

Nortel Ethernet Switch 460-24T-PWR

Installation

ATTENTION

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NN47210-300 (213318-D)

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This is to certify that the Nortel Ethernet Switches 460 and 470 were evaluated to the international regulatory standards for electromagnetic compliance (EMC) and safety and meet the requirements for the following international standards:

- EMC - Electromagnetic Emissions - CISPR 22, Class A
- EMC - Electromagnetic Immunity - CISPR 24

- Electrical Safety - IEC 60950, with CB member national deviations

Further, the equipment was certified as compliant with the following national standards.

National electromagnetic compliance (EMC) statements of compliance

FCC statement (USA only)

This equipment was tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the Federal Communications Commission (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. If it is not installed and used in accordance with the instruction manual, it 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 are required to take whatever measures may be necessary to correct the interference at their own expense.

ICES statement (Canada only)

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (Nortel Ethernet Switches 460 and 470) do not exceed the Class A limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique (Nortel Ethernet Switches 460 and 470) respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada.

CE marking statement (Europe only)

EN 55 022 statements

This is to certify that the Nortel Ethernet Switches 460 and 470 are shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC. Conformity is declared by the application of EN 55 022 Class A (CISPR 22).



CAUTION

This device is a Class A product. In a domestic environment, this device can cause radio interference, in which case the user is required to take appropriate measures.

EN 55 024 statement

This is to certify that the Nortel Ethernet Switches 460 and 470 are shielded against the susceptibility to radio interference in accordance with the application of Council Directive 89/336/EEC. Conformity is declared by the application of
EN 55 024 (CISPR 24).

CE Declaration of Conformity

This product conforms to the provisions of the R&TTE Directive 1999/5/EC.

VCCI statement (Japan/Nippon only)

This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI) for information technology equipment. If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

BSMI statement for Ethernet Switches 460 and 470 (Taiwan only)

This is a Class A product based on the standard of the Bureau of Standards, Metrology and Inspection (BSMI) CNS 13438, Class A.

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

MIC notice for Ethernet Switches 460 and 470 (Republic of Korea only)

This device was approved for use in Business applications only per the Class A requirements of the Republic of Korea Ministry of Information and Communications (MIC). This device may not be sold for use in a non-business application.

Observe the Regulatory Marking label on the bottom surface of the chassis for specific certification information pertaining to this model. Each model in the Ethernet Switch Series, which is approved for shipment to/usage in Korea is labeled as such, with all appropriate text and the appropriate MIC reference number.

National safety statements of compliance

CE marking statement (Europe only)

EN 60 950 statement

This is to certify that the Nortel Ethernet Switches 460 and 470 are in compliance with the requirements of EN 60 950 in accordance with the Low Voltage Directive. Additional national differences for all European Union countries were evaluated for compliance.

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Fax:	52 5 480 2199
Input:	Ethernet Switch 460, Ethernet Switch 470
	100 - 120 VAC 16A 50 to 60 Hz
	200 - 240 VAC 12 A 50 to 60 Hz

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Tel:	52 5 480 2100
Fax:	52 5 480 2199
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	100 - 120 VAC 16A 50 to 60 Hz
	200 - 240 VAC 12 A 50 to 60 Hz

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Revision History

Date Revised	Version	Reason for revision
February 2007	01.01	Updated document and product references for Release 3.7 software.

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About this guide

This guide provides instructions to install the Nortel Ethernet Switch 460-24T-PWR on a table or in an equipment rack.

You can also install one of the optional media dependent adapters (MDAs) into the Uplink Module on the front of the Ethernet Switch 460-24T-PWR. (Refer to *Installing Media Dependent Adapters (MDAs)* (302403) and *Installing Gigabit Interface Converters, SFP, and CWDM SFP Gigabit Interface Converters* (312865) for detailed information about installing the MDA.)

The Ethernet Switch 460-24T-PWR is stackable, up to eight units high. You stack the units using the BayStack 400-ST1 Cascade Module. (Refer to *Installing the BayStack 400-ST1 Cascade Module* (304433) for detailed information about installing the cascade module. Contact your Nortel representative to obtain the BayStack 400-ST1 Cascade Module.)

For more information about using this stacking option and other detailed information about the Ethernet Switch 460-24T-PWR, refer to the *Nortel Ethernet Switch 460/470 Overview — System Configuration (NN47210-501)*.

> ***Note:*** The Nortel Ethernet Switch Power Supply Unit 10 and the Intergy* Network Energy Source (NES) from Invensys Energy Systems (INES 115/215/315, INES 125/225/325) are available as a redundant DC power device. Contact your Nortel representative for more information about the Nortel Ethernet Switch Power Supply Unit 10 or the NES unit.

This guide includes information about the following topics:

- Environmental requirements for the installation site (next)
- Installing the switch on a table ("Installing the switch on a table or shelf" (page 11)) or in a rack ("Installing the switch in an equipment rack" (page 13))
- Network connection requirements ("Connection requirements" (page 16))
- RJ-45 pin assignments for data and power transmission ("RJ-45 pin assignments" (page 17))

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- Console port connector pin assignments ("Console port pin assignments" (page 18))
- Connecting AC power ("Connecting AC power" (page 18))
- Power specifications ("Electrical" (page 23))
- Descriptions of LEDs ("Checking LEDs" (page 24))
- Initial switch setup ("Initial switch setup" (page 27))
- Related publications ("Related publications" (page 30))

Before you begin

Ensure the area where you install and use the Ethernet Switch 460-24T-PWR meets the following environmental requirements:

- Ambient temperature between 32° and 104° F (0° and 40° C)
- Relative humidity between 5% and 85% noncondensing
- No nearby heat sources such as hot air vents or direct sunlight
- No nearby sources of severe electromagnetic noise
- No excessive dust
- Adequate power source within six feet; one 15-Amp circuit required for each power supply
- At least 2 inches (5.08 cm) on each side of the switch unit for ventilation.
- Adequate space at the front and rear of the switch for access to cables.

