure you will need a standard serial cable (D-sub 9-pin, male-to-female, straight-through connection) as shown in Figure 4, and a PC or Mac running the HyperTerminal terminal-emulator program (or an equivalent), which is included in Microsoft operating systems. It is usually found in the Programs menu, under Accessories.

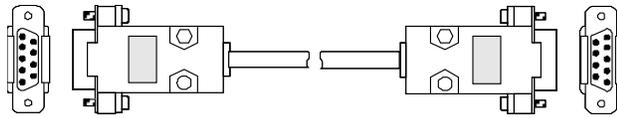


Figure 1 – Max 8 and 8 Plus Serial Connection



NOTE: If your Max 8 Plus does not have any FXS ports installed, its LAN settings can only be configured using this method.

1. With the power to the Max 8 or Max 8 Plus turned OFF, connect the cable from the unit's serial or console 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

- Turn on power to the Max 8 or 8 Plus, then press the **Enter** key on your PC.
*The boot messages are displayed, followed by the command prompt **MAX**:>.*



NOTE: `n2p` is the default system name with which the unit is shipped. You can replace this name with a name that you select, such as “`MY_Max`:>”. To change the system name, see **System Information and Commands** on page 60 in this Guide, or **Section 2.10** in the *Max Command Reference Guide*.

- Press the **Enter** key.
*The **Login**: prompt is displayed.*
- Three default user IDs are provided:
 - root
 - manager
 - sysadm
- Type one of these user IDs at the **Login**: prompt, followed by the **Enter** key. For example, type `root`, followed by the **Enter** key.
*The **Password**:: prompt appears.*
- At the **Password**: prompt, type the default password, `MAX`, followed by the **Enter** key.
*The command line prompt **MAX**:> appears. You are now logged in.*



NOTE:

- **The Max 8 and Max 8 Plus allow only three management user names. You can change any user's password, but you cannot delete or create additional users.**
- **User 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**.

1. Make a serial connection from your computer to the Max 8 (refer to **Connecting to the Max through a Serial Cable** on page 16 in this Guide.)
2. After logging in to the Max 8, type `/config/ip` at the command prompt.
The active directory changes to /config/ip and the prompt becomes MAX:/config/ip>.
3. Type `show`, followed by the **Enter** key.
The current IP parameters are listed on the screen.
4. Scroll up with the arrow key, if necessary, to see the parameter listing.
*You are now ready to finish setting up the Max 8 or Max 8 Plus using the Max Web Manager. Proceed to Chapter 3, **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 8 or Max 8 Plus 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 8 or Max 8 Plus.
2. Enter a static IP address.
3. Enter a net mask address.
4. Reset the Max 8 or Max 8 Plus.
5. Log in to the Max Web Manager.
6. Set the required configuration parameters in the Max Web Manager.

Entering a Static IP Address from a Telephone Keypad

If your LAN uses static IP addresses, the most practical way to set up the Max 8 or Max 8 Plus is to enter an IP address and a net mask address from a telephone keypad. You can then finish setting up the unit while browsing the Max Web Manager.

DISABLING DHCP ON THE MAX 8 OR MAX 8 PLUS FROM A TELEPHONE KEYPAD

Since the Max 8 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 8 or Max 8 Plus.



NOTE: To use this method for the Max 8 Plus, there must be an FXS card installed.

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 (#) (**Important!**).
4. Hang up the telephone.
DHCP is now disabled.

ENTERING AN IP ADDRESS FROM A TELEPHONE KEYPAD

Ask your LAN administrator for the IP address that will be assigned, the LAN's net mask address, domain name, and any other IP parameters that can be provided.

To enter the 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 (#).
3. 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.
4. The voice prompt responds, "Your address is..." and repeats the address you entered.
5. 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.
6. Reset the Max 8 or Max 8 Plus to activate the changes. To do this, power-off the unit, wait 10 seconds, and turn it on again.
DHCP is now disabled.

You are now ready to finish setting up the Max 8 using the Max Web Manager. Proceed to Chapter 3, **Logging In to the Max Web Manager**.

ENTERING A NETMASK ADDRESS FROM A TELEPHONE KEYPAD

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. Dial the numbers for the netmask 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 (#).
The voice prompt responds, "Your netmask 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 8 to activate the changes. To do this, power-off the unit, wait 10 seconds, and turn it on again.
The new net mask address is now in effect.

If you are using static IP addresses, you are now ready to finish setting up the Max 8 using the Max Web Manager. Proceed to Chapter 3, **Logging in to the Max Web Manager**.

RE-ENABLING DHCP FROM A TELEPHONE KEYPAD

If you need to re-enable DHCP in the Max 8, 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 (#).
3. Reset the Max 8 as directed in Step 4 in the **Entering an IP address from a Telephone Keypad** section on page 20 in this Guide.
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

Although many of the Max 8 and Max 8 Plus'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.

TURNING DHCP ON (OR OFF) FROM HYPERTERMINAL

The Max's default DHCP setting is **DHCP 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. Follow the procedures in the **Using HyperTerminal** section on page 16 in this Guide, to start your HyperTerminal connection.
2. After logging in:
 - a. From the root directory, type **NETUTIL** followed by the **Enter** key to move to the network utility directory.
 - b. From the **n2p:/netutil>** prompt, type **dhcpcd 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 18, the menu illustrated in Figure 5 appears:

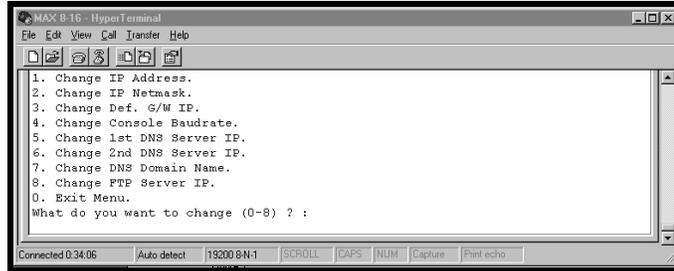


Figure 5 – Turning DHCP On (or Off) from HyperTerminal

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:

1. At the **Enter <parameter>:** prompt, enter **1** to change the IP Address.
*The **Enter IP Address** prompt appears.*
2. At the **Enter IP Address:** prompt, enter the IP address you wish to assign, followed by the **Enter** key.
The Max confirms your entry. The confirmation scrolls by quickly, so you need to scroll up to see it.

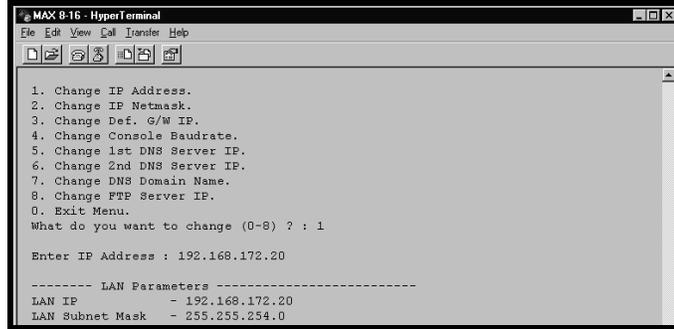


Figure 2 – LAN Parameters in HyperTerminal

3. At the **Enter <parameter>:** prompt, enter **2** to change the Netmask.
4. When you finish making changes, reset the Max 8 or Max 8 Plus 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.
5. (Optional) Ping the Max from a PC, as illustrated in Figure 7 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 3 – 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 8 or Max 8 Plus using the Max Web Manager. Proceed to Chapter 3, **Logging into the Max Web Manager**.

3

Logging into the Max Web Manager

Overview

Before you can log in to the Max Web Manager, you need to know the IP address for the Max 8 or 8 Plus . Refer to the procedures in Chapter 2 to obtain its IP address via a telephone keypad or serial connection.



TIP:

1. If you want to query the unit from a telephone keypad, see **Obtaining the Max DHCP IP Address via a Telephone Keypad** on page 15 in this Guide.
2. If you want to query the unit through a serial cable, see **Connecting to the Max through a Serial Cable** on page 16 in this Guide.

