



Passport 4400

Release Notes for R2.0.8

Part Number 800-1990-20, Rev. B

April 1999

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Introduction 1

The document provides information on the Passport 4400, Release 2.0.8, available for general customer release. You will find information on the software files, the documentation and the new features. Additionally, there is a section on current known issues with the software and one on manual updates.

Documentation

The following relevant Passport 4400 documents are available on CD-ROM, which can be installed on a workstation and accessed on-line.

- 800-1951-20, Passport 4400 Hardware Installation Manual
- 800-1952-20, Passport 4400 Operator's Manual
- 800-1950-20, Passport 4400 CLI Reference Manual
- 800-1943-20, Passport 4400 Analog Voice Modules Manual
- 800-1944-20, Passport 4400 T1/E1 and Digital Voice Module Manual
- 800-1961-20, Passport 4400 Low-Speed Data Services Manual

The following Passport 6000 NTPs are available on the Nortel Magellan World Wide Web at URL <http://47.208.136.61/ntp/>:

- NTP 241-7001-201, Magellan Passport Access Network Link User Guide
- NTP 241-7001-803, Passport IP Routing User Guide
- NTP 241-7001-804, Passport IPX Routing User Guide
- NTP 241-7001-802, Passport Frame Relay DTE Access User Guide
- NTP 241-7001-300, Passport Frame Relay UNI User Guide
- NTP 241-7001-410, Passport Voice Networking User Guide
- NTP 241-7001-180, Passport Remote Server Agent User Guide
- NTP 241-6001-106, NMS Magellan Access Configuration Server Installation and Administration Guide
- NTP 241-7001-340, Passport Frame Relay ISDN Switched Access User Guide

Upgrading from Previous Releases

Passport 4400

- *Upgrading Release 1.x to Release 2.0:* You currently must do a cold start when upgrading. This means your unit will return to the factory defaults—all custom configurations will be lost.
- This product is intended for Passport 4400 access to the Passport 6400.

Software Compatibility

The Release 2.0.8 software is compatible with the following software:

- Passport 6000 P4.2.6 (BD02S6D)
- NMS 10.7

Required Hardware

All Passport 4400 modules are required to be of the following Card Codes and Revision Levels to use any of the Passport 4400 R2.0.8 features.

Card Name	Card Code	Release
Passport 4400 Ethernet Base Module	NTAU01AA	10
WAN Serial Interface Module	NTAU03AA	05
Turbo Universal Voice Module, Dual Channel	NTAU50AA	02
E&M Voice I/F Module	NTAY09AA	03
FXO Voice I/F Module	NTAY11AA	03
FXO - European Voice I/F Module	NTLN23AA	01
FXS Voice I/F Module	NTAY12AA	01
T1 Module - Dual Port	NTAY14AA	05
E1 Module - Dual Port	NTAY16AA	06
Digital Voice Expansion - 12 Channel	NTAY18AA	02
Digital Voice Module - Single	NTAU60AA	01
Analog Voice Module - Single Channel	NTAU61AA	02
Analog Voice Module (European) - Single Channel	NTLN21AA	--
Analog Voice Module - Dual Channel	NTAU62AA	02
Analog Voice Module (European) - Dual Channel	NTLN22AA	--
T1 DSU/CSU	NTAU04AA	04
56 K DSU/CSU	NTAU02AA	05
ISDN U Interface Module	NTAU05AA	05
ISDN S/T Interface Module	NTAU06AA	05
4-Port Serial Expansion	NTAU83AA	04
8-Port Serial Expansion	NTAU74AA	04

If you have a Marathon and wish to use some of the existing voice modules in the Passport 4400, use the following table to select the modules that can be used.