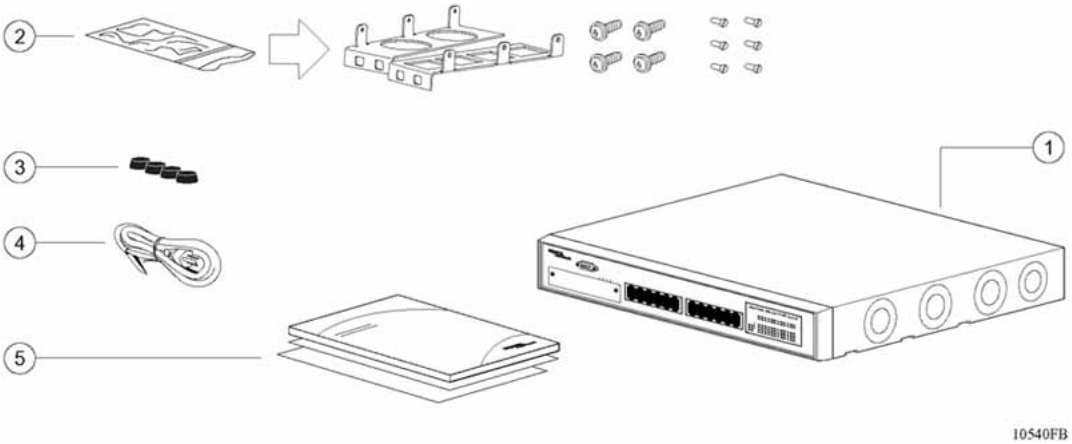
If you are installing a single Ethernet Switch 460-24T-PWR on a table or shelf, ensure the surface can support at least 15 to 20 pounds (7 to 9 kilograms).

Package contents

Figure 1 "Package contents" (page 11) shows the package contents that accompany each Ethernet Switch 460.

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Figure 1
Package contents



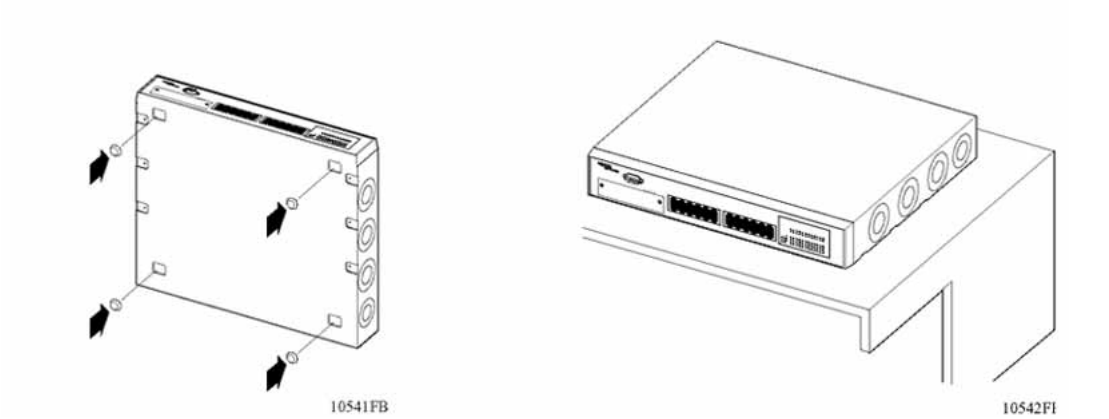
1 = Ethernet Switch 460-24T-PWR
2 = Rack-mounting hardware:
•Rack-mount brackets
•Screws for attaching brackets to the switch
•Screws for attaching the switch to the equipment rack
3 = Rubber footpads
4 = AC power cord
5 = Documentation

Installing the switch on a table or shelf

You can install a single Ethernet Switch 460-24T-PWR on any flat surface that can safely support the weight of the switch and attached cables (15 to 20 pounds or 7 to 9 kilograms). Figure 2 "Installing switch on table or shelf" (page 12) provides instructions on installing the switch on a table or shelf.

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Figure 2
Installing switch on table or shelf



1 Attach the rubber feet at the marked locations.

2 Set the switch on a table or shelf.

Note: Allow at least 2 inches (5.1 cm) on each side for proper ventilation and at least 5 inches (12.7 cm) at the back for power cord clearance.

CAUTION
Do not set a Nortel Ethernet Switch Power Supply Unit 10 or an NES unit on top of an Ethernet Switch 460-24T-PWR. The Power Supply Unit 10 weighs approximately 100 pounds (45 kg) and the NES weighs approximately 200 pounds (90 kg), and the switch housing is not strong enough to support this weight.

CAUTION
Achtung: Stellen Sie keinesfalls eine Nortel Ethernet Switch Power Supply Unit 10 -Netzstromversorgung oder eine NES-Einheit oben auf einen Ethernet Switch 460-24T-PWR. Eine Nortel Ethernet Switch Power Supply Unit 10 -Netzstromversorgung wiegt ungefähr 45 kg und ein NES ungefähr 90 kg. Das Gehäuse des Switches ist nicht für solche Belastungen ausgelegt.