Once you know the IP address for the Max 8 or 8 Plus, you are ready to log in to the unit through a Web browser as follows:

1. Open a new browser window and enter the IP address for the Max 8 or Max 8 Plus in the address box.
The Max Web Manager Door page appears.

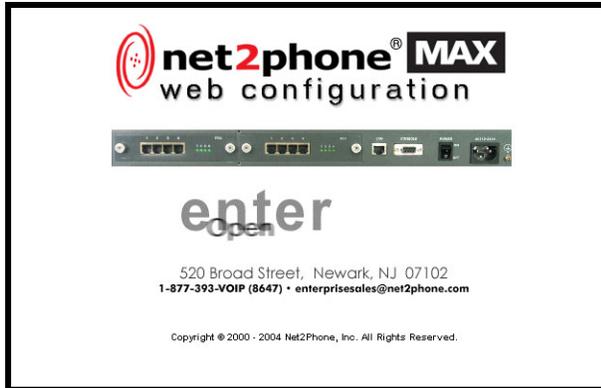


Figure 4 – Max Web Manager Door Page

2. When the Introduction page is displayed, click the “enter - Open the door” area.
The Network Password dialog box appears.



Figure 9 – Max Web Manager Login Dialog Box

3. Enter your user name and password, and click **OK**.
You are now logged in. The Max Web Manager Site Map page is displayed.



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

net2phone
MAX Web Manager

[Port Config](#)

[Network and Voice Config](#)

[Account Config](#)

[Routing Table Config](#)

[Remote IVR Config](#)

[Max to Max IVR Config](#)

[Inbound Allow List](#)

[Class of Service](#)

[Port Class](#)

[Local Dialing System](#)

[System Information](#)

[Firewall Information](#)

[Load Default Config](#)

[Show Log Messages](#)

[Restart System](#)

[Download Latest Firmware](#)

[Help](#)

Site Map	
Port Config	Account Config
Show Current Slot Board Information	Mode Selection
Show Current Port Status	Account, Pin, Login needed Setting
Show Address List	
Peer Address Setting	
Network and Voice Config	System Commands
IP Address Setting	System Reset
NetMask Address Setting	System Name Change
Default Gateway Address Setting	Show System Version
DNS Server IP Address Setting	System Password Change
Domain Name Setting	Save Current Configuration
Dooman Primary IP & Port Setting	Load Factory Default Configuration
Dooman Secondary IP & Port Setting	
Client TCP & UDP Start Port Setting	
Jitter Buffer Upper Bound Setting	
Jitter Buffer Lower Bound Setting	
Call Routing Table Config	IVR Configuration
Show Current Call Routing List	Show Current IVR Configuration
Add Item & Delete Items	Change IVR Configuration
Port Class Config	Local Dialing System
Class of Service Setting	Make a Local Dialing System
Port Class Setting	

Figure 5 – Max Web Manager Site Map Page

4 Using the Max Web Manager

Overview

Each of the various configuration pages is accessed by clicking its link on the Site Map. For example, click the **Port Config** link to access the Port Configuration page, illustrated below.

Port Configuration

The Port Configuration page's Address Table Configuration sheet shows the Max 8 or Max 8 Plus's current hardware and port configurations. The Interface Type, Physical and Logical Port Numbers, and their Local Addresses are listed.

PORT	Interface	Logical Port Number	Local Address <small>(digits only)</small>
PORT1	FXS	0	<input type="text"/>
PORT2	FXS	1	<input type="text"/>
PORT3	FXS	2	<input type="text"/>
PORT4	FXS	3	<input type="text"/>
PORT5	FXO	0	<input type="text"/>
PORT6	FXO	1	<input type="text"/>
PORT7	FXO	2	<input type="text"/>
PORT8	FXO	3	<input type="text"/>

Figure 11 – Port Configuration Page



NOTE: The Interface column does not pertain to the Max 8, since its ports are all FXS type ports.

The Local Address serves only as the source text for identification in the System Log Messages (see the **Show Log Messages** section on page 62 in this Guide). The user can modify the local addresses.

Logical Port Numbers are used in configuring the Current Routing Table. For more information, see the **Account Configuration** section on page 37 in this Guide.

Network and Voice Configuration

To modify the parameters on the Network and Voice Configuration page, simply enter the desired values into the respective boxes.

The IP Configuration table displays all the Max 8 and Max 8 Plus's IP-related parameters.

net2phone
MAX Web Manager

[Port Config](#)
[Network and Voice Config](#)
[Account Config](#)
[Routing Table Config](#)
[Remote IVR Config](#)
[Max to Max IVR Config](#)
[Inbound Allow List](#)
[Class of Service](#)
[Port Class](#)
[Local Dialing System](#)
[System Information](#)
[Firewall Information](#)
[Load Default Config](#)
[Show Log Messages](#)
[Restart System](#)
[Download Latest Firmware](#)
[Help](#)

Network Configuration

Doorman	Primary IP	call1.net2phone.com	Port	6001
	Secondary IP	call2.net2phone.com	Port	6001
Client	TCP Start Port	6000	UDP Start Port	61000
	Opal Start Port	7000	NIC	<input type="checkbox"/> Use NIC <input type="button" value="View/Change NIC"/>

Voice Configuration

Witer Buffer Bounds	Voice Lower Bound	1
	Voice Upper Bound	5

IP Configuration

<input type="checkbox"/> Use DHCP	
IP Address	###.###.###.###
Net Mask	###.###.###.###
Default Gateway	###.###.###.###
DNS Server IP (Primary)	###.###.###.###
DNS Server IP (Secondary)	###.###.###.###
Domain Name	net2phone.com

CDR Configuration

CDR function enable: <input type="checkbox"/>	
CDR Server1 IP	##### <input type="checkbox"/> Idle
CDR Server2 IP	##### <input type="checkbox"/> Idle

Figure 12 – Network and Voice Configuration Tables

The Voice Configuration table displays the Jitter Buffer Bounds, which are used to control the Quality of Service (QoS). The upper and lower bounds can be changed; larger bounds produce less packet loss, while smaller bounds produce more packet loss. However, packet delay increases with the bounds size. The default values in this table should not normally be changed.

DHCP users: If your LAN is using DHCP addresses, you do not have to configure this page. You may proceed directly to the **Account Configuration** section on page 37 in this Guide.

Static address users: Your IP address and netmask are already present in the IP Configuration table (you entered them previously). Now you need to enter the additional IP parameter information you obtained from your LAN administrator:

- ★ Default Gateway
- ★ DNS Server IP (Primary)
- ★ DNS Server IP (Secondary)
- ★ Domain Name (if applicable)



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.

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.



REMINDER: Configuration changes you make in the Max 8 or Max 8 Plus are not applied until you reset the unit. To do this, you may either:

- ♦ go to the Restart System page (see the Restart System section on page 63 in this Guide) and click Restart, or
- ♦ type `/system/reset` at the command prompt, or
- ♦ power-off the unit, wait 10 seconds, and turn it on again.

Configuring Firewalls

If your connection to the Internet utilizes a firewall, several ports will have to be opened to allow your Max 8/16 or T1/E1 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):

1. UDP Port (OPAL) 7000
2. TCP Port 4000
3. UDP Port 21000

The table below explains the procedure for opening firewall ports for your Max 8/16 or T1/E1. This example illustrates the UDP Port (OPAL) assignments (with a default start point of 7000) for an 8-port Max 8/16 or T1/E1.

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
5	UDP Port (OPAL)	7008 - 7009
6	UDP Port (OPAL)	7010 - 7011
7	UDP Port (OPAL)	7012 - 7013
8	UDP Port (OPAL)	7014 - 7015

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

$$\text{Max Default Start Port} + (\# \text{ of Max Ports} * 2) - 1$$

or in this example:

$$7000 + (8*2) - 1 = 7015$$

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.



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



NOTE: The Max 8/16 and T1/E1 gateway will not work behind a proxy server.