Equivalent Voice Modules

Description	Passport 4400 Module	Marathon Model Number Equivalent
T1 Voice Module (TVM/1), single channel	NTAY99AA	5000TAM/1E, Rev M or later
T1 Voice Module (TVM/2), dual channel	NTAU14AA	5000TAM/2, Rev M or later
E1 Voice Module (EVM/1), single channel	NTAY15AA	5000EAM/1E, Rev K or later
E1 Voice Module (EVM/2), dual channel	NTAY16AA	5000EAM/2, Rev K or later
Digital Voice Expansion Module (DVEM)	NTAY18AA	5000DVEM/12
Digital Voice Module (DVM)	NTAU60AA (also kits NTBQ54AA and NTBQ55AA)	5000DVM, Rev L or later
Analog Voice/Fax Module (AVM), single channel	NTAU61AA	5000CVM/1
Analog Voice/Fax Module (AVM), dual channel	NTAU62AA	5000CVM/2
Universal Analog Voice Module (UAVM)	NTAU50AA	5000UVM/*T (* = 1 or 20)
FXS Interface for UAVM	NTAY12AA	5000V/XSL
FXO Interface for UAVM	NTLM23AA	5000V/XOL
E&M Interface for UAVM	NTAY09AA	5000V/EM+

Note: Once these modules are installed in a Passport 4400, they should remain as Passport 4400 modules.

Software

Passport 4400 units are shipped from the factory with the current software version and associated boot code installed. The Passport 4400 application software, boot code, and latest MIB files in the formats below are available on CD. Note that xx refers to the latest build of software. The installation procedure is described in the Passport 4400 Operator's Manual (800-1952-20). Manually copy all the following files from the CD to your TFTP server:

- bt2070xx.bld (Passport 4430/50 boot code)
- bt2070xx.bin (Passport 4430/50 boot code binary image)
- pr2080xx.bld (Passport 4430/50 application code)
- pr2080xx.tar (Passport 4430/50 MIB files in tar format)
- ACCGFELX.FIM0200 (LDM code 2.0 for Passport 4400)
- r020.pdf (Release notes for LDM code 2.0 in PDF format)
- r020.ps (Release notes for LDM code 2.0 in postscript format)
- rs2080xx.pdf (Passport 4430/50 Release Notes in PDF format)
- rs2080xx.ps (Passport 4430/50 Release Notes in postscript format)

The Passport 4400 Application software, a single file supplied in a “**bld**” format, consisting of the following six loadable images:

- Ethernet Base Module code that runs on the 68040 processor
- DSP code for AVM
- DSP code for UAVM
- DVM code for the DVM's installed on the TVM, EVM and DVEM
- T1 module code for the 80186 CPU on the TVM
- E1 module code for the 80186 CPU on the EVM

Note: The boot code image for Release 2.0.8 is bt 2070xx. Verify that the version strings are shown as follows:

Boot image:

Passport_4400_Rel_2.0.7_Rev 0.0.0 02/01/00 21:59:57

Application image:

Passport_4400_Rel_2.0.8_Rev 0.0.0 04/06/00 17:47:44

New Features **2**

Hoot and Holler

Hoot 'n' Holler is a trader voice application providing a permanent end-to-end connection across the network. When a broker wishes to communicate with the trading floor, he/she simply presses a button on the handset and starts talking. There is ZERO delay as no call set-up is required. For *Hoot* applications, the far end does not even ring—it is already *offhook*.

Note: Interworking with the Passport 6400/7400 series Hoot and Holler service is not provided.

Network Requirements

Voice Requirements

- You must provision the VNCS RSA/RSI services prior to establishing a call across the network.
- All Passport Functional Processors, which will provide PANL service and terminate 4400 Switched Permanent Virtual Circuits (SPVCs), must be at level PM2.

NMS Deployment

The NMS platform must be installed and configured to support the TFTP server function for software download, and telnet access to Passport 4400 via TCP/IP. Please refer to the NMS Release Notes for further details.

Runtime TFTP Software Download

Software Download is part of the future Passport 4400 network management functionality, but can also be initiated from the Passport 4400 Command Line Interface (CLI). Runtime TFTP software download requires TFTP configuration on the workstation, and a properly configured Passport ILS Network Management Core Router to provide management IP connectivity to Branch Passport 4400's.