CAUTION
Attention: ne placez pas d'unité d'alimentation Nortel Ethernet Switch Power Supply Unit 10 ou d'unité NES au-dessus de l'Ethernet Switch 460-24T-PWR. Les unités Nortel Ethernet Switch Power Supply Unit 10 et NES pesant respectivement 45 et 90 kg, le boîtier n'est pas assez résistant pour supporter cette masse.

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CAUTION
Precaución: No coloque una unidad de fuente de alimentación Nortel Ethernet Switch Power Supply Unit 10 ni una unidad NES en un Ethernet Switch 460-24T-PWR. La fuente de alimentación Nortel Ethernet Switch Power Supply Unit 10 tiene un peso aproximado de 45 kg (100 lb) y la unidad NES pesa alrededor de 90 kg (200 lb), y la caja del interruptor no puede aguantar este peso.



CAUTION
Attenzione: non posizionare un alimentatore Nortel Ethernet Switch Power Supply Unit 10 o un'unità NES sulla parte superiore di uno Ethernet Switch 460-24T-PWR. L'alimentatore Nortel Ethernet Switch Power Supply Unit 10 pesa circa 45 kg (100 libbre) mentre l'unità NES pesa circa 90 kg (200 libbre) e il rivestimento dello switch non è sufficientemente resistente per sostenere questo peso.



注意：BayStack 460-24T-PWR スイッチの上部に BayStack 10 電源装置または NES ユニットを設置しないでください。BayStack 10 電源装置の重量は約 100 ポンド（45 kg）、NES の重量は約 200 ポンド（90 kg）あり、スイッチのハウジングはこの重量に耐えられません。



注意：請不要將 BayStack 10 Power 電源供應裝置或 NES 裝置放在 BayStack 460-24T-PWR 開關的上面。BayStack 10 電源供應器重約 45 公斤（100 磅）而 NES 重約 90 公斤（200 磅），而且開關的機殼無法承受此重量。

Installing the switch in an equipment rack



CAUTION
When mounting this device in a rack, do not stack units directly on top of one another in the rack. Each unit must be secured to the rack with appropriate mounting brackets. Mounting brackets are not designed to support multiple units.



CAUTION
Achtung: Wenn diese Einheit in einem Rack montiert wird, muß ein gewisser Abstand zur nächsten Einheit gelassen werden. Jede Einheit muß mit geeignetem Befestigungsmaterial gesichert werden. Das Befestigungsmaterial ist nicht für die gleichzeitige Befestigung mehrerer Einheiten geeignet.

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CAUTION
Attention: si vous installez le module dans une baie, ne l'empilez pas directement sur un autre. Chaque module doit être fixé à sa propre baie à l'aide des supports de montage appropriés. Ces supports ne sont pas conçus pour résister à plusieurs modules.

CAUTION
Precaución: Cuando monte este dispositivo en un bastidor, no apile las unidades directamente una encima de otra. Cada unidad debe fijarse en el bastidor con las abrazaderas de montaje adecuadas. Las abrazaderas de montaje no están diseñadas para sostener varias unidades.

CAUTION
Attenzione: se il dispositivo viene installato in un rack, non impilare le unità direttamente una sull'altra. Ogni unità deve essere fissata al rack con le staffe di montaggio appropriate. Le staffe di montaggio non sono state progettate per supportare più unità.

注意：この装置をラックに設置する場合は、ラック内のユニットを直接積み重ねないようにしてください。各ユニットは専用の取り付けブラケットでラックに固定する必要があります。取り付けブラケットは複数のユニットを支えるようには設計されていません。

注意：在機箱中掛載此裝置時，請不要直接在機箱中的另一個裝置上直接堆放裝置。每一裝置都必須使用適當的掛載托架以固定在機架中。掛載托架不能用來支撐多個裝置。

Required tool: #2 Phillips screwdriver for attaching brackets to the switch

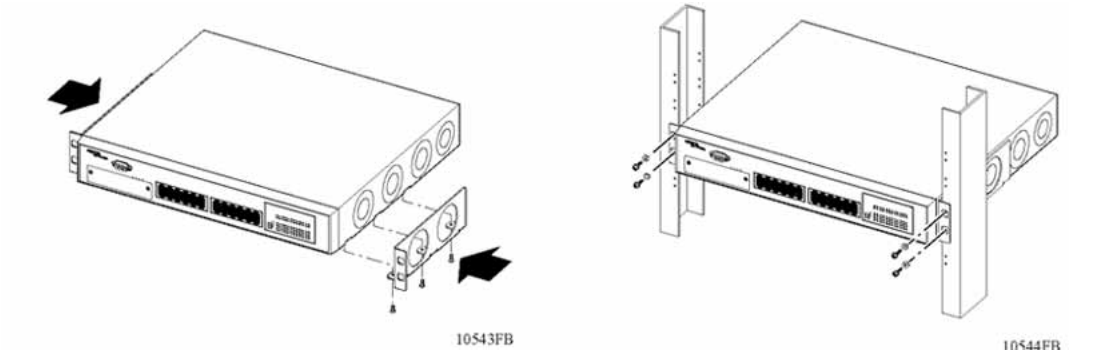
Rack requirements:

- A space of 2.8 inches is provided for each switch in an EIA or IEC standard 19-inch (48.2-centimeter) equipment rack.
- The rack is bolted to the floor and braced if necessary.
- The rack is grounded to the same grounding electrode used by the power service in the area. The ground path must be permanent and must not exceed 1 ohm of resistance from the rack to the grounding electrode.

Figure 3 "Installing switch in a rack" (page 15) provides instructions on installing the switch in a rack.

