



NBX V3000 PoE Bundle

3CV3000PWR

Express Installation Guide

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3Com Corporation
350 Campus Drive
Marlborough, MA
01752-3064

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THE NBX V3000 PoE BUNDLE

The Express Guide for the NBX® V3000 PoE Bundle covers these topics:

- [Bundle Overview](#)
- [Express Installation](#)
- [Components: The Baseline Switch 2226-PWR Plus](#)
- [Components: The NBX V3000 IP Telephony System](#)
- [3Com's Telephones](#)

Bundle Overview

The **3Com NBX V3000 PoE Bundle**, which is the first IP Telephony and Power over Ethernet switch solution priced and feature-optimized for the Small-to-Medium Business market, consists of these two 3Com products:

- The web-configurable **3Com® Baseline Switch 2226-PWR Plus** automatically detects and prioritizes NBX IP Telephony traffic, making voice prioritization transparent to the user and ensuring that this real-time application delivers the highest audio quality possible. This differentiating, collaborative feature is unique to 3Com and unparalleled in the market. With full 802.3af-compliant Power over Ethernet (PoE) support on all ports, customers can power 3Com telephones directly from the switch, which lowers the total cost of ownership because you do not need to run additional wiring to power these devices.
- The **3Com NBX V3000 IP Telephony Solution** raises the bar for ease of installation and administration by combining all of the fundamental telephone features required by small customers in one cost-effective compact platform. It consists of 4 analog ports for Central Office lines (FXO), 1 analog line out port (FXS), 4 ports/ 400 hours of NBX Voice Mail, and 15 Group 2 Telephone licenses. Easy to install and use, the NBX V3000 is also powerful, because the platform is scalable to 1500 devices and can add additional FXS and FXO gateways via the NBX Gateway Chassis. Thus, as your business grows, it does not outgrow your phone system.

The Bundle Advantage

By combining the 3Com NBX V3000 Solution with 3Com's 24-port Power over Ethernet Switch in one easy-to-use package, small businesses can have their IP phone systems up and running in less than 30 minutes!

Express Installation

To get your NBX V3000, 3Com Telephones, and Switch up and running, follow the steps in this section.

**Considerations
Before You Install**

Confirm that the site meets electrical and physical requirements as defined in device documentation on the CDs that are shipped with the NBX V3000 and the Switch.

Confirm that the local telephone company has installed local telephone lines and assigned telephone numbers, and that each line has dial tone.



CAUTION: *Always wear a properly grounded antistatic strap when you handle 3Com equipment.*

CAUTION: *For the instructions in this guide, the Switch, the NBX V3000, the 3Com IP telephones, and the management PC must all be on the same subnetwork.*

Baseline Switch 2226-PWR Plus — Power problems to the switch can cause serious failures and downtime in your network. Ensure that the power input to your switch is clean and free from sags and surges to avoid unforeseen network outages. 3Com recommends that you install power conditioning, especially in areas prone to blackouts, power dips, and electrical storms. The Baseline Switch unit is intended to be grounded. Verify that it is connected to earth ground during normal use.

NBX V3000 Networked Telephony Solution — Verify that the location meets the prerequisites, and read and obey the instructions, cautions, and warnings in the NBX documentation on the CD that is shipped with the product, particularly the *System Planning Guide*, the *Installation Guide*, and the *Administrator's Guide*. 3Com strongly recommends that you use UL listed surge suppression devices for the telephones and the local telephone lines, and an uninterruptible power supply for the NBX V3000 chassis.

3Com Telephones — See [“3Com IP Telephones”](#) for descriptions of the features and specifications of the 3Com line of IP telephones. Although the Bundle includes the licenses for 15 Group 2 phones, you must purchase the actual phones separately.

Warranties — Each device is governed by the warranty sheet that is shipped in the respective boxes.