TFTP Download Server Setup

The download server is a TFTP daemon running on an NMS or other workstation. It must be configured to run in secure mode, and be provided with the name of the directory where the software resides. This directory should not contain anything other than the software for download, as everything in it is available to any user on the network who knows how to use TFTP. TFTP does not provide any password protection of the data. (for information on the TFTP server see "man tftp") To set up the TFTP server, do the following:

1. Login as root, and edit the /etc/inetd.conf file.
2. Find the line that starts with "#tftp dgram" and remove the comment character (#) from the beginning of the line.
3. Then change the directory specified at the end of the line from "/tftpboot" to "/opt/MagellanPASSPORT 4400/software".
4. Reboot the workstation after saving the changes.

Note: If the line is already uncommented, it means the workstation is already serving as a TFTP server. You will either need to find another workstation, or use the directory already specified. If you choose to use the directory already specified, the files used by the other system must not conflict with the naming conventions for Passport 4400 Software. We recommend using a different workstation to reduce the chance of conflicts.

Boot Menu Software Installation

The Passport 4400 is equipped with a 'Boot Menu' and is intended for use only by Nortel manufacturing or customer support personnel for debugging purposes. An example of debug FTP software installation via the boot menu is provided below. A TFTP server is not required on the download host, however an FTP daemon or process must be available, since the file transfer uses FTP.

The target Passport 4400 and software distribution site must be connected to the same LAN subnet. Information shown within square brackets represents the boot menu defaults. Entering the information followed by a carriage return makes changes to the information within brackets (shown immediately after brackets). In cases where there is no information shown after the square brackets, then this information is not mandatory for software installation. Note that if a LAN gateway does NOT exist between the software distribution site and the target Passport 4400, a period (.) is required after the 'gateway address' prompt.

Installation

1. View Current Software Status
 2. Install New Software
 3. Install New Bootrom
 4. Enter Debug Menu
 5. Exit (Autoboot)
-

selection -> [1] 2

Install New Software Image

Bank 2 has been selected.

.host name -> [wc]

.host address -> [198.48.9.34] 131.147.140.33

.file name -> [/tmp/oscar/mpa.bld]

/opt/Magellan/software/pr111001/pr111001.bld

.target name -> [mpa]

.target address -> [198.48.9.20:FFFFFF00] 131.147.140.34

.gateway address -> [] .

.user login -> [atlas] myuserid

.user password -> [atlas] mypassword

Network Parameters

boot device : qu

processor number : 0

host name : wc

file name : /opt/MagellanMPA/software/pr111001/pr111001.bld

inet on ethernet (e) : 131.147.140.34:fffffe0

host inet (h) : 131.147.140.33

user (u) : myuserid

ftp password (pw) : mypassword

flags (f) : 0x0

target name (tn) : mpa

Proceed with S/W installation? [yes]

Known Issues for Release 2.0.8

4

The following known problems exist in Release 3.1. This list in no way illustrates all outstanding known issues. Numbers, enclosed in parenthesis (99999999) are internal tracking numbers.

- **Issue Resolved:** T1/E1: Caller heard dead air when the Passport 6000 MVP to Passport 4400 connection was made and the carrier was down. In the event of carrier line loss, voice calls will be notified that service is unavailable. (10142489)
- **Issue Resolved:** Lack of security in provisioning the Passport 4400. Only one CLI or NMS session is now permitted at one time. (30005384)
- **Issue Resolved:** ISDN Retry count exceeds two times within three minutes, which is out of specification. (60002045)
- **Issue Resolved:** Delay measurement capability. A time stamp measurement has been added to the Ping utility. (10120879, 60022142)
- **Issue Resolved:** The voice channel loopback test has been improved. (60049200)
- **Issue Resolved:** Added TFTP upload feature. (60068714)
- **Issue Resolved:** TFTP Configuration Active Bank not properly set. (60073999)
- **Issue Resolved:** MacFilter range values differ from those listed in the MIBS. (10159866)
- **Issue Resolved:** Different values are returned for CLI and SNMP Agent. (10164012)
- **Issue Resolved:** Setting the time and date now matches the calendar year-you cannot set the date for a non-calendar date (such as February 31). (60047723)
- **Issue Resolved:** Fax processing has been improved. (60076259)
- **Issue Resolved:** Back up services improvement now permit data services to operate better. (10173248)
- **Issue Resolved:** Passport 4400 double-talk impairment at the beginning of a call has been corrected. (10179573)
- **Issue Resolved:** Voice Channel Traps are now generated. (10180128)
- **Issue Resolved:** Primary and backup services no longer lock up the node (1021173)