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. In the Network Configuration Table on Max's Network and Voice Configuration page:

After opening the appropriate UDP PORT and TCP PORT on the firewall, 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 above. For example, if you opened TCP PORT 21057 in step 1-c, enter **21057** for the TCP Start Port as shown in *Figure 13 – Network Configuration*

Table, below, illustrating the Network Configuration Table on the Network and Configuration page.

- b. Change the UDP Start Port to the port you opened in step 1-b above. For example, if you opened UDP PORT 21000 in step 1-b, enter **21000** for the UDP Start Port as illustrated in *Figure 13 – Network Configuration Table*, below.

Network Configuration				
Doorman	Primary IP	call1.net2phone.com	Port	6801
	Secondary IP	call2.net2phone.com	Port	6801
Client	TCP Start Port	4000	UDP Start Port	21000
	Opal Start Port	7000	NIC	<input type="checkbox"/> Use NIC View/Change NIC

Figure 13 – 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 8 or 8 Plus.

The new settings should now be in effect.



NOTE: Some firewalls require the opened port to be forwarded to the Max 8/16 or T1/E1'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 below.

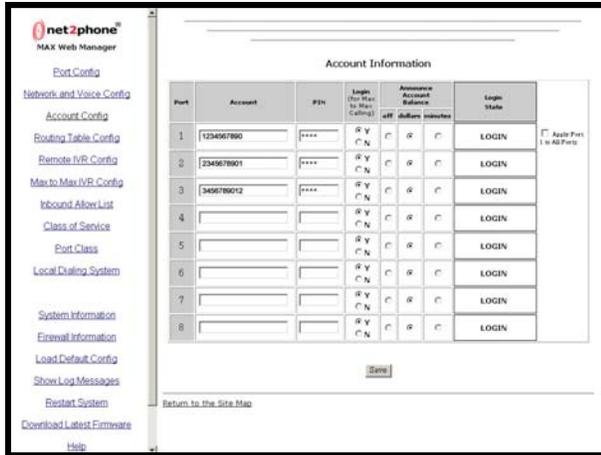


Figure 14 – Account Configuration Page

The Max 8 and Max 8 Plus allows accounts to be managed in either of two ways:

1. **Single Account Management** - All of the ports on the Max 8 and Max 8 Plus can operate from a single account number and PIN, or
2. **Multiple Account Management** - You can use a different account and PIN for each port.

Single Account Management

For single account management:

1. Click in the Port 1 **Account** field, and enter a Net2Phone account number.
2. In the **PIN** field, enter the Personal Identification Number for that account.
3. 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.
4. Check the **Apply Port 1 to All Ports** checkbox.

5. After the desired changes have been entered, click the **Save** button at the bottom of the page to save them.
6. Click the **Restart System** link on the Site Map page and then click the **Restart** button to reboot the system.



NOTE:

1. 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.
2. 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.
3. 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 you intend to use with that port.
2. Make sure that **Apply Port 1 to All Ports** is NOT checked.
3. After the desired changes have been entered, click the **Save** button to save them.

4. Click the **Restart System** link on the Site Map page to reboot the system.

The Login Button

The **Yes** radio buttons in the **Login** column (Figure 14, above) are used to enable a port to receive incoming Max-to-Max calls. This topic is discussed in the **Configuring Max-to-Max Calling** section, on page 50 in this Guide.

Announce Account Balance

The Max 8 and 8 Plus let the user designate how they will announce the balance to the user, either by minutes remaining, or balance in dollars remaining on the account.

You can also disable this function 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.

To announce the funds (dollars) remaining in an account:

1. Select the **dollars** radio button in the Announce Account Balance column.
2. Click the **Save** button.

Routing Table Configuration

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

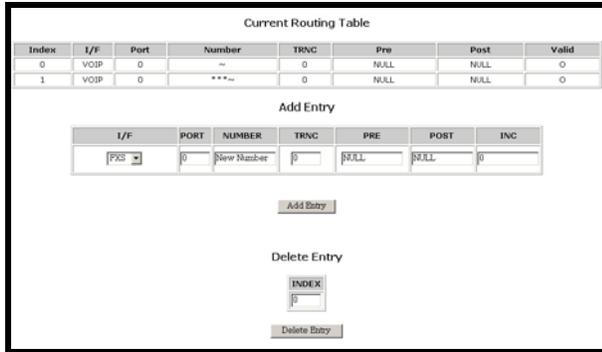


Figure 19 – Current Routing Table

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
- ★ **Port** – logical port numbers
- ★ **Number** – the phone number to be routed
- ★ **TRNC** – the truncation length *
- ★ **Pre** – the prefix number *
- ★ **Post** – the postfix number *
- ★ **Valid** – indicates that the entry was entered correctly and is available to use *

* 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**.

- ★ **If you have all FXS or all FXO ports:** Take the number of the port as it appears in the Account Configuration page of the Max Web Manager, and subtract one (since we count from 0 instead of 1). For example, if you had all FXS ports, the logical port number for physical port 11 would be FXS 10 ($11 - 1 = 10$).
- ★ **If you have both FXO and FXS ports (Max 8 Plus only):** Note which ports are FXS and which are FXO. Write down the physical port numbers in the table in Appendix D.

From left to right, count the FXS ports starting from 0, and then count the FXO ports starting from 0. As you count, write down each port's logical number next to its physical number.

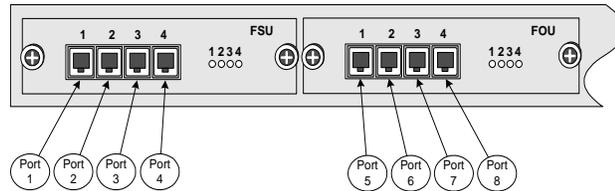


Figure 20 – Logical Port Numbering

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. In the Add Entry section, select the interface type from the drop-down list.

Interface Type	Description
FXS	Interface for analog telephone OR Interface for PBX trunk port
FXO	Interface for PBX extension port OR Direct connection to the PSTN
VoIP	Interface for IP network

2. Enter the **logical** port number in the **Port** field, 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	Description
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, *	The characters that can 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 8 Plus only uses the pound character (#) as an end-digit indicator, so it is not needed in the call routing table.)

4. Indicate the number of characters you would like truncated from the number, if any, in the **TRNC** field.
5. Indicate any numbers that you would like inserted before the dialed number (in the **PRE** field) or after the dialed number (in the **POST** field).



NOTE: The INC field is not functional in version 1.5.40. It will be supported in a future release.

6. Click the **Add Entry** button to save the entry.
The entry appears in the Current Routing Table.

The unit must be rebooted as described in the **Restart System** section, on page 63 in this Guide, to activate the new settings.

Deleting an Entry from the Current Routing Table

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



NOTE: The two VoIP entries in the Current Routing Table cannot be deleted. They are necessary for correct operation of the Max 8 Plus system.

Interactive Voice Response (IVR) Configuration



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 (or conversation) desired. For example, if the capability for five concurrent calls is desired, then the Max must have at least five ports each connected to the PBX or to an analog telephone.

Remote Access IVR Configuration

To go to the Remote IVR Access Configuration Table, click the **Remote IVR Config** link on the sidebar menu or on the Site Map page.

Remote Access IVR Configurations Apply Part 1 to All Ports

Port	Interface	IVR off	Play Welcome Only	Request Password Only	Request Account and PIN	Request Password Account and PIN	Multi Password (up to 5 digit each)	Use Forwarding Number	Forwarding Number
1	FXS	<input type="checkbox"/>		<input type="checkbox"/>					
2	FXS	<input type="checkbox"/>		<input type="checkbox"/>					
3	FXS	<input type="checkbox"/>		<input type="checkbox"/>					
4	FXS	<input type="checkbox"/>		<input type="checkbox"/>					
5	FXO	<input type="checkbox"/>		<input type="checkbox"/>					
6	FXO	<input type="checkbox"/>		<input type="checkbox"/>					
7	FXO	<input type="checkbox"/>		<input type="checkbox"/>					
8	FXO	<input type="checkbox"/>		<input checked="" type="checkbox"/>	19734383245				

"Thank you" Message

Figure 15 – Remote Access IVR Table

The Remote Access IVR function permits system managers to select the announcement that will greet callers on an FXO port; in addition, the system managers can designate the security, call forwarding, or other options that may be applied to the port.

