

Quintum

Configuration Guide



net2phone®

Communication without bordersSM

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March 2004

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1. Overview

Purpose

This document explains the process for setting up Quantum A400/800 to terminate over N2P.



IMPORTANT: This is a preliminary overview on how to set up the tenor box to terminate over the Net2Phone network. This document will be updated to include information on different configuration scenarios, but for now, this configuration is known to work with the Net2Phone network.

For further configuration support, please contact your certified Quantum reseller.

2. Quantum Basics

Navigating through the Directories

Use the following commands to navigate throughout the directories.

Command	Result
exit	Moves up one directory level at a time..
exit!	Moves up to the root directory (Quantum).
?	Displays all available commands & directories. If you type a command and press the Enter key, the selected command will be performed; if you type a directory name and press the Enter key, you will access that directory.



NOTE: The root directory is "Quantum>."

Saving Your Changes

When you make changes, you must save them to make sure they are not lost upon boot up.

To save the configuration changes:

1. Go to the config# directory.
2. Type **sub** and then press the **Enter** key.

3. Configuration Steps

Overview

The configuration steps explained in the following sections are:

1. Set Up Password
2. Set Up IP
3. Set Up Sys Info
4. Set Up Syslan
5. Relay Caller ID (OPTION)
6. Attach Numbers (Pattern) to Outgoing DN
7. Set BorderElementIP as Self IP Address
8. Set Up Border Element Static Route
9. Bring Tenor Online

For all steps below, when you see **bold Courier** text, that signals text that you type. When you see one or more "x" characters, it represents a variable, such as your password or IP address.

1. Set Up Password

Command	Notes
config login# password xxxxx	The "xxxxx" represents your password. <i>For example</i> , if your password is 030104, you would type: password 030104

2. Set Up IP

Command	Notes
config unit 1# ip xxx.xx.xxx.xxx	The "xxx.xx.xxx.xxx" represents your IP address. <i>For example</i> , if your IP address is 222.33.444.55, you would type: ip 222.33.444.555

3. Set Up Sys Info



IMPORTANT: Unique customer configurations and the E.164 format on Quintum devices may present problems when customers attempt calls unless the parameters below are configured on the device.

Command	Notes
config sys# country 3	Number represents the desired country.
config sys# countrycode	Make sure to put a space at the end, and press the Enter key.
config sys# areacode	Make sure to put a space at the end, and press the Enter key.
config sys# mindn x	The "x" represents the minimum dn. Make sure to put a space at the end, and press the Enter key.
config sys# maxdn x	The "x" represents the maximum dn. Make sure to put a space at the end, and press the Enter key.
config sys# intlprefix	Make sure to put a space at the end, and press the Enter key.
config sys# ldprefix	Make sure to put a space at the end, and press the Enter key.

4. Setup Syslan

Command	Notes
config syslan# subnet xxx.xx.xxx.xxx	The "xxx.xx.xxx.xxx" represents the subnet address. <i>For example</i> , if your IP address is 222.33.444.55, you would type: subnet 222.33.444.555
config syslan# defaultgw xxx.xx.xxx.xxx	The "xxx.xx.xxx.xxx" represents the default gateway address. <i>For example</i> , if your IP address is 222.33.444.55, you would type: defaultgw 222.33.444.555

5. Attach Numbers (Pattern) to Outgoing DN

Command	Notes
config iptg# outprefix 7846886#	Enter the text and the value exactly as they appear at left.

6. Set the borderelementip as Self IP Address

Command	Notes
<pre>config gksys# borderelementip n xxx.xx.xxx.xxx</pre>	<p>n = 0 (for primary) or 1 (for secondary)</p> <p>The "xxx.xx.xxx.xxx" represents the IP address.</p> <p><i>For example</i>, if you want to set up the primary IP and your IP address is 222.33.444.55, you would type: borderelementip 0 222.33.444.555</p>

7. Border Element Static Route Setup

Command	Notes
<pre>config be sroute 1# callsig 66.33.146.38:1719</pre>	<p>Enter the text and the IP address exactly as they appear at left.</p>
<pre>config be sroute 1# gkmode 1</pre>	<p>The "1" indicates that remote is the gatekeeper.</p>
<pre>config be sroute 1# dn 1 7846886#* 1 0 1</pre>	<p>Enter the text and the values exactly as they appear at left.</p>

8. Bring Tenor Online

Command	Notes
<pre>config unit 1# online 1</pre>	<p>Enter the text and the values exactly as they appear at left.</p>

4. Additional Configuration Commands

Overview

The following sections contain additional configuration commands.