- **Issue Resolved:** Fax enhancements have improved the interoperability. Additionally, more group 3 commercial fax machines are supported. (10201744)
- **Issue Resolved:** ISDN backup services no longer permit two B-channels at the same time. (10211180)
- **Issue Resolved:** Provisioning for set port ad is now working correctly. (10202511)
- **Issue Resolved:** Improvements to the discard priority provisions to match the Passport 6400 terminology for discard priorities. (60002067)
- **Issue Resolved:** System software now prevents DVM channel resets. (60059900)
- **Issue Resolved:** DLCI provisioning is now limited to 16-991. (10163552)
- **Issue Resolved:** Improved ISDN backup switching to permit more than one connection attempt in case the first backup attempt fails. (60002048)
- **Issue Resolved:** Improved DTMF digit detection/regeneration to process more than 30 digits correctly. (60033222)
- **Issue Resolved:** There are now improvements in the primary/secondary switching services. (10181757)
- **Issue Resolved:** There are improvements in the voice to resolve problems experienced in the sup releases between 2.0.4 and 2.0.8. (10230498)
- **Issue Resolved:** Fixes provide a migration path for existing beta customers (using build 38) to upgrade to Release 2.0.8. Voice calls can now be completed via Beta and 2.0.8. (10231453, 60055394)
- **Issue Resolved:** Improvements are included to prevent T1/E1 digital voice calls from locking up the unit. (50114886)

Open Issues:

- **Issue:** Discard Eligibility problems. (10215467)
- **Issue:** Voice calls disconnect under medium to high LAN traffic when rate enforcement and line efficiency are enabled. (10195843)
Resolution: Under these conditions, disable the Traffic Management. This will be fixed in Rel. 3.1.
- **Issue:** When switching from backup to primary, the HTDS service will not switch to the primary link when the `backupRemaintimer` expires. The HTDS service will switch to the primary link when the secondary link disconnects. This will be resolved in a future Rel. 3.1.x release. (10167793)

- **Issue:** Intermittently, the ISDN backup may fail when the primary link goes down. This will be fixed in a future release. (10173248)
- **Issue:** Panasonic model UF83/MKII or Cannon models L300, L380, and L770 may experience fax transmission failures. (60078907 and 60076259)
- **Issue:** When using R2Q/421 signaling in E1 digital voice applications, you may experience intermittent one-way audio. The call, which follows, should be successful. (60002190)
- **Issue:** DTMF regeneration enables itself improperly. (10230007)
Resolution: To disable the feature, you must first enable it, then disable it, then enable it, and finally, disable it.
- **Issue:** When Traffic Management is enabled, voice calls originating from the Passport 6000 series MVP to a Passport 4400 will experience voice degradation in the Passport 4400 to Passport 6000 direction only. (10201500)
Resolution: Disable Traffic Management.
- **Issue:** The transfer priority does not operate properly when Traffic Management is enabled. This is fixed in Release 3.1. (10191888)
- **Issue:** The DE bit is erroneously set in frames when frame sizes are less than 200 Bytes. This is fixed in Release 3.1. (10215467)

Manual Updates **5**

The following updates have been made to the Passport 4400 user manuals since the manuals went into production. Please make note of these updates in your copy of the specified manual.