To configure the Remote IVR Configuration Table:

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 the radio button for 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 the Account Configuration section on page 37 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.
- **Multi Password** – Assign multiple passwords, separated by a comma, for access to the specified port (when that port is set to “Request Password Only” or “Request Password, Account, and PIN.”)
- **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.

- **Thank you Message** – click this checkbox if you would like a thank you message to play at the conclusion of a call.



NOTE: The thank you message mentions Net2Phone, so if you would prefer to maintain your own branding to your callers, make sure the checkbox is NOT selected.

If **Request Account and PIN** or **Request Password Account and PIN** is selected, and a caller enters an incorrect or invalid account number, the port will substitute this “default” account number for the invalid one and **the call will proceed using the default account.**

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.

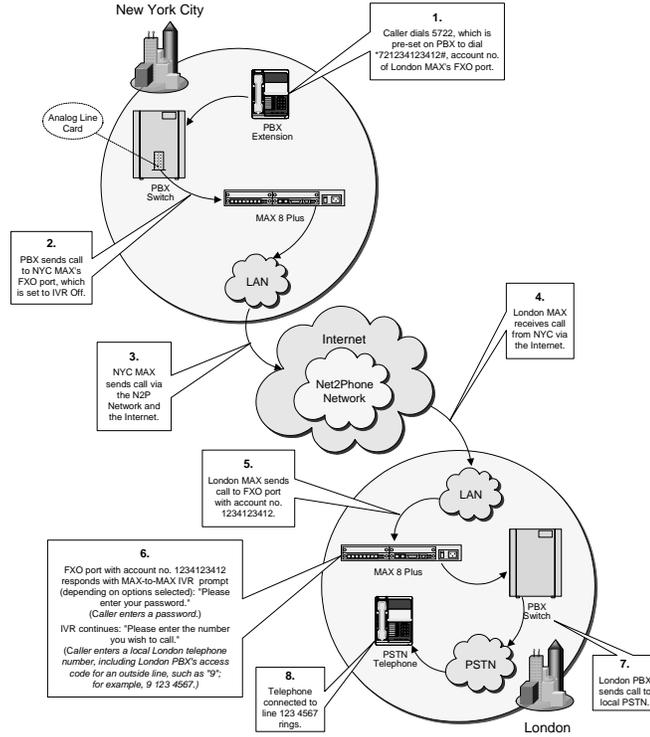


Figure 16 – Phone Call Flow for Max 8 Plus FXO Port

Figure 16 illustrates the call-flow of a telephone call placed through a Max 8 Plus'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 Table

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 to go to the Max-to-Max IVR Configuration Table, illustrated below.

Max to Max IVR Configuration								
PORT	Interface	IVR Off	Play Welcome Only	Request Password only	Welcome and password	Password (up to 5 digits)	Use Forwarding Number	Forwarding Number
1	FXS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
2	FXS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
3	FXS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
4	FXS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
5	FX0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
6	FX0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
7	FX0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>
8	FX0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>

Figure 17 – Max-to-Max IVR Configuration Table



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 the Configuring Firewalls section on page 34 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 the Receiving Max-to-Max Calls section on page 51 in this Guide.

Configuring Max-to-Max Calling

Callers may access a port on a remote Max 8 or Max 8 Plus 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 8 or Max 8 Plus'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 the Account Configuration section on page 37 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 8 or Max 8 Plus to be able to receive Max-to-Max calls, the Account Configuration Page (see *Figure 14*

– *Account Configuration Table* in the **Account Configuration** section on page 37 in this Guide,) 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.

The same account may be entered in all the ports. 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 18 on the following 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.

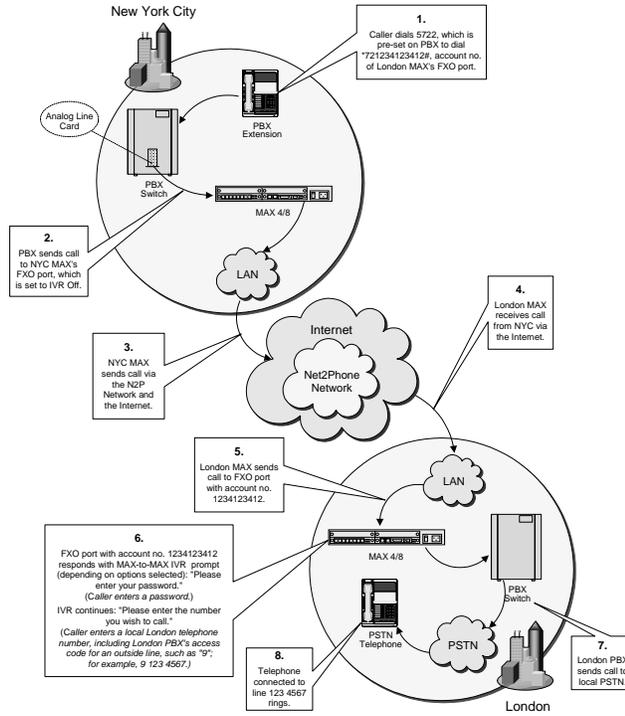


Figure 18 – Max-to-Max Call Flow

Inbound Allow List Configuration

This function blocks calls from unauthorized callers. The Max 8 and 8 Plus 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 19 below.

When a call comes in to the Max 8 or 8 Plus, 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.

Inbound Allow List

Apply Port 1 to All Ports

Port	Interface	Allow List	Allow All Callers	Disconnect Unauthorized Callers	Request Account and PIN from Unauthorized Callers
1	FXS		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	FXS		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	FXS		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	FXS		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	FXO		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	FXO		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	FXO		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	FXO		<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Return to the Site Map](#)

Figure 19 – 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."
5. Repeat for any other ports you would like to configure.

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 seven (7) 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 up to seven (7) digits you would like to remove.
 - Using the restricted digits created in the example above, you can delete the 1973 entry by selecting the appropriate class and then typing 1973 into the **Restricted First Digit** box.
3. Click the **DELETE** button to delete the restricted digits from that port class definition.

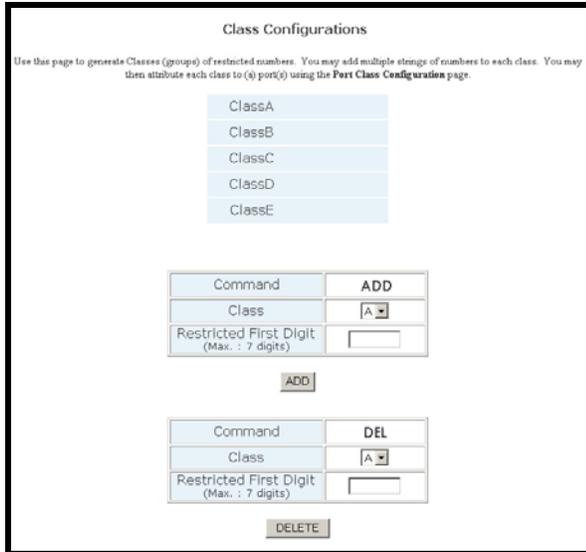


Figure 20 – Class Configurations Page

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	FXS	U
2	FXS	U
3	FXS	U
4	FXS	U
5	FXO	U
6	FXO	U
7	FXO	U
8	FXO	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, click in the **Port Number** field and 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 8 or 8 Plus 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 8 or 8 Plus that is as close as possible to the host country's dialing pattern.

Local Dialing System			
1	Country Code	[UNITED STATES(1)]	The access number to make a call from another country (USA : 1)
2	Area Code	Use area code: [YES Without Leading Zero]	The access number to dial when calling from another area (Newark, USA : 973)
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) numbers to make a long distance phone call (USA : 1)
+5	Cell Phone Prefix No. (Access Code)		The access (prefix) number dialed before a cell phone number (if applicable)

i) This function follows the ITU-T E.164 recommendation.
ii) All 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.

OK Cancel

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 8 or 8 Plus 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 you place a call to a local phone number, the N2P call is made by the Max 8 or 8 Plus 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.