1. Enabling Box-to-Box Calls Between Different Tenors

Command	Notes
<code>config pbxtg 1# huntpubldn xxxx</code>	The "xxxx" sets the PBX port. <i>For example</i> , if you wanted to set the PBX port to extension 4000, you would type <code>huntpubldn 4000</code> .
<code>config iptg# incdeldigits 8</code>	Erases the "7846886#" coming in.
<code>config be sroute 2# callsig xxx.xx.xx.xx:1720</code>	The "xxx.xx.xxx.xxx" represents the address of the other Quintum's gateway. This creates a static route between the two Quintums.
<code>config be sroute 1# gkmode 0</code>	<ul style="list-style-type: none"> ♦ 0 - remote is gateway ♦ 1 - remote is gatekeeper
<code>config be sroute 1# dn 1 7846886#xxxx 1 0 1</code>	The "xxxx" represents the extension (phone number) of the other Quintum gateway.

2. Configuring Net2Phone as the Primary International Carrier and PSTN for Domestic Calls

Command	Notes
<code>config be sroute 1# dn 1 7846886#011* 1 0 1</code>	Replace 1234* rule with these commands so that all calls starting with 011 will go to IP (net2phone) and any other domestic calls will route via PSTN.

3. Configuring Net2Phone as the Primary Carrier and PSTN as Secondary for All Calls

Command	Notes
N/a	Call flow within tenor is such that when call is placed, it will look for the best match for the route at static route tables. If it does not find it (or if the gateway or gatekeeper does not permit the calls), it will route automatically to PSTN.

4. Choosing Net2Phone via Dialing 8 First and Then DN

Command	Notes
<pre>config sys# intercom 1</pre> <pre>config sys# multipathrouteprefix 8</pre>	<p>When you set the multipathrouteprefix, for example to 8, the Tenor will know that any incoming call from a PBXTG that has the first digit of 8 is an "Intercom Call." The call is first attempted over IP. If a match cannot be found, or if IP routing fails, the call is then routed over the associated PSTN trunk group.</p> <p>Any single number between 0 and 9 can be used.</p>

5. NAT & Firewall Configuration

Overview

This section will explain how to install equipment behind a firewall and NAT (Network Address Translation).

Tenor Hardware & Software

This section and feature covers Tenor Analog A400 & A800, software P3-1-10 or higher.



NOTE: Customers who have dynamic IP addresses will need to change the IP address manually when the WAN IP changes.

FIREWALL PORT ACCESS

Because the firewall is used to secure the internal network from attacks from the public network, they typically have many of the port numbers required for VoIP disabled or closed from being accessed. If they are closed, then you will not be able to get a VoIP call up between your internal network and anywhere on the public network. In order to make this work, you will need to re-configure your firewall to open specific port(s) for VoIP. Below is a list of port numbers, protocol and uses that you will need to consider opening to make this work.



NOTE: You can also just put Tenor to DMZ zone without opening all the ports below.

Name	Type	P4-1-9 & Later Port #	P3-1-10 & Earlier Port #	Comments
Discovery (RAS)	UDP	1718	1718	GW to GK
Registration (RAS)	UDP	1719	1719	GW to GK
Call signaling Q931	TCP	1720	1720	GW to GW
H245	TCP	2000-2063	2000-3000	GW to GW
BE control	UDP	5001	5001	GK to BE
RTP/RTCP	UDP	10240-10367	9872-10064	voice

NAT TRANSLATION

Command	Notes
config unit 1# extip xxx.xx.xxx.xxx	The "xxx.xx.xxx.xxx" represents your WAN IP address. <i>For example</i> , if your WAN IP address is 222.33.444.55, you would type: extip 222.33.444.555