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Figure 3
Installing switch in a rack



1 Attach a bracket to each side of the switch.

The bracket with the round holes goes on the right side of the switch, where the round fan vents are located.

2 Slide the switch into the rack. Insert and tighten the rack-mount screws.

CAUTION
Do not set a Nortel Ethernet Switch Power Supply Unit 10 or an NES unit on top of an Ethernet Switch 460-24T-PWR. The Power Supply Unit 10 weighs approximately 100 pounds (45 kg) and the NES weighs approximately 200 pounds (90 kg), and the switch housing is not strong enough to support this weight.

CAUTION
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CAUTION
Attention: ne placez pas d'unité d'alimentation Nortel Ethernet Switch Power Supply Unit 10 ou d'unité NES au-dessus de l'Ethernet Switch 460-24T-PWR. Les unités Nortel Ethernet Switch Power Supply Unit 10 et NES pesant respectivement 45 et 90 kg, le boîtier n'est pas assez résistant pour supporter cette masse.

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CAUTION
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CAUTION
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注意：BayStack 460-24T-PWR スイッチの上部に BayStack 10 電源装置または NES ユニットを設置しないでください。BayStack 10 電源装置の重量は約 100 ポンド（45 kg）、NES の重量は約 200 ポンド（90 kg）あり、スイッチのハウジングはこの重量に耐えられません。

注意：請不要將 BayStack 10 Power 電源供應裝置或 NES 裝置放在 BayStack 460-24T-PWR 開關的上面。BayStack 10 電源供應器重約 45 公斤（100 磅）而 NES 重約 90 公斤（200 磅），而且開關的機殼無法承受此重量。

Connection requirements

Table 1 " Cable requirements" (page 16) describes the data cable requirements for the Ethernet Switch 460.

Table 1
Cable requirements

Required cables:	
10/100BASE-T ports:	For 10 Mb/s operation: Category 5 UTP cable with an RJ-45 connector For 100 Mb/s operation: Category 5 UTP cable with an RJ-45 connector
Console Port:	Serial cable with DB-9 female connector on one end
MDA ports:	Varies with the installed MDA; refer to the documentation that was shipped with the MDA for specifications.

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RJ-45 pin assignments

Note: The RJ-45 ports on the switch are wired as MDI-X connectors to connect end stations using straight-through cables. If you are connecting an RJ-45 port to another MDI-X port, such as another switch or a hub, use a crossover cable.

Table 2 " Spare power pair RJ-45 port connector pin assignments" (page 17) shows the RJ-45 pin assignments for the spare power pair, which is the default setting.

Table 2
Spare power pair RJ-45 port connector pin assignments

Pin	Signal	Description
1	RX+	Receive Data +
2	RX-	Receive Data -
3	TX+	Transmit Data +
4	Power+	Power+
5	Power+	Power+
6	TX-	Transmit Data -
7	Power-	Power-
8	Power-	Power-

Table 3 " Signal power pair RJ-45 port connector pin assignments" (page 17) shows the RJ-45 pin assignments when you configure the power pair for the signal power pair.

Table 3
Signal power pair RJ-45 port connector pin assignments

Pin	Signal	Description
1	RX+/power+	Receive Data +/power+
2	RX-/power+	Receive Data -/power+
3	TX+/power-	Transmit Data +/power-
4	Not applicable	Not applicable
5	Not applicable	Not applicable
6	TX-/power-	Transmit Data -/power-
7	Not applicable	Not applicable
8	Not applicable	Not applicable

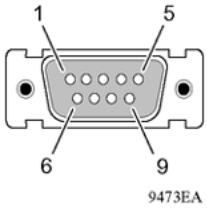
For more information about power pairs, refer to the *Nortel Ethernet Switch 460/470 Overview — System Configuration (NN47210-501)*.

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Console port pin assignments

Table 4 " Pin assignments in the console port" (page 18) shows the pin assignments in the console port connector.

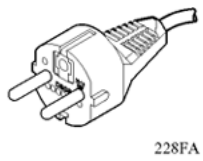
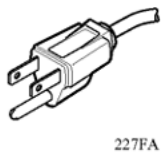
Table 4
Pin assignments in the console port

Connector	Pin number	Signal
	1	Carrier detect (not used)
	2	Transmit data (TXD)
	3	Receive data (RXD)
	4	Data terminal ready (not used)
	5	Signal ground (GND)
	6	Not used
	7	Request to send (not used)
	8	Not used
	9	Ring indicator (not used)

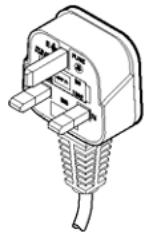
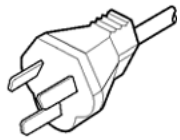
Connecting AC power

Required cable: AC power cord that meets the requirements of your local electrical code. Refer to Table 5 " International power cord specifications" (page 18) for plug specifications.

Table 5
International power cord specifications

Country/plug description	Specifications	Typical plug
Continental Europe: • CEE7 standard VII male plug • Harmonized cord (HAR marking on the outside of the cord jacket to comply with the CENELEC Harmonized Document HD-21)	220 or 230 VAC 50 Hz Single phase	
U.S./Canada/Japan: • NEMA5-15P male plug • UL-recognized (UL stamped on cord jacket) • CSA-certified (CSA label secured to the cord)	100 or 120 VAC 50-60 Hz Single phase	

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Country/plug description	Specifications	Typical plug
United Kingdom: • BS1363 male plug with fuse • Harmonized cord	240 VAC 50 Hz Single phase	 229FA
Australia: • AS3112-1981 male plug	240 VAC 50 Hz Single phase	 230FA

DANGER
Use only power cords with a grounding path. Without a proper ground, a person who touches the switch is in danger of receiving an electrical shock. Lack of a grounding path to the switch can result in excessive emissions.