System Name Change

Current System Name	XXXXXXXX
Changing System Name	<input type="text"/>
<input type="button" value="Save Changes"/>	

Change Password(Up to 8 characters each)

Current Login	root
Current Password	<input type="text"/>
New Password	<input type="text"/>
Confirm New Password	<input type="text"/>
<input type="button" value="Change Password"/>	

Current System Version

Hardware Version	ID=2 REV=1
Software Version	MAX8+ 1.5.30

Figure 21 – System Information Page

The System Information page contains the following fields:

- ★ **Current System Name** -- displays the current name assigned to the Max.
- ★ **Changing System Name** – allows you to enter a new system name.
- ★ **Current Login** – displays the name of the user currently logged into the Max Web Manager.
- ★ **Current Password** – allows you to enter 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** – allows you to re-enter and confirm the password entered in the New Password field.

- ★ **Hardware Version** – displays the version of the Max device.
- ★ **Software Version** – displays the firmware version.

The system manager has the options of changing the system name and the 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 the **Restart System** section on page 63 in this Guide, before the changes take effect.

Load Default Config

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



Figure 22 – Load Default Configuration Page

Click the **Load** button to restore the Max 8 or Max 8 Plus's default factory configuration. (Refer to the *Max Command Reference Guide* for system default settings.)



CAUTION: This command causes all of your configuration settings and parameter values to be deleted. You will have to re-enter any settings you defined.

Show Log Messages

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

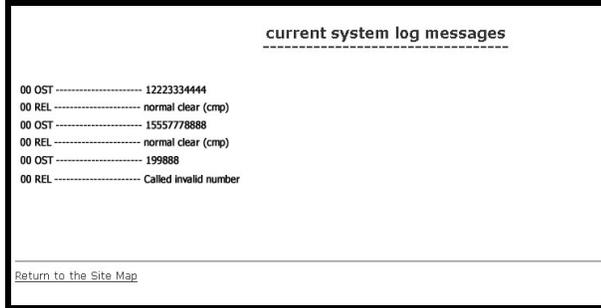


Figure 23 – Show Log Messages Page

The log displays a call history, including the port number, the destination telephone number, and the release status (e.g., normal, invalid number, etc.).

Restart System

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

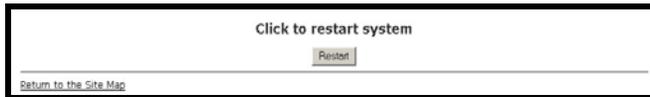


Figure 24 – Restart System Page

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

Download Latest Firmware

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

Software Upgrade
(For Win95/98/NT) Prior to initiating the software upgrade be sure to have the ip address and username and password for the device. You can print this page for easy reference while updating the unit.

Download Procedure

- Click the Download button at the bottom of this window.
- Download and execute the installer program.

Upload Procedure

- Open My Computer then go to c:\net2phone\upgrade.
- Execute maxup.exe by double clicking it. A DOS window will appear.
- Input the user ID of the system you want to upgrade.
- Input the PASSWORD of the system you want to upgrade.
- Input the IP address of the system you want to upgrade.
- Close the window.
- The unit will reboot. Once it has done so it is upgraded.



Figure 25 – Download Latest Firmware Page



IMPORTANT: Before upgrading to version 1.5.40, 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, you must determine your current firmware version. To check this, access the System Information page of the Max Web Manager. For instructions on how to do this, refer to Chapter 3, **Logging into the Max Web Manager** on page 27 and the **System Information and Commands** section on page 60 in this Guide.

If your current firmware version is 1.5.30, you can skip to the **Performing the Upgrade** section on the following page.

If your firmware is version 1.3.0 or older, follow these procedures:

1. If you do not have a copy of your Max 8 or 8 Plus 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 **maxup.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.

5

Configuring Voice Messages

Overview

The Max 8 or Max 8 Plus employs a set of default messages for the IVR voice prompts and responses callers hear, and for the prompts and responses you hear when you configure the Max through a telephone keypad.

If you wish, you can record custom voice message files (vocfiles) to replace the default ones. This chapter will explain that procedure.



NOTE: Before attempting to record a new voice message file, review **Connecting to the Max through a Serial Cable** on page 16 in this Guide. For help with command line navigation, refer to *Basic Command Line Navigation* in the Introduction section of the *Max Command Reference Guide*.

Voice Message Files

The following table shows the contents of the message file for the Max 8 and 8 plus as shipped.

FILE NAME	MESSAGE THAT THE FILE SHOULD CONTAIN
CA0000B	The number you dialed is busy.
CA0001B	The number you are calling from is not authorized. Please contact your administrator for more information.
CA0002B	Your call cannot be completed.

FILE NAME	MESSAGE THAT THE FILE SHOULD CONTAIN
CA0003B	Called party is not logged on.
CA0004B	The number you called was not allowed.
CA0005B	No channels are available.
CA0006B	You are using an invalid account number. Please check the account number and try again.
CA0007B	The number in the forwarding field is not valid. Please contact your administrator for more information.
CA0008B	There is a problem with your Internet connection. Please contact your administrator for more information.
CA0009B	Your account is being used. Please try again..
CA0010B	The number you are calling from is not authorized. If you have an account number press #. Otherwise, contact your administrator for more information.
CA0011B	You have dialed a number that has been restricted by the Max administrator. Please try again.
CA0012B	You have dialed an invalid number. Please press # to try again.
CA0013B	The person you are trying to call is already making a PC-to-PC call.
CA0014B	Your account is disabled. Please check the account number and try again.
CA0015B	Please press ### to complete the call or hang up.
CA0016B	Your call is disconnected from IP address change in DHCP. Please try to call later.
TN0001Z	Hold Music
TN0002Z	Wait Music
SN0000B	Welcome to Net2Phone.

FILE NAME	MESSAGE THAT THE FILE SHOULD CONTAIN
SN0001B	Thank you for using Net2Phone.
SN0002B	Please enter your password.
SN0003B	Your password is incorrect. Please try again.
SN0004B	Please enter the number you wish to call.
SN0005B	Please enter your account number.
SN0006B	You do not have sufficient funds for this call. Please contact your administrator to recharge your account.
SN0007B	You must be logged out before you trying to call.
SN0008B	Please enter your PIN.
SN0009B	Welcome to Net2Phone. Please enter the number you wish to call.
SN0010B	Goodbye and thank you for using Net2Phone.
FE0000B	Feature Complete (Dingdong) –Optional
FE0001B	Please, enter your IP address.
FE0002B	Your IP Address is
FE0003B	Please, enter your netmask.
FE0004B	Your net mask is
FE0005B	DHCP is now enabled, please press #.
FE0006B	DHCP is now disabled, please press #.
FE0007B	You have
FE0008B	Remaining in your account
FE0009B	Please, reboot your Max
DG0000B	Zero
DG0001B	One

FILE NAME	MESSAGE THAT THE FILE SHOULD CONTAIN
DG0002B	Two
DG0003B	Three
DG0004B	Four
DG0005B	Five
DG0006B	Six
DG0007B	Seven
DG0008B	Eight
DG0009B	Nine
DG0010B	Ten
DG0011B	Eleven
DG0012B	Twelve
DG0013B	Thirteen
DG0014B	Fourteen
DG0015B	Fifteen
DG0016B	Sixteen
DG0017B	Seventeen
DG0018B	Eighteen
DG0019B	Nineteen
DG0020B	Twenty
DG0030B	Thirty
DG0040B	Forty
DG0050B	Fifty
DG0060B	Sixty
DG0070B	Seventy

FILE NAME	MESSAGE THAT THE FILE SHOULD CONTAIN
DG0080B	Eighty
DG0090B	Ninety
DG0100B	Hundred
DG0101B	Thousand
DG0102B	Dot (.)
DG0103B	Dollar
DG0104B	Cent
DG0105B	And
DG0106B	Minute

Voice Message File Download

To implement the file upload/download procedure, you will need:

1. A PC with LAN connection to Max 8 or Max 8 Plus.
2. The DOS FTP client program (included with all Microsoft operating systems).
3. The Max 8 or Max 8 Plus voice message binary file, "vocfile" (for upload).