Express Installation Steps

- 1** Unpack the Baseline Switch and, taking careful antistatic procedures, connect it to power and the LAN.
- 2** Connect up to 15 3Com telephones (not included) to the Switch. Connecting additional phones requires additional licenses.
- 3** Unpack the NBX V3000 and, taking careful antistatic procedures, connect it to power and a laptop. See [“Setting the IP Address”](#) next.
- 4** Set the NBX V3000 to Auto Discover telephones. In the NBX® NetSet™ utility, select *System Configuration > System Settings > System-wide*. Select the check box *Auto Discover Telephones* and click *Apply*.
- 5** Connect the NBX V3000 to the LAN (verifying that the telephones and NBX V3000 are connected to the same subnet), connect the Central Office lines to the analog line ports (see arrow 11 on [Figure 2](#)), wait for the phones to be discovered, and start making calls!

The NCP initializes devices one at a time. If you have connected many new devices to the system at the same time, the Auto Discover process requires more time.

A fully initialized telephone displays its extension and the date and time. To view the list of devices that the system recognizes, in NBX Netset, select *Device Configuration > Telephones*.

For licensing details and installation choices other than default settings, for the Baseline Switch 2226-PWR Plus, 3Com Telephones, and the NBX V3000 system, see the documentation on the CDs that are shipped with each device.

Setting the IP Address

To configure Auto Discovery on the NBX V3000 system:

- 1 Use a Category 5 Ethernet cable to connect your management PC directly to the NBX system's 10BT UPLINK MDI-X port.
- 2 Record the existing IP settings of your PC so that you can restore them later, and then change the IP settings of the computer to:

IP address:	192.168.1.191
Default gateway:	0.0.0.0
Subnet mask:	255.255.255.0



CAUTION: Do not set your PC address to 192.168.1.192, which is used temporarily during system startup. The system may not start properly.

- 3 Reboot the computer so that the new settings take effect.
- 4 Start an Internet browser. For best results, use Microsoft Internet Explorer. You do not need Internet access.
- 5 To access the NBX NetSet utility, enter the default IP address of the NBX V3000 system into the browser's IP address field:
192.168.1.190
- 6 Log in to the NBX NetSet utility using the default administrator user name and password.



CAUTION: For system security, 3Com recommends that you change the system password after you complete the installation.



CAUTION: Always record the password in a secure place. After you change the default administrator password, you cannot retrieve it or return to the default if you forget it.

- 7 In the NBX NetSet - Main Menu window, click *System Configuration > System Settings > System-wide*.

System Configuration - System Settings

Host Name: NEX.V3000 Auto Discover Telephones

SMTP Domain Name: Auto Add Phones to Call Pickup Group 0

IP Address: 192.168.1.1 Auto Discover Line Cards

Default Gateway: 192.168.1.1 Auto Discover Digital Line Cards

Subnet Mask: 255.255.255.0 Auto Discover Attendant Consoles

Primary DNS: Handsfree on Internal Transfer

Secondary DNS: Handsfree on External Transfer

Tertiary DNS: VLAN Enabled

Network Protocol: Ethernet only IP VLAN Tagging Enabled

Extensions Start at: 1000 System-wide CLIR

External Prefix: 9 Music on Hold

Caller ID Wait Timer: 6 Music on Transfer

External Paging Delay: Long Delay One Button Transfer

NEB Messaging

Third-Party Messaging

Pulse Dialing

Call Timer

VLAN ID: Not Applicable

3COM

OK Cancel Apply Help

- 8 Edit the IP settings to conform to your LAN, and select the Auto Discover Telephones checkbox.
- 9 Click *Apply* and then *OK* to close the dialog box.
- 10 Return to Step 5 in the Express Installation and connect the system to the CO phone lines and the LAN.

**Components:
The Baseline Switch
2226-PWR Plus**

The 3Com Baseline Switch 2226-PWR Plus (Figure 1) is a versatile, easy-to-use configurable Switch, ideal for users who want the high-speed performance of 10/100 switching with the added functionality of Gigabit links but who may not need advanced management capabilities.