DANGER
Vorsicht: Verwenden Sie nur Netzkabel mit Schutzerdung. Ohne ordnungsgemäße Schutzerdung besteht für Personen, die den Switch berühren, die Gefahr eines elektrischen Schlages. Eine nichtvorhandene Schutzerdung kann zu sehr starken Abstrahlungen führen.

DANGER
Danger: n'utilisez que des cordons d'alimentation équipés de trajet de mise à la terre. Sans mise à la terre adaptée, vous risquez de recevoir une décharge électrique en touchant le commutateur. Par ailleurs, l'absence de trajet de mise à la terre peut générer des émissions excessives.

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DANGER
Peligro: Utilice únicamente cables de alimentación con toma de tierra. De lo contrario, al tocar el interruptor puede recibir una descarga eléctrica. Si no hay un circuito de toma de tierra en el enchufe, puede producirse un exceso de emisiones.

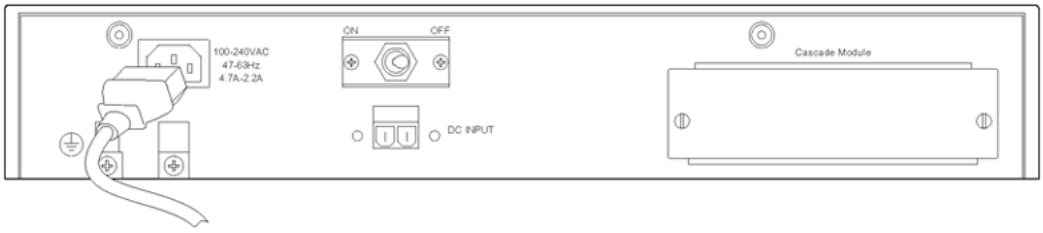
DANGER
Pericolo: utilizzare esclusivamente cavi di alimentazione dotati di un percorso per la messa a terra. Senza un'adeguata messa a terra, chiunque tocchi lo switch corre il rischio di ricevere una scossa elettrica. L'assenza di un percorso per la messa a terra verso lo switch può comportare un eccesso di emissioni.

危険：接地経路を持つ電源コードを必ず使用するようにしてください。適切な接地がない状態でスイッチに触ると、感電する危険性があります。また、スイッチへの接地経路がないと、過度な放電を引き起こす可能性があります。

危險：請勿使用沒有接地的電線。若未妥善接地，接觸開關的人員可能有遭受觸電的危險。開關若缺乏接地則可能有漏電之虞。

Figure 4 "Connecting the AC power cord" (page 20) shows how to connect the AC power cable to the Ethernet Switch 460.

Figure 4
Connecting the AC power cord



Note: The ON/OFF switch is a manual switch to turn off the DC power. You connect the optional redundant DC power device to the following receptacle, labeled "DC INPUT."

Connect the AC power cord to the back of the switch, and connect the cord to an AC power outlet.

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CAUTION
If you are not installing a module in the slot, be sure to keep the metal cover plate in place over the slot. Removing the cover plate impedes airflow and proper cooling of the unit.



CAUTION
Achtung: Wenn Sie kein Modul im Schacht verwenden, muß die Metallabdeckung über dem Schacht montiert sein. Eine Entfernung der Abdeckung führt zu einer Verschlechterung der Luftzirkulation und damit zu einer nicht ausreichenden Kühlung der Einheit.



CAUTION
Attention: si vous n'installez pas le module dans une baie, veillez à laisser la plaque métallique sur la baie. Si vous la retirez, l'aération du module ne peut pas s'effectuer correctement.



CAUTION
Precaución: Si no instala ningún módulo en la ranura, asegúrese de mantener la placa de la cubierta de metal en la misma. Si la retira, impedirá que el aire circule y la unidad se refrigere adecuadamente.



CAUTION
Attenzione: se nello slot non vengono installati moduli, assicurarsi di mantenere la piastra di copertura metallica in sede sopra lo slot. La rimozione della piastra impedisce la ventilazione e il corretto raffreddamento dell'unità.



注意：スロットにモジュールを取り付けない場合は、スロットにある金属製のカバープレートが外れないように注意してください。カバープレートを動かすと気流が妨げられ、適切なユニット冷却が行われなくなります。



注意：如果您未在插槽中安裝模組，請確定金屬殼板正確地蓋在插槽上。移除殼板會阻礙空氣流通以及裝置的適當冷卻度。

The Ethernet Switch 460-24T-PWR does not have an AC power switch. When you connect the AC power cord to a suitable AC power outlet, the switch powers up immediately.

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WARNING
Disconnecting the AC power cord is the only way to turn off AC power to this device. Always connect the AC power cord in a location that can be reached quickly and safely in case of an emergency.



WARNING
Warnung: Das Gerät kann nur durch Ziehen des Netzsteckers ausgeschaltet werden. Schließen Sie das Netzkabel an einer Steckdose an, die in Notfällen schnell und sicher zugänglich ist.



WARNING
Avertissement: pour mettre le module hors tension, vous devez impérativement déconnecter le cordon d'alimentation. En outre, vous devez dégager un espace minimal dans la zone de câblage pour pouvoir y accéder facilement en cas d'urgence.



WARNING
Advertencia: Para apagar el dispositivo debe desenchufar el cable. Conecte siempre el cable de alimentación a una toma segura y de fácil acceso por si se produjera alguna situación de emergencia.