Voice Message File Download Procedure

1. Power-on the Max 8 or Max 8 Plus system and wait until the "OPR" LED begins to blink.
2. Obtain the Max 8 or Max 8 Plus's current IP address (see **Connecting the Max to a LAN** on page 14 in this Guide).
3. On your PC, open a DOS window or Command prompt.

4. Go to the PC directory to which you want to download the vocfile.
5. Establish an FTP connection with the Max 8 Plus as follows:
 - a. From the DOS prompt, type `ftp`, a space, and the IP address of the unit; then press the **Enter** key.
 - o **For example:** If the unit's IP address were 192.168.172.19, you would enter: `ftp 192.168.172.19` and then press the **Enter** key (use your Max 8 or Max 8 Plus's IP address).
6. At the **User <192.168.172.138:<none>>** prompt, enter the default user name, root, and then press the Enter key.
7. When prompted for a password, enter the default password, n2p, and then press the Enter key. The password does not display on the screen as you type it.

```
User (192.168.172.138:(none)): root
331 Password needed.
Password:
230 User logged in, proceed.
ftp> get vocfile
200 Command OK.
150 File Status OK.
226 Closing Data Connection.
262144 bytes received in 1.10 seconds (237.88 Kbytes/sec)
ftp> quit
200 Command OK.

C:\TEST>dir
Volume in drive C is DRIVE_C
Volume Serial Number is 08E8-26DF

Directory of C:\TEST

06/06/01 12:05p <DIR> .
06/06/01 12:05p <DIR> ..
06/06/01 12:05p          262,144 vocfile
                3 File(s)          262,144 bytes
                        8,687,595,520 bytes free

C:\TEST>
```

Figure 26 – FTP File Download Procedure

8. At the **FTP>** prompt, type `get vocfile`, and then press the **Enter** key.

The figure above illustrates the FTP file download procedure. You may now access the vocfile in the directory to which it was downloaded.

Voice Message File Upload Procedure

1. Proceed as directed in steps 1 through 7 in the previous section, **Voice Message File Download Procedure**.
2. At the prompt, type `put vocfile`, and then press the **Enter** key.
The new vocfile is not activated until you reboot the Max 8 Plus system.
3. Click the **Restart System** link in the sidebar menu of the Web Manager to reboot the Max 8 or Max 8 Plus.
The vocfile will be activated.

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 8 and 8 Plus (via the PSTN)
- ★ How to place Max-to-Max calls

The Pound Key

The pound key (#) is used by the Max 8 and Max 8 Plus to indicate the end of a dial string. If the pound key is omitted, the Max waits three seconds for additional input, then places the call. This delay is adjustable through a HyperTerminal connection. For details, see Sections 10 and 11 in the *Max Command Reference Guide*.

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 8 and Max 8 Plus's ports and dial 1 + the area code + the local number, followed by 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, followed by 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 8 or 8 Plus 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 8 Plus 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 8 Plus in your company's New York City office and the Max 8 Plus 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:

1. 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**.

2. 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:

1. The account number of the London unit is 1234567890.
2. 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 Net2Phone. 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 34 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 51 in this Guide.
- ♦ Refer to your Reseller for information about Net2Phone's Max-to-Max calling rates.

7 Appendix

Appendix A – Troubleshooting

Common 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 and fan are 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
Power LED on; fan off	Faulty N2P Max 8	Contact Net2Phone Technical Service Center or your Net2Phone reseller
Power LED off; fan on	Faulty N2P Max 8	Contact Net2Phone Technical Service Center or your Net2Phone reseller

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No initialization response from N2P Max 8	Faulty console terminal	Check/replace terminal
	Faulty cabling to terminal	Check/replace cable
	Faulty N2P Max 8	Contact Technical Service Center or your reseller
Unit shuts off after operating for some time	Overheating	Check ventilation
	Faulty N2P Max 8	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 8	Contact Technical Service Center or your reseller

Account Issues

Q. How many different accounts do I need to use one of the Max products?

A. You will need at least one Net2Phone account for each Max unit, but you can use as many accounts as the number of ports (or virtual ports) that you have.

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

A. You must make sure the "Use account for all fields" box is not checked and re-enter the account information for each port.

Q. Can I use one account for all the ports on the Max 8?

- A. Beginning with version 1.3.10, the Max 8 supports account grouping. When there are multiple incoming calls, either from a PSTN line or another Net2Phone device, the Max 8 will ring the telephone connected to the next available port. If all ports are occupied (i.e., the phone on each port is on a call), the incoming call will not be connected.

Faxing

Q. I'm having trouble faxing – either the fax quality is poor or I'm not able to fax at all.

- A. 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 1.5.40, 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.



NOTE: Ideal parameters are 2% packet loss and 300 ms latency.

If you are unable to send faxes or the fax quality is poor, check packet loss and latency to determine if they exceed the above parameters. Contact Net2Phone Reseller Support and include this information.

Functionality

Q. What is the difference between the Max 8 and the Max 8 Plus?

- A. The Max 8 has eight fixed FXS ports. The Max 8 Plus may contain any one of the following combinations:
- four FXS + four FXO ports,
 - eight FXS ports, or
 - eight FXO ports.

Q. What does FXS mean?

- A. FXS stands for "Foreign Exchange Station." Very basically, you can plug standard analog phones into a Max FXS unit. The FXS version of the Max does not support inbound PSTN calling, but you can receive calls (via *72) from other Max units. It is possible to attach FXS lines to a PBX through an analog trunk card (COIC/COIB). The Max 4, Max 8, Max 8 Plus and Max 8/16 all feature FXS versions.

Q. What does FXO mean?

- A. FXO stands for "Foreign Exchange Operator." Basically, FXO allows you to connect the Max to a PBX through an analog line card (SLIC/SLIB). With an FXO unit, inbound PSTN calls and remote calling are supported. The Max 8 Plus and Max 8/16 both feature FXO versions.
- Q. What bandwidth is required to use the Max?**
 - A. The Max requires 17k bandwidth per line in order to maintain a standard Quality of Service (QoS).
- Q. How do I upgrade the Max?**
 - A. Upgrading the Max unit is a relatively quick and easy process. Connect to the Web interface, click on "upgrade" and follow the instructions. During the upgrade procedure, no calls should be made through the Max. Upgrade times vary depending on available bandwidth, but normally take no longer than five minutes
- Q. Can I call any number through the Max (i.e. 911)?**
 - A. Please be aware that special emergency and informational numbers (i.e. 411, 611, 911, 0) cannot normally be accessed through the Max. However, if you have a Max with at least one FXO port, it can be configured so that these calls are routed through the Public Switched Telephone Network (PSTN).
- Q. What will happen if all of the lines from the Max are in use? Can I still place a call?**
 - A. The PBX can be programmed so that if all of the Max lines are in use, calls will be routed through the PSTN. If this happens frequently, it may be time to add an additional Max or additional ports in the case of the Max 8/16.
- Q. Will the Max work with LCR (Least Cost Routing) systems?**
 - A. FXS and T1/E1 versions of the Max will work in conjunction with PBXs that feature least cost routing.

- Q. Which Max units feature IVR functionality?**
- A. Currently, the Max 8 Plus (FXO), Max 8/16 (FXO) and Max T1/E1 have IVR functionality.
- Q. What functionality does the IVR present and how is it programmed?**
- A. The IVR may be programmed to play a greeting and/or request certain information (i.e. a password) when a port is accessed. The IVR function can be configured through the Max Web Manager.
- Q. How can I identify if my Max unit features FXS or FXO ports?**
- A. This can be identified through the Max Web Manager or on the actual card itself.
- Q. How can I view a call/usage report on the Max?**
- A. You must telnet into the unit and view the "N2P:/STATISTICS/CALL/s" directory. Please see the user's manual for information on how to telnet into the Max.
- Q. If I already have a Max and want to add more, what are the installation issues involved?**
- A. You would add additional Max units to a network just as you would add additional computers to a network. Make sure there is enough bandwidth present and the appropriate IP addresses are available.
- Q. If my Max has FXS ports can I replace them with FXO ports instead and vice versa?**
- A. Both the Max 8 Plus and Max 8/16 support both FXS and/or FXO ports. If you have either of these two units, you can purchase FXS and/or FXO cards to change the functionality of your Max.

