



# 8271 NWAYS MATRIX STACKING SWITCH MODULE USER'S GUIDE

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## Introduction

With the 8271 Nways Matrix Stacking Switch Module (02L0882) installed into your 8271 Nways Switch, you can connect up to four Switches over high speed links, in a single stack. This stack can then be managed as a single unit with one IP address.

The Matrix Module can be installed into the following models of 8271 Nways Ethernet LAN Switches:

- 8271 Nways Ethernet LAN Switch Models E12 and E24
- 8271 Nways Ethernet LAN Switch Models F12 and F24

A stack can consist of any combination of Switch Model E12/E24 and Switch Model F12/F24 units.



*You do not need a Matrix Module if you are connecting two Switches back-to-back. You can connect two units using the Matrix port located on the rear of the Switch and a Switch Matrix Cable.*

You can find more information on stacking units in the user's guide that accompanies your Switch.

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## Before Installation



**ATTENTION:** *Before installing the Matrix Module into a Switch, you must disconnect the Switch from the mains power supply.*

*For full safety instructions, refer to the appropriate Switch User's Guide.*



**DANGER:**  SD21-0030.

## Handling the Matrix Module

The Matrix Module can be easily damaged by electrostatic discharge. To prevent damage, please observe the following:

- Do not remove the Matrix Module from its packaging until you are ready to install it.
- Do not touch any of the connectors or components on the Matrix Module.
- Handle the Matrix Module only by its edges and front panel.
- Always wear an anti-static wristband connected to a suitable earth point.
- Always transport or store the Module in appropriate anti-static packaging.

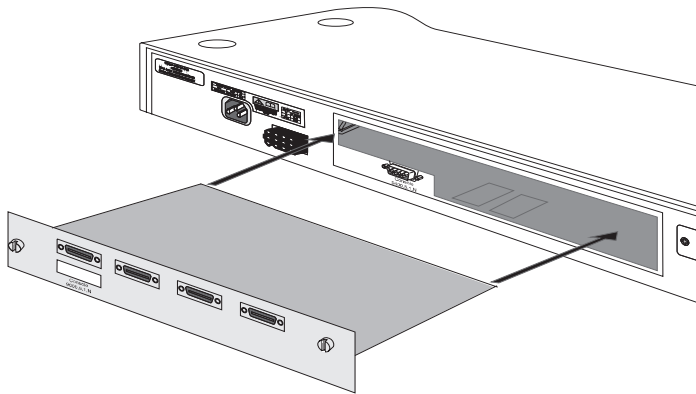
## Installing the Module

We recommend that you install the Matrix Module into the unit that will be at the bottom of your stack.

- 1 Remove the blanking plate from the rear of the Switch. You should store it carefully for future use.
- 2 Hold the Matrix Module so that the text on the front panel reads correctly, and guide it into the slot ensuring it is located in the rails. See Figure 1.

Ensure that the connector on the Matrix Module engages with the board inside the Switch. Press the Module fully into the Switch.

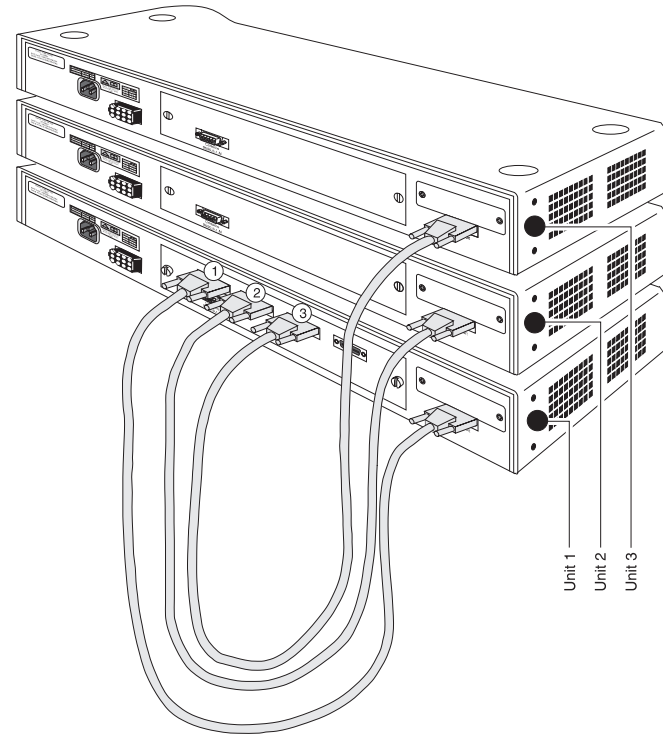
- 3 Tighten the two captive screws to secure the Matrix Module into the unit.



**Figure 1** Inserting the Matrix Module into the Switch

## Cabling

With the Matrix Module installed, you can connect up to four Switches in a stack. A typical configuration is shown in Figure 2.



**Figure 2** A typical stack of switches



*You only need one Matrix Module for each stack.*

*The way in which units in the stack are numbered for management purposes is determined by the order of port connections to the Matrix Module. The units are numbered 1 to 4 from the bottom unit up.*

- 1 Ensure that your Switches are correctly installed and that you have the correct number of Matrix Cables for your configuration. We recommend that the bottom unit in your stack is the one that contains the Matrix Module.
- 2 Working first with the Switch that contains the Matrix Module, attach a Matrix Cable to one of the ports on the Matrix Module. Connect the other end of that cable to the matrix port on the same unit. For your stack to operate as one unit, you must do this.
- 3 Connect each of the remaining cables between the ports on the Matrix Module and the matrix port on each unit.
- 4 Connect your power cord and power-up the stack.