The Switch is shipped ready for use. No configuration is necessary, unless you want to configure advanced features such as VLAN support, link aggregation, and traffic prioritization. For details on how to manage the Switch using the Web interface, see the guides on the Switch CD.

The Switch has 24 shielded RJ-45, 10/100 Mbps autonegotiating ports and two dual-purpose 10/100/1000BASE-T ports that operate in conjunction with two Small Form Factor Pluggable (SFP) transceiver slots on the front panel for easy, flexible connection to fiber-based Gigabit media. Although there are four physical Gigabit ports, only a maximum of two can be operational at any given time.

The Switch supports Power over Ethernet (PoE) on all 24 10/100 ports. If you plug in compatible (IEEE 802.3af compliant) devices such as the 3Com 3102 Business Telephones, the Switch automatically detects and supplies power to them.

By default, PoE is enabled on all 24 ports. You can also configure the PoE settings for each port from the Web interface. For more information on configuring PoE, see the documentation on the Switch CD.

The Switch recognizes when an NBX telephone is connected to any of the ports 1 to 24. The Switch automatically detects the NBX phone when the phone starts up and then ensures that voice traffic to and from the phone is given the highest priority.

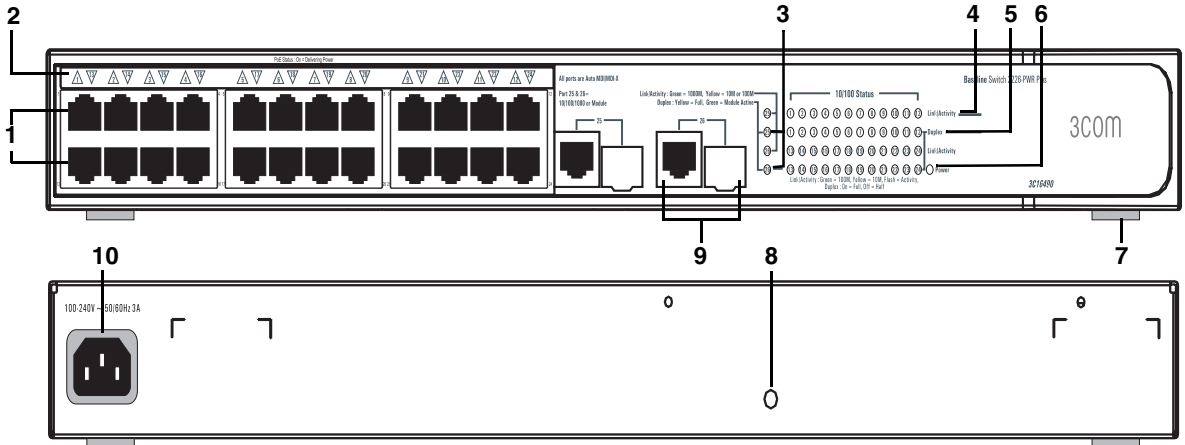


CAUTION: *To ensure that the NBX telephones are recognized by the Switch during initialization, do not connect any PC through a telephone until the telephone has finished its startup sequence.*

Physical Features

Figure 1 shows the front and rear panels of the Switch. For more details, see the full LED descriptions and read and follow the Safety Cautions and Warnings in the *Installation Guide* on the CD that is shipped with the Switch.

Figure 1 Front and Rear Panels



1	24 RJ-45 Ports	The switch detects PoE devices connected to these ports and supplies power to the devices.
2	PoE LEDs	Green — Power is being delivered
3	Module Active LEDs	Green — Fiber SFP is inserted in the slot
4	Link/Activity LEDs	Show the link status of ports and the speed of connected devices.
5	Duplex LEDs	The yellow second and fourth (bottom) row of Status LEDs show the duplex status of the related ports.
6	Power LED	Green — The unit is powered on and ready for use
7	Self-Adhesive Pads	The unit is supplied with four self-adhesive rubber pads.
8	Recovery Button	(Rear panel) Resets the Switch to its factory defaults.
9	10/100/1000 BASE-T/SFP Ports	Ports 25 and 26 are combination Gigabit RJ-45 ports with shared Small Form Factor Pluggable (SFP) transceiver slots. If an SFP transceiver (purchased separately) is installed in a slot and is active, the associated RJ-45 port of the same number is disabled.
10	Power Supply	The Switch automatically adjusts to the supply voltage. CAUTION: Use only the power cord that is supplied with the unit.