General

- Q. Will any of the Max products work with ISDN, DSL or cable?**

- A. As these units require a maximum of 17Kbps of bandwidth per call, they will operate with ISDN, DSL or cable. The amount of available bandwidth will determine how many simultaneous calls can be made from the Max. Please see the Max Bandwidth Requirements technical bulletin for more information.
- Q. How do I dial a phone number within the United States?**
 - A. Simply dial "1" + the area code + the number, followed by the "#" key.
- Q. How do I dial a phone number that is not located in the United States?**
 - A. Simply dial "011" + the country code + the city code + the number, followed by the "#" key.
- Q. When I call the United States, the call quality is very good, but I experience a delay when calling other countries. Why?**
 - A. This is most likely occurring in the local phone system and is independent of the Net2Phone products.
- Q. Do I need a router to use a Max product?**
 - A. Yes. All Max products require a connection to a hub/router.
- Q. Can I use my Net2Phone device with a proxy server?**
 - A. No. Net2Phone devices will not work behind a proxy server.
- Q. Will I still be billed for a call if the other party does not answer?**
 - A. No. You should not be billed for a call that is not completed.
- Q. I changed the login password on my Max 8 or Max 8 Plus and I forgot the new password.**
 - A. Log in as manager or sysadm. Note that the default password for both is n2p.

Setup/Connectivity

- Q. During setup, how do I enter the periods in my IP address and netmask through an analog phone?**
- A. Simply use the asterisk (*) key on the phone to enter a period.
- Q. When I enter a static IP address into the Max and restart the unit, the static IP address that I entered is not saved. What should I check?**
- A. Make sure that DHCP is set to "OFF" on the Max. If you entered the IP address through an analog phone, make sure you press the "#" key before hanging up.
- Q. When I attempt to connect to my Max 8 or Max 8 Plus 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.
- Q. When I attempt to access the Max Web Manager, I am prompted for a user name and password. But, when I enter them and click OK, the password page reappears. What am I doing wrong?**
- A. Please make sure that both the user name and password are correct. Note that the user name and password are case sensitive.
- Q. In the Max Web Manager Network and Voice Configuration, what do I enter in the DNS server fields if this does not apply to my situation?**

- A. If you are not utilizing DNS servers, make sure to enter "0.0.0.0" in these fields. You will not be able to save this configuration if you leave the field blank.
- Q. If I already have a Max and want to add more, what are the installation issues involved?**
 - A. You would add additional Max units to a network just as you would add additional computers to a network. Make sure there is enough bandwidth present and the appropriate IP addresses are available.
- Q. Which Max units can be connected to a PBX and how is this done?**
 - A. All of the Max units can be connected to a PBX, although PBXs have different connectivity requirements. For example, the Max T1/E1 would be used to connect to a digital PBX. Depending on the available line cards or trunk cards, the Max 4, Max 8, Max 8 Plus or Max 8/16 could connect to an analog PBX. Any Max featuring FXO ports (Max 8 Plus or Max 8/16) could connect to an analog line card while FXS units (Max 4, Max 8, Max 8 Plus or Max 8/16) could connect to an analog trunk card.
- Q. When would I need to use the serial port on the back of the Max?**
 - A. If you have a Max FXO unit, you will need to utilize the serial port for the initial configuration of the LAN settings since you cannot connect a standard analog phone directly to an FXO port.

Troubleshooting

- Q. When a call is placed remotely into the Max (FXO), the phone line does not always disconnect after the caller hangs up. What can be done to change this?**
 - A. Most likely, you will need to change the Ring Off Detect setting on the Max. Please see the technical bulletin on this subject for more information.

Q. My network supports DHCP, but I am having trouble obtaining the correct network settings for the Max. What should I check?

- A. Please make sure that:
1. Make sure DHCP is enabled.
 2. Make sure the RJ-45 LAN cable is connected securely to your Max 8 Plus and LAN, hub, or router.
 3. Make sure that all network ports, routers, or hubs are live.

Q. When I dial the extension that I routed to port 1, it rings on port 2 and when I dial the extension I routed to port 2, it rings on port 3. What is wrong?

- A. 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.

Q. When I attempt to make a call, I hear a fast busy signal. What could be wrong?

- A. Click the **Show Log Messages** link to access the Current System Log Messages page (see **Show Log Messages** on page 62 in this Guide). Then check to see if `00 REL DM_NOT_SPECIFIED` is displayed. This would indicate that the doorman servers cannot be found. Make sure that the DNS server IP parameter values are correct so that the doorman can be reached.

If you are calling from one Max unit to another, please confirm the following:

The account number and PIN you are calling from are valid. The account number you are

calling from has sufficient funds. The number you are dialing is correct and 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.

Q. When I attempt to make a call from either an FXS or FXO port, I immediately get disconnected. What should I do?

A. Try the following:

1. Use the **ping** command to determine that the Max's connection to the LAN is functioning. The ping command is discussed in the **Entering an IP Address** section on page 23 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 the **Account Configuration** section on page 37 in this Guide. Use the ping command to determine that the Max still has a live connection to the LAN. Make sure that an account number with funds available has been entered for the port from which you are calling.

Q. When I attempt to call into my Max 8 Plus from another unit via *72, I get a busy signal.

A. Make sure that:

1. The account number you are calling from is valid and has a correct PIN.
2. The account you are calling from has sufficient funds.

3. You entered the correct number to be dialed.
4. 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 the **Account Configuration** section on page 37 in this Guide.

Q. When I pick up the phone to call from my Max FXO unit, I hear a buzzing sound like a motor instead of a dial tone. What could be the problem?

- A. It sounds as if your Max unit is not properly grounded. Simply attach a metal wire from the grounding screw on the Max to a grounding platform.

Q. When I make a call from one Max unit to another Max, one side cannot hear the communication. What could be the problem?

- A. First, make sure that both units have been upgraded to the latest software. If this does not solve the problem and you are behind a firewall, please see the technical bulletin on Max to Max calling for more information on opening the appropriate ports on the firewall.

Q. I am able to ping the Net2Phone IP address, but my call does not go through. What may be the problem?

- A. Please make sure that you have entered the correct account number and PIN, with no spaces before, after or within the number.

Q. I set DHCP to ON, but my Max 8 or Max 8 Plus cannot obtain correct network settings.

- A. Please make sure that:

1. Your network supports DHCP.
2. Your RJ-45 LAN cable is securely connected to both the Max 8 Plus and to the LAN, hub, or router.
3. All network ports, routers, or hubs are live.

Appendix B – Technical Support

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

Do not attempt to disassemble the Max 8 or Max 8 Plus. There are no user-serviceable parts inside the unit.



IMPORTANT: Do not attempt to disassemble the Max 8 or Max 8 Plus aside from removing the FSU/FOU cards. There are no user-serviceable parts inside the unit.