WARNING
Avviso: l'unico modo per disattivare questo dispositivo consiste nello scollegare il cavo di alimentazione. Collegare sempre il cavo di alimentazione ad una presa che sia facilmente e rapidamente accessibile in caso di emergenza.



警告：この装置の電源は、電源コードを抜かない限り切断できません。緊急の場合にすばやく安全に切断できる場所に電源コードを接続してください。



警告：若要關閉此裝置的電源，拔掉插頭是唯一的方法。 爲了因應緊急狀況，請將電源線連接到可以快速插拔的地方。

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Electrical

Table 6 " Electrical parameters" (page 23) lists power electrical parameters for the Ethernet Switch 460-24T-PWR.

Table 6
Electrical parameters

Parameter	Electrical specification
Input Voltage	100 to 240 VAC @ 47 to 63 Hz
Input Power Consumption	400 W maximum
Input Volt Amperes Rating	440 VA maximum
Input current	4.7 A @ 100 VAC 2.2 A @ 240 VAC
Maximum thermal output	500 BTU/hr

Power specifications

AC power specifications

Table 7 " AC Power specifications" (page 23) describes the AC Power specifications for the Ethernet Switch 460.

Table 7
AC Power specifications

Input current:	4.7 to 2.2 A
Input voltage (rms):	100 to 240 VAC at 47 to 63 Hz
Power consumption:	295 W
Thermal rating:	• 500 BTU/hr maximum • 335 BTU/hr maximum with no devices plugged into front ports

DC power specifications

The DC power specifications vary depending on whether you are interoperating with the Nortel Ethernet Switch Power Supply Unit 10 or the NES unit.

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Nortel Ethernet Switch Power Supply Unit 10

Table 8 " Nortel Ethernet Switch Power Supply Unit 10 DC power specifications" (page 24) provides DC power specifications for the Nortel Ethernet Switch Power Supply Unit 10

Table 8
Nortel Ethernet Switch Power Supply Unit 10 DC power specifications

Input current:	4.2 A maximum
Input voltage:	-48 VDC

NES Unit

Table 9 " NES unit DC power specifications" (page 24) provides DC power specifications for the NES unit.

Table 9
NES unit DC power specifications

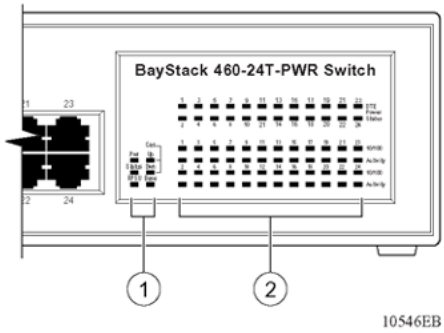
Input current:	8 A maximum
Input voltage:	-54 VDC

Checking LEDs

Figure 5 "Ethernet Switch 460 LEDs" (page 25), Table 10 " Switch LEDs on the Ethernet Switch 460-24T-PWR" (page 25), and Table 11 " Port LEDs on the Ethernet Switch 460-24T-PWR" (page 26) provide descriptions of the LEDs on the Ethernet Switch 460-24T-PWR. The tables describe LED operation for a switch that completed its power-on self-tests.

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Figure 5
Ethernet Switch 460 LEDs



1 = Switch LEDs
2 = Port LEDs

Table 10
Switch LEDs on the Ethernet Switch 460-24T-PWR

Label	Color/Status	Meaning
Pwr	Green/steady	DC power is available to the switch internal circuitry.
	Off	There is no AC power to the switch, or the power supply failed.
Status	Green/steady	The power-on self test is complete, and the switch is operating normally.
	Green/blinking	A nonfatal error occurred during the self-test.
	Off	The switch failed the self-test.
RPSU	Green/steady	The switch is connected to an RPSU (redundant power supply unit) and can receive power if necessary.
	Off	The switch is not connected to an RPSU, or the RPSU is not supplying power.
Cas Up	Green/steady	The switch is connected to the Cascade A In connector on the upstream unit.
	Amber/steady	This unit detected a problem with the switch connected to the Cascade A In connector. To maintain the integrity of the stack, this unit bypassed its upstream neighbor and wrapped the stack backplane onto an alternate path.
	Green or amber/blinking	The software version is incompatible or is unable to obtain a unit ID because the Renumber Stack Unit table is full. This unit is on the stack ring but cannot participate in the stack configuration.
	Off	The switch is in stand-alone mode.

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Label	Color/Status	Meaning
Cas Dwn	Green/steady	The switch is connected to the Cascade A Out connector on the downstream unit.
	Amber/steady	This unit detected a problem with the switch connected to the Cascade A Out connector. To maintain the integrity of the stack, this unit bypassed its downstream neighbor and wrapped the stack backplane onto an alternate path.
	Green or amber/blinking	The software version is incompatible or the software cannot obtain a unit ID because the Renumber Stack Unit table is full. This unit is on the stack ring but is unable to participate in the stack configuration.
Base	Green/steady	This switch is the stack base unit.
	Green/blinking	There is a stack configuration error. Either multiple base units or no base units are configured in the stack.
	Amber	This unit is operating as the temporary base unit in the stack configuration.
	Off	This switch is not the stack base unit, or is operating in stand-alone mode.