Hoot and Holler

Page 3-29 of the Analog Voice Module Manual (800-1943-20) describes setting the Voice Switching Profile Options. Under the section titled Command Structure, a new option should be added, Autocall Type. Information on that parameter and associated parameters required to set the Hoot and Holler feature appear on the following pages.

Autocall Type

This subcommand is used to select a method for establishing autocalls between selected voice channels. Specifically, it allows the user to choose between the *normal* (standard) method, and *Hoot-and-Holler*:

Normal

When this option is selected, going off-hook causes the local Voice Application (VA) to initiate a search for the network address (DNA) of the destination voice channel. Once resolved, the local (calling) VA establishes a network connection with the destination (called) VA. Finally, the two voice channels use the network connection to establish a voice connection. The connection is terminated when the user at either end hangs up the phone. While a connection is in place, both channels are in a busy state to any other network station. Once the connection is terminated, and provided there are no other restrictions (e.g., outgoing calls only), either side is free to receive calls from another channel. Note that *network connection*, as used in this context, applies to a connection established either over a frame relay link or between channels located within the same physical unit.

Hoot-and-Holler

This feature refers to a permanent connection between two voice channels designated as *master* and *slave*, respectively. It is the responsibility of the master to establish and maintain the network connection. It does so upon power up, following a reset, or through link failures.

By definition, the *master* is a voice channel whose switching profile *tautologically* is configured for *masterHootHoller*. Its *autoCallNumber* is an index number pointing to an extension number in the ingress table. That extension number is an egress table phone number entry in its designated *slave* channel.

The *slave* is a voice channel whose switching profile *autocallType* is configured for *slaveHootHoller*. Its *autoCallNumber* is an index number pointing to an extension number in the ingress table. That extension number is an egress table phone number entry in its designated *master* channel. It can accept calls from its designated *master* channel, but cannot initiate calls.

At start-up, master and slave behave differently; the master attempts to establish a network connection. Once a network connection has been made, master and slave behave the same way. While so designated, neither can accept calls from another network channel.

Like other Passport 4400 voice circuits, ***Hoot-and Holler*** incorporates ***bandwidth-on-demand***, a feature designed to optimize bandwidth utilization. Even though the connection is semi permanent, bandwidth is used only when there is voice traffic present, and then only in the direction of the voice traffic. To enable this bandwidth saving feature, the *bandwidth* parameter of the voice profile must be set to *voiceActivated*.

Application

In a typical application, Figure 5-1, the slave channel is connected to a loudspeaker which is considered to be always off-hook. One-way conversation starts when the user at the master end goes off-hook and summons a person at the slave end.

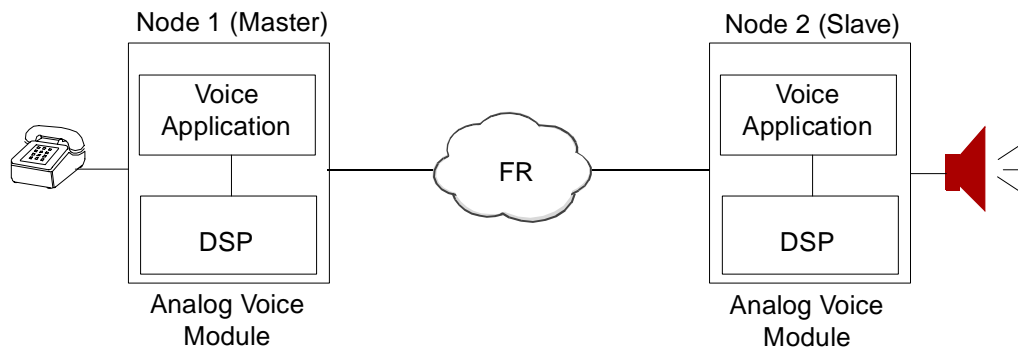


Figure 5-1. Hoot-and-Holler Typical Application

Configuration - at the Master End

1. Enter in the ingress table the slave channel's network number.

```

CLI>set voice ingressTable ingressNumber
<IngressIndex>                : INTEGER (1..32)
<IngressNumber>                : "String" (0..40)
  
```

For *IngressIndex*, enter a number from 1 to 32. For this example, assume that the index number is 1.