Appendix C – System Specifications

Max 8

SYSTEM SPECIFICATIONS	
Analog Voice Interface	FXS, RJ-11, 8 ports
LAN Interface	10/100baseT, RJ-45, 1 port {Ethernet/FastEthernet auto-detection}
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 Fast Ethernet indicator one LAN link indicator one LAN data receive indicator one serial port transmit indicator one serial port receive indicator one voice transmit indicator one voice receive indicator
VoIP protocol	Net2Phone propriety protocol
Voice Processing Capabilities {compression/decompression} {QoS related capabilities}	G.711 G.723.1 Echo Cancellation (G.168) Voice Activity Detection Comfort Noise Generation

SYSTEM SPECIFICATIONS	
Management interface	Command line interface via console port or telnet client Web interface via any web-browser
Physical Size (H x W x D)	45 x 439 x 310 mm {mounting handles for 19 inch rack are available}
Weight	2 Kg.
Input power	100 - 240 VAC, 1.5 A (max.), 50/60 Hz , 50 W (max.)
Main processor	Motorola MPC855T
Operation temperature	0 ~ 50° C
Storage temperature	-40 ~ 85° C
Operation humidity	5 ~ 95%, non-condensing
Noise level	15 dB @ 1 m
Ringer Equiv. No.	0.5B

LED	MEANING
ALM	ALM
LINK	Link active
LRX	Receive data
OPR	Operational
RXHW	Voice receive
SRX	Serial port receive
STX	Serial port transmit
TXHW	Voice transmit
10/100	Fast Ethernet

Max 8 Plus

SYSTEM SPECIFICATIONS	
Analog Voice Interface	FXS/FXO, RJ-11, 4/8 ports
LAN Interface	10/100baseT, RJ-45, 1 port {Ethernet/FastEthernet auto-detection}
Serial Interface	EIA-232 {old RS-232C}, DB-9, 1 port Asynchronous serial communication at 19200bps
LED indicators	ALM(alarm) OPR(operational : system active status indicator) 10/100(fast Ethernet) LRX(LAN receive : LAN data receive indicator) STX(serial transmit) SRX(serial receive) VTX(voice transmit) CLK(reserved) one active status indicator for each analog voice port
VoIP protocol	Net2Phone propriety 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

SYSTEM SPECIFICATIONS	
Physical Size (H x W x D)	45 x 439 x 310 mm {mounting handles for 19 inch rack are available}
Weight	2 Kg.
Input power	100 - 240 VAC, 1.5 A (max.), 50/60 Hz , 50 W (max.)
Main processor	Motorola MPC855T
Operation temperature	0 ~ 50° C
Storage temperature	-40 ~ 85° C
Operation humidity	5 ~ 95%, non-condensing
Noise level	15 dB @ 1 m
Ringer Equiv. No.	0.5B

LED	MEANING
ALM	ALM
CLK	Reserved
LINK	Link active
LRX	Receive data
OPR	Operational
SRX	Serial port receive
STX	Serial port transmit
TXHW	Voice transmit
10/100	Fast Ethernet

Appendix E – Approvals and Listings

FCC Declaration of Conformity

- ★ Product name: Max 8
- ★ FCC Rules: Tested to comply with FCC part 15, Class A
- ★ Operating environment: for office use

FCC Declaration of Conformity

- ★ Product name: Max 8 Plus
- ★ FCC Rules: Tested to comply with FCC part 15, Class A & 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.



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

Net2Phone Inc. (“Net2Phone”) warrants that the Net2Phone Max 8/16 or Max T1/E1 (the “Product”) are free from material defects in material and workmanship, in accordance with the following terms and conditions.

1. The limited warranty for the Product extends for twelve (12) months, beginning on the date of purchase of the Product.
2. The limited warranty extends only to the original purchaser (“End User” of the Product and is not assignable or transferable to any subsequent purchaser/end user.
3. The limited warranty extends only to End Users who purchase the Product in the United States.
4. During the limited warranty period, Net2Phone will repair, or replace, at Net2Phone's option, any defective Product that will not properly perform its intended use, with a new or factory rebuilt Product. No charge will be made to the End User for any such repair or replacement. The external housing and non-operational parts of the Product are not covered under this limited warranty.
5. Upon request from Net2Phone, the End User must provide documentation (such as a sales receipt) to reasonably prove the date of purchase.
6. The End User shall bear the cost of shipping the Product to the Customer Service Department of Net2Phone. Net2Phone shall bear the cost of shipping the Product back to the End User after the completion of service under this limited warranty.
7. The End User shall have no coverage or benefits under this limited warranty if any of the following conditions are applicable:

- a. The Product has been subject to abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized connection, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of Net2Phone, including damage caused by shipping and blown parts.
 - b. The Customer Service Department at Net2Phone was not notified by the End User of the alleged defect or malfunction of the Product during the applicable limited warranty period.
8. End User Procedures:
- a. In the event that the End User requires support or warranty service for the Product, the End User should contact Net2Phone by email at resellersupport@Net2Phone.com.
 - b. Net2Phone will use reasonable commercial efforts to resolve the issue by email or telephone.
 - c. If the Product requires warranty service, Net2Phone will issue an RMA number to the End User.

EXCEPT FOR THE EXCLUSIVE REMEDY SET FORTH ABOVE, IN NO EVENT SHALL NET2PHONE HAVE ANY LIABILITY TO THE END USER OR ANY THIRD PARTY FOR ANY CLAIM, LOSS OR DAMAGE OF ANY KIND, EVEN IF NET2PHONE HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, CONSEQUENTIAL, INCIDENTAL, SPECIAL, PUNITIVE, OR INDIRECT DAMAGES, ARISING OUT OF OR IN CONNECTION WITH (A) THE PERFORMANCE, USE OF OR INABILITY TO USE ANY PRODUCT OR ANY DATA, SOFTWARE, OR EQUIPMENT RELATED THERETO OR USED IN CONNECTION THEREWITH OR (B) INFRINGEMENT OF

ANY PATENT, COPYRIGHT, TRADEMARK, OR OTHER INTELLECTUAL PROPERTY RIGHT OF ANY THIRD PARTY. IN NO EVENT SHALL NET2PHONE'S LIABILITY FOR DAMAGES, WHETHER ARISING OUT OF CONTRACT, NEGLIGENCE, WARRANTY, OR INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT, EXCEED THE PURCHASE PRICE PAID BY THE END USER FOR THE PRODUCT.

8

Index

A

Account Configuration page · 37
 accounts · 38
 Address Table Configuration table · 31
 AVU · 92

B

broadband · 1
 browser · 27

C

CNG · 3
 Comfort noise generation · 3
 console · 14, 16, 18
 Current Routing Table
 Adding an Entry · 42
 Deleting an Entry · 44

D

default gateway address · 33
 DHCP · 14, 19, 20, 21, 22, **33**
 DNS server addresses · 33
 domain name · **33**
 Dynamic jitter buffer control · 3

E

echo cancellation · 2

F

factory configuration · 62
 firewall · 33, 36, 49, 78
 FXS port · 1

G

G.168 · 2, 93, 95
 gateway-server · 1

H

hunt group · 77
 HyperTerminal · 16
 Obtaining DHCP Address · 18

I

I/F · 41
 index number · 41, 44
 interface type · 41, 43
 Introduction page · 28

IP address · 14, 15, 19, 20, 22, 27
IP Configuration table · 32
IP parameters · 18, 22, 23, 89

J

Jitter Buffer Bounds · **33**

L

LAN · 1, 2, 14, 15, 33
Load Default · 62
Local Address · 32
logical port number · 31, 41, 42, 43
Logical Port Numbering · 42
Logical Port Numbers · 32
Login Button · 40

M

Max to Max · 36, 39, 40, 48, 49, 50, 52, 76, 77, 78
MAX to MAX · 50
multiple account · 38, 39

N

Network and Voice
 Configuration page · 32
Network Configuration · 33, 36, 37
Network Configuration table · 33
Network Password · 28
Number · 41

P

password · 17, 18, 28, 61
phone number · 41
physical port number · 42
Ping · 24
Placing Calls · 75
Port Configuration page · 31
Port Numbers · 33
Post · 41
postfix number · 41
Pre · 41
prefix number · 41
PSTN · 1, 46, 47, 50, 51

R

Receiving Calls · 40, 49, 51
Remote IVR · 45
Restart System page · **34**, 63
Routing Table · 40, 41, 59

S

Save button · **37**
serial cable · 16, 18, 22, 27
serial cable connection · 7, 86
Show Log Messages page · 62
Site Map page · 28
Software Upgrade · 63
Static · 33
System Information page · 60, 61
system name · 61

T

telephone · 99
telephone keypad · 15, 20, 22, 27

TRNC · 41
truncation length · 41

U

User ID · 17
user name · 61

V

VAD · 2
vocfile · 67, 71, 72, 73
Voice activity detection · 2
Voice Configuration · 32, 33,
36, 37
Voice Message · 67
VoIP · 1, 44