Table 11
Port LEDs on the Ethernet Switch 460-24T-PWR

Label	Color/Status	Meaning
DTE Power Status	Green/steady	DTE device is detected and power is applied.
	Amber/steady	DTE power fault or short circuit.
	Amber/blinking	DTE device is detected but there is insufficient power to turn the device on.
	Off	No DTE device detected.
10/100	Green/steady	This port is set to operate at 100 Mb/s, and the link is good.
	Green blinking	This port was disabled by software.
	Amber/steady	This port is set to operate at 10 Mb/s, and the link is good.
	Amber/blinking	This port was disabled by software.
	Off	The link is bad, or nothing is connected to this port.
Activity	Green/steady	There is activity on this port.
	Off	There is no activity on this port.

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Initial switch setup

The Ethernet Switch 460-24T-PWR begins switching as soon as you attach network devices and connect the switch to power. To manage the switch using Telnet or SNMP or to perform TFTP operations, you must set certain IP parameters. In addition, if you are connecting Ethernet Switches 460-24T-PWR into a stack configuration, you must supply additional parameters to properly set up the stack. Refer to the *Nortel Ethernet Switch 460/470 Overview — System Configuration (NN47210-501)* for more information about the console menus and configuring your Ethernet Switch 460-24T-PWR.

Setting IP parameters

For the initial setup of a stand-alone switch or a stack configuration, you must set the following IP parameters:

- IP address of the switch or the stack
- Subnet mask
- Gateway address

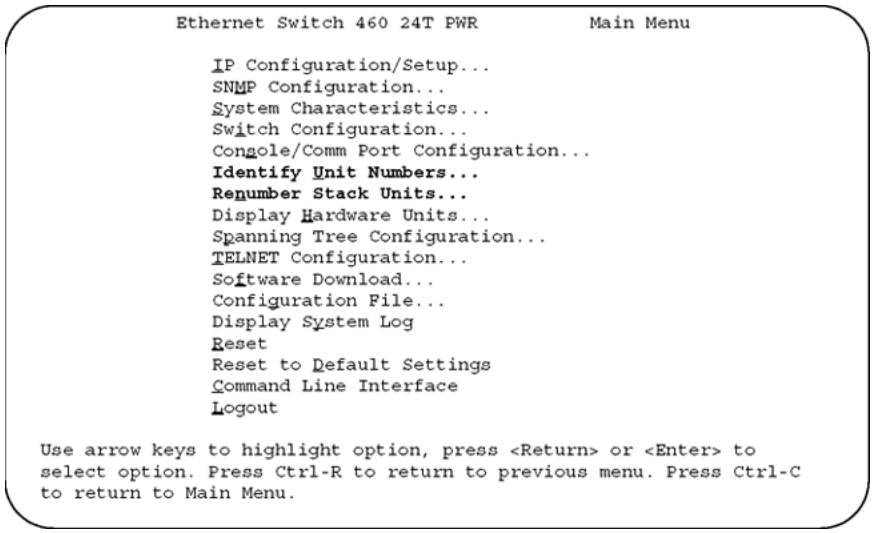
To set the IP parameters:

Step	Action
1	Connect a terminal to the Console port on the switch. You can use any terminal or PC with a terminal emulator as the management station. Ensure the terminal has the following features: • 9600 bits per second (b/s), 8 data bits, 1 stop bit, no parity, no flow control • Serial terminal-emulation program such as Terminal or Hyperterm for Windows NT* Hyperterm for Windows* 95 or Windows 98 • Cable and connector to match the male DTE connector (DB-9) on the Ethernet Switch 460-24T-PWR console port
2	Set the terminal protocol: • VT100 Arrows checked in the Terminal Preferences window under Terminal Options, and Block Cursor unchecked; VT-100/ANSI checked under Emulation
3	Connect the Ethernet Switch 460-24T-PWR to AC power.
4	After the Nortel logo is displayed, press [Ctrl]-Y to display the Main Menu.

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The Main Menu for a stand-alone switch first appears on the Console Interface (see Figure 6 "Ethernet Switch Console Interface main menu" (page 28)). If the switch is part of a stack configuration, the screen is refreshed when the stack forms to show the Main Menu for a stack configuration. The Main Menu for a stack configuration includes stack features (in bold text in Figure 6 "Ethernet Switch Console Interface main menu" (page 28)).

Figure 6
Ethernet Switch Console Interface main menu

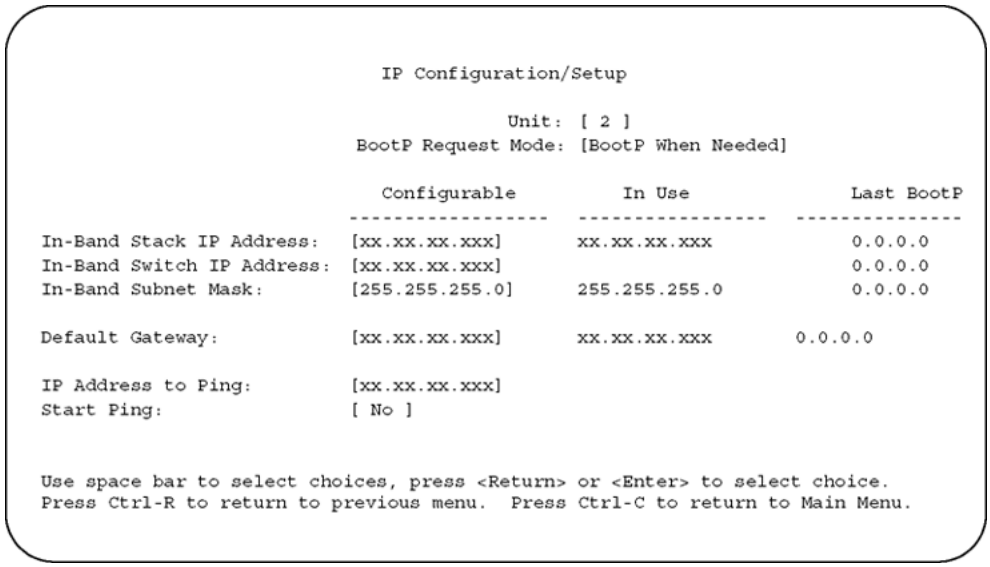


5 Select IP Configuration/Setup to display the IP Configuration/Setup menu (see Figure 7 "IP Configuration/Setup screen" (page 29)).