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## Ordering Matrix Cables

Matrix Cables are available from your supplier:

Product Title	Part Number
IBM 8271 Nways Matrix Cable	02L0883

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## Technical Specification

<b>Operating Temperature</b>	0° to 50°C (32° to 122°F)
<b>Storage Temperature</b>	-10° to 70°C (14° to 158°F)
<b>Operating Humidity</b>	10 to 95% non-condensing
<b>Power Consumption</b>	(@ 5V DC) 800mA maximum (4W maximum)
<b>Standards:</b>	
Safety	UL 1950 EN60950 CSA22.2#950
EMC	
Emissions	EN55022 Class B, FCC Part 15 Subpart B Class A, ICES-003 Class A, AS/NZS 3548 Class B, VCCI Class B,
Immunity	EN50082-1
Environmental	EN60068 (IEC 68)

## Obtaining Support

For further information on obtaining support, refer to the Technical Support information in the User's Guide that accompanies the switch, or visit our World Wide Web site by entering the following URL into your web browser:

<http://www.networking.ibm.com/support>

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## Electronic Emission Notices

### Federal Communications Commission (FCC) Statement

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 the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors (IBM P/N 02L0883 or its equivalent) must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

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.

## Canadian Department of Communications (DOC) Compliance Statement

Industry Canada Class A Emission Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.

## Avis de conformité aux normes du ministère des Communications du Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

## European Union (EU) Statement for Shielded Cable

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

**WARNING:** This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richtlinie 89/336)

Dieses Gerät ist berechtigt in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die IBM Corporation. Deutschland Informationssysteme GmbH, 70547 Stuttgart.

Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) 2:  
Das Gerät erfüllt die Schutzanforderungen nach EN.50082-1 und EN 55022 Klasse B.

EN 55022 Klasse B Geräte müssen mit folgendem Warhinweis versehen werden:

“Warnung: dies ist eine Einrichtung der Klasse B. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.“

EN 50082-1 Hinweis:

“Wird dieses Geräte in eine Umgebung betrieben (wie in EN 50082-2 festgelegt), dann kann es dabei eventuell gestört werden. In solch einem Fall ist der Abstand bzw. die Abschirmung zu der industriellen Störquelle zu vergrößern.

Anmerkung:

Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den IBM Handbüchern angegeben, zu installieren und zu betreiben.

## Japanese Voluntary Control Council for Interference (VCCI) Statement Class B for Shielded Cables

This product is a Class B Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Technology Equipment (VCCI). This product is aimed to be used in a domestic environment. When used near a radio or TV receiver, it may become the cause of radio interference. Read the Instructions for correct handling.

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B情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。  
取扱説明書に従って正しい取り扱いをして下さい。

## Taiwanese Class A Warning Statement

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。

## Korean Communications Statement

Please note that this device has been approved for business purpose with regard to electromagnetic interference. If you find this is not suitable for your use, you may exchange it for a non-business purpose one.

대한민국 통신문

이 기기는 업무용으로 전자파 적합증을 받은 기기입니다. 이에 맞는 사용자는 이 점을  
주목하시기 바라며, 만약 잘못 구입하셨을 때에는 구입한 곳에서 반품용으로 교환하시기 바랍니다.

## Statement of Limited Warranty

**IBM**

International Business Machines Corporation  
Armonk, NY 10504

*The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you originally purchase for your use, and not for resale, from IBM or your reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. If you have any questions, contact IBM or your reseller.*

**Machine: IBM 8271 Nways Matrix Stacking Switch Module**

**Warranty Period\*: 1 year**

\* Contact your place of purchase for warranty service information.

### Production Status

Each Machine is manufactured from new parts, or new and used parts. In some cases, the Machine may not be new and may have been previously installed. Regardless of the Machine's production status, IBM's warranty terms apply.

### The IBM Warranty for Machines

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications. The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if authorized by IBM, will provide warranty service under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

For IBM or your reseller to provide warranty service for a feature, conversion, or upgrade, IBM or your reseller may require that the Machine on which it is installed be 1) for certain Machines, the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or upgrade. Many of these transactions involve the removal of parts and their return to IBM. that are provided on an exchange basis. You represent that all removed parts are genuine and unaltered. A part that replaces a removed part will assume the warranty service status of the replaced part.

If a Machine does not function as warranted during the warranty period, IBM or your reseller will repair or replace it with one that is at least functionally equivalent, without charge. The replacement may not be new, but it will be in good working order. If IBM or your reseller is unable to repair or replace the Machine, you may return it to your place of purchase and your money will be refunded.

If you transfer a Machine to another user, warranty service is available to that user for the remainder of the warranty period. You should give your proof of purchase and this Statement to that user. However, for machines which have a life-time warranty, this warranty is not transferable.

### **Warranty Service**

To obtain warranty service for the Machine, you should contact your reseller or call IBM. In the United States and Canada, call IBM at **1-800-IBM-SERV (426-7378)**. You may be required to present proof of purchase.

IBM or your reseller will provide certain types of repair and exchange service, either at your location or at IBM's or your reseller's service center, to restore a Machine to good working order.

When a type of service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item. Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service. You also agree to ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange.

You agree to:

- 1** obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
- 2** where applicable, before service is provided —
  - a** follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provide,
  - b** secure all programs, data, and funds contained in a Machine, and
  - c** inform IBM or your reseller of changes in a Machine's location.

IBM is responsible for loss of, or damage to, a Machine while it is 1) in IBM's possession or 2) in transit in those cases where IBM is responsible for the transportation charges.

### **Extent of Warranty**

IBM does not warrant uninterrupted or error-free operation of a Machine.

The warranties may be voided by misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, removal

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Part No. 02L0893  
Published July, 1998

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