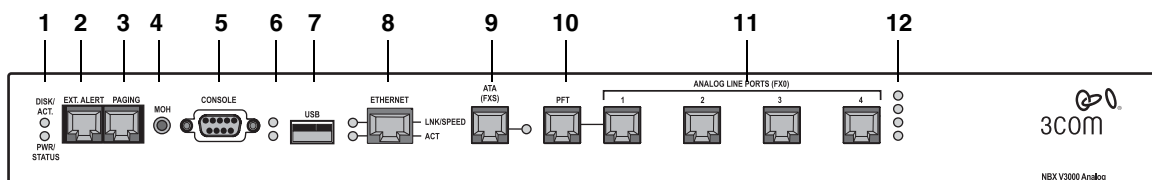
Components: The NBX V3000 IP Telephony System

The NBX V3000 (Figure 2) houses these components:

- Network Call Processor (NCP) manages call traffic, voice mail, and the Automated Attendant. You can license and configure it for up to 1500 devices.
- 4 analog FXO ports (lines in from the Central Office) and 1 analog FXS port (line out)
- System disk drive

Physical Features Figure 2 shows the front panel of the NBX V3000.

Figure 2 NBX V3000 Connectors and LEDs



1	Status Lights	Show Disk activity and System status: Blinking green — System is booting. Solid green — System is operational.
2	Ext. Alert	Reserved for future use.
3	Paging	RJ-11 connector for a 600 Ohm analog paging amplifier.
4	MOH	Mini-jack (mono or stereo) that accepts music-on-hold audio (max 2V peak to peak) from the line output of a CD player, tape player, or other music source.
5	Console	DB-9 connector for an RS-232 (DCE) TTY terminal connection to access system CLI commands and status messages.
6	Status Lights	Status lights S1 (bottom) and S2 (top) show boot status.
7	USB	Reserved for future use.
8	Ethernet	The RJ-45 Ethernet port connects the system to the network. The LEDs indicate operations at 10Mbit or 100Mbit, and activity.
9	ATA (FXS)	Analog Terminal Adapter port, RJ-11 FSX connector for connecting an analog device, such as an analog telephone or fax machine. The LED next to the port indicates the state of the port.
10	PFT	Power Fail Transfer port, RJ-11 accepts a standard POTS (2500-series compatible) telephone. In case of power failure, this port continues to provide dial tone and telephone service.
11	Analog Line Ports (FXO)	Four RJ-11 Foreign Exchange Office (FXO) ports for connecting central office telephone lines.
12	Status Lights	The status light for each FXO port indicates the state of port.

3Com IP Telephones

3Com IP Telephones, described in the following table, provide the familiar features of a business telephone and, depending on the model, extra features such as one-touch access to voice mail.

3Com 3100
Entry Phone

3C10399A



- 802.3af Power-over-Ethernet capable
- Integrated 10/100 Mbps switch uplink port
- Cost-effective IP single-line telephone
- The ultimate alternative to analog telephones

Ideal for common areas and hallway locations

(Requires NBX R5.0 software)

3Com 3101
Basic Phone

3C10401A



- 802.3af Power-over-Ethernet capable
- 4 programmable buttons,
- 5 dedicated feature buttons
- 2 x 24 LCD display with three soft keys
- Integrated 10/100 Mbps switch uplink port
- 10/100 switch device port