Note: The default management VLAN in the Ethernet Switch 460-24T-PWR isVLAN 1. To manage the switch, ensure the network management station is on the management VLAN or is connected to the management VLAN through routers.

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Figure 7
IP Configuration/Setup screen



6 For a stand-alone switch, in the In-Band Switch IP Address field, enter the IP address of the switch in dotted-decimal notation.

Note: If the In-Band Subnet Mask field does not already contain a value when you enter the IP address in the In-Band IP Address field, the switch software provides an in-use default value for the In-Band Subnet Mask field. This value is based on the class of the entered IP address.

7 For a stack configuration, in the In-Band Stack IP Address field, enter the Stack IP address in dotted decimal notation.

Note: The In-Band Switch IP Address field allows this switch to operate as a stand-alone switch. However, this field is not required for the operation of the stack. You cannot enter the same IP address in both fields.

8 In the In-Band Subnet Mask field, enter the IP subnet mask address.

9 In the Default Gateway field, enter the default gateway address.

Note: If you are stacking Ethernet Switches 460-24T-PWR, ensure that you set one switch as the Base Unit. For more information about setting the base unit and stacking, refer to *Installing the BayStack 400-ST1 Cascade Module*.

10 Press Ctrl-C to return to the Main Menu.

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Refer to the *Nortel Ethernet Switch 460/470 Overview — System Configuration (NN47210-501)* for detailed descriptions of the menus and screens you can use to customize your configuration.

—End—

Related publications

For more information about using the Ethernet Switch 460-24T-PWR, refer to the following publications:

- *Nortel Ethernet Switch 460/470 Release Notes — Software Release 3.7 (NN47210-400)*

  Documents important changes about the software and hardware that are not covered in other related publications.

- *Nortel Ethernet Switch 460/470 Overview — System Configuration (NN47210-501)*

  Describes how to configure and manage basic switching features on Ethernet Switches 460 and 470.

- *Nortel Ethernet Switch 460/470 Security — Configuration (NN47210-500)*

  Describes how to configure and manage security features on Ethernet Switches 460 and 470.

- *Nortel Ethernet Switch 460/470 Configuration — VLANs, Spanning Tree, and MultiLink Trunking (NN47210-505)*

  Describes how to configure and manage Virtual Local Area Network (VLAN), Spanning Tree Protocol (STP), and Multilink Trunk (MLT) features on Ethernet Switches 460 and 470.

- *Nortel Ethernet Switch 460/470 Configuration — Quality of Service and IP Filtering (NN47210-502)*

  Describes how to configure and manage Quality of Service and IP Filtering features on Ethernet Switches 460 and 470.

- *Nortel Ethernet Switch 460/470 Configuration — System Monitoring (NN47210-503)*

  Describes how to display system statistics, configure system logging, and configure network monitoring on Ethernet Switches 460 and 470.

- *Nortel Ethernet Switch 460/470 Configuration — IP Multicast Routing Protocols (NN47210-504)*

  Describes how to configure and manage IP Multicast and IGMP features on Ethernet Switches 460 and 470.

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- *Installing the BayStack 400-ST1 Cascade Module* (304433-B)

  Describes how to install the optional Cascade Module in the Ethernet Switch 460-24T-PWR to enable stacking the switches.

- *Installing Media Dependent Adapters (MDAs)* (302403-H)

  Describes how to install optional MDAs in the Ethernet Switch 460-24T-PWR.

- *Installing Gigabit Interface Converters, SFP, and CWDM SFP Gigabit Interface Converters* (312865-C)

  Describes how to install optional GBICs, SFP GBICs, and CWDM SFP GBICs into the MDA in the Ethernet Switch 460-24T-PWR.

- *BayStack 10 Power Supply Unit Installation Instructions* (part number 208558-B)

  Describes installation, power-up, power-down, and fan replacement procedures for the Nortel Ethernet Switch Power Supply Unit 10.

- *Release Notes for the BayStack 10 Power Supply Unit* (part number 208560-B)

  Documents important changes about the RPSU/UPS that are not covered in other related publications.

- *Installation and Reference for the BayStack RPSU/UPS* (part number 208296-C)

  Describes how to install the optional RPSU/UPS on the Nortel Ethernet Switch Power Supply Unit 10 for the Ethernet Switches 460 and 470 and the OM 1450 ESM module.

How to get help

This section explains how to get help for Nortel products and services.

Getting help from the Nortel web site

The best way to get technical support for Nortel products is from the Nortel Technical Support web site:

www.nortel.com/support

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. From this site, you can:

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues
- sign up for automatic notification of new software and documentation for Nortel equipment

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- open and manage technical support cases

Getting help over the phone from a Nortel Solutions Center

If you do not find the information you require on the Nortel Technical Support web site, and you have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following web site to obtain the phone number for your region:

www.nortel.com/callus

Getting help from a specialist using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

www.nortel.com/erc

Getting help through a Nortel distributor or reseller

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.

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Nortel Ethernet Switch 460-24T-PWR

Installation

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Document status: Standard
Document version: 01.01
Document date: 22 February 2007

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