For *IngressNumber*, enter the number of the slave channel's network number. For this example, assume that the number is 1234.

2. Enter ingress index 1 as the autocall number.

```

CLI> set voice switchingProfile autoCallNumber
<Profile>                      : INTEGER (1..32)
<AutoCallNumber>                : INTEGER (0..32)
  
```

For *Profile*, enter the number of the profile you are configuring. For this example, assume that this is profile number 1.

For *AutoCallNumber*, enter 1. This number corresponds to 1234, the number you have previously entered in the ingress table at index 1.

3. Configure autoCallType for masterHootnHoller.

```
CLI> set voice switchingProfile autoCallType

<Profile>                :INTEGER (1..32)
<AutoCallType>           :normal | masterHootnHoller |
                           :slaveHootnHoller
```

For *Profile*, enter the number of the profile you are configuring. For this example, assume that this is profile number 1.

For *AutoCallType*, enter *masterHootnHoller*.

4. Assign Switching Profile 1 to the applicable voice channel.

```
CLI>set voice parameters switchingprofileID

<CardNumber>             : limB | limC| limD | limE
<ChannelNumber>          : INTEGER (1..12)
<SwitchingProfile>       INTEGER (1..32)
```

For *CardNumber*, enter the location of the card (B, C, D, or E) whose channel you are configuring.

For *ChannelNumber*, enter 1 or 2 (maximum analog is 2), as applicable.

For *SwitchingProfile* enter 1, the number of the switching profile you have previously configured and which you are now assigning to that voice channel.

Configuration - at the Slave End

Note: It is assumed that the number 4567 has been previously entered in the master's egress table as the *phoneNumber* and assigned to one of the voice channels.

5. Enter in the egress table the master's network number.

```
CLI>set voice ingressTable ingressNumber

<IngressIndex>           : INTEGER (1..32)
<IngressNumber>          : "String" (0..40)
```

For *IngressIndex*, enter a number from 1 to 32. For this example, assume that the index number is 1.

For *IngressNumber*, enter the number of the master channel network number. For this example, assume that the number is 4567.

6. Enter ingress index 1 as the autocall number.

```
CLI> set voice switchingProfile autoCallNumber

<Profile>                : INTEGER (1..32)
<AutoCallNumber>         : INTEGER (0..32)
```

For *Profile*, enter the number of the profile you are configuring. For this example, assume that this is profile number 1.

For *AutoCallNumber*, enter 1. This number corresponds to 4567, the number you have previously entered in the ingress table at index 1.

7. Configure autoCallType for slaveHootHoller.

```
CLI> set voice switchingProfile autoCallType

<Profile>                :INTEGER (1..32)
<AutoCallType>           :normal | masterHootnHoller |
                           :slaveHootnHoller
```

For *Profile*, enter the number of the profile you are configuring. For this example, assume that this is profile number 1.

For *AutoCallType*, enter *slaveHootnHoller*.

8. Assign Switching Profile 1 to the applicable voice channel.

```
CLI>set voice parameters switchingprofileID

<CardNumber>             : limB | limC|limD | limE
<ChannelNumber>          : INTEGER (1..12)
<SwitchingProfile>       INTEGER (1..32)
```

For *CardNumber*, enter the location of the card number whose channel you are configuring.

For *ChannelNumber*, enter 1 or 2 (maximum analog is 2), as applicable.

For *SwitchingProfile* enter 1, the number of the switching profile you have previously configured and which you are now assigning to that voice channel.

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Information subject to change without notice
Preliminary

Publication: 800-1990-20 Rev. B
Date: April 1999