Perfect for casual phone users

3Com 3101
Basic Phone
with Speaker

3C10401SPKRA



- 802.3af Power-over-Ethernet capable
- 4 programmable buttons
- 6 dedicated feature buttons
- 2 x 24 LCD display with three soft keys
- Integrated 10/100 Mbps switch uplink port
- 10/100 switch device port
- Mono speaker phone

For office workers with occasional speakerphone needs





3Com 3102
Business
Phone

3C10402A



- 802.3af Power-over-Ethernet capable
- 18 programmable buttons
- 11 dedicated feature buttons
- 2 x 24 LCD display with three soft keys
- Integrated 10/100 Mbps switch uplink port
- 10/100 switch device port
- Full-duplex speaker phone

Excellent for secretaries and office workers who need one-button access to multiple features or line appearances

<p>3103 Manager's Phone</p> <p>3C10403A</p>		<ul style="list-style-type: none"> ■ 802.3af Power-over-Ethernet capable ■ 8 programmable buttons, ■ 10 dedicated feature buttons ■ Large LCD display with four soft keys ■ Integrated 10/100/1000 Mbps switch uplink port ■ 10/100/1000 switch device port ■ Full-duplex speaker phone functionality <p><i>Full-featured IP manager phone model with a large, user-friendly, menu-driven interface</i></p> <p>Requires NBX R5.0 software</p>
<p>3Com 3105 Attendant Console</p> <p>3C10405A</p>		<ul style="list-style-type: none"> ■ 802.3af Power-over-Ethernet capable ■ 50 programmable buttons, can be instantly doubled to 100 using the Console's Shift button ■ 4 additional programmable buttons for frequently used call-handling features such as Transfer, Call Park, Transfer to Voice Mail, or Hold ■ Ability to connect to additional 3com 3105 Attendant Consoles for larger locations ■ One-touch access to monitor messages ■ Access to direct line appearances ■ Multiple speed dials <p><i>For receptionist and group secretary positions with multiple line appearance needs</i></p>
<p>3Com 3106C Cordless Phone</p> <p>3C1406A</p>		<ul style="list-style-type: none"> ■ 6 hours of talk time; 4 days of standby ■ 2-line pixel display ■ 4 programmable buttons ■ 8 feature buttons ■ Supports up to 10 phones per work area <p><i>For mobile office workers</i></p> <p>Requires NBX R5.0 software</p>
<p>3Com 3107C Cordless Phone</p> <p>3C1407A</p>		<ul style="list-style-type: none"> ■ 6 hours of talk time; 4 days of standby ■ 2-line pixel display ■ 4 programmable buttons ■ 9 feature buttons ■ Supports up to 3 phones per work area <p><i>For mobile office workers</i></p> <p>Requires NBX R5.0 software</p>

The following table lists the 3Com IP Phone specifications:

Features	3100 Entry Phone	3101 Basic Phone	3101 Basic Phone w/Speaker	3102 Business Phone	3103 Manager Phone	3105 Attendant Console	3106 Cordless Phone	3107 Cordless Phone
Max. system appearances	1	4	4	18	12	50	4	4
Programmable buttons	–	4	4	18	8	5	4	4
Fixed feature buttons	4	5	6	11	10	–	8	9
Softkeys	–	3	3	3	10	–	–	–
Speaker phone	–	Monitor only	Half duplex	Full duplex	Full duplex	–	–	–
Display	–	160 x 33 pixels	160 x 33 pixels	160 x 33 pixels	320 x 120 pixels	–	2 line	2 line
10/100 Ethernet ports	1	2	2	2	–	1	1	1
10/100/1000 Ethernet ports	–	–	–	–	2	–	–	–
4-way cursor control	–	Y	Y	Y	Y	–	N	N
NBX Phone license	Group 0	Group 1	Group 1	Group 2	Group 2	Group 2	Group 1	Group 1
PoE capable	Y	Y	Y	Y	Y	Y	N	N
Wall mountable	Y	Y	Y	Y	Y	Y	Radio only	Radio only

