

# BladeCenter Expansion Blades: Supported Configurations

## Positioning Information (withdrawn product)

### Attaching one expansion blade

These expansion blades attach to the server blade and double the width of the overall server. In some configurations, two expansion blades can be attached to a single blade server. Table 1 lists the available expansion blades and the servers that support them.

**Note:** The QS22 and PN41 blade servers do not support any expansion blades or expansion cards as they do not have the necessary onboard connectors.

Table 1. Available expansion blades and the servers that support them

Expansion card	HS12 8014	HS12 8028	HS21	HS21 XM	HS22	LS21	LS22	LS41	LS42	JS12	JS21	JS22	JS23	JS43
IBM BladeCenter Memory and I/O (MIO) Expansion Unit, 42C1600	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
IBM BladeCenter Storage and I/O (SIO) Expansion Unit, 39R7563	N	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	N	N
IBM BladeCenter PCI Expansion Unit II (PEU2), 39R7563	N	N	Y	Y	N	N	Y	N	Y	N	N	N	N	N
IBM BladeCenter PCI Express I/O Expansion Unit (PEU3e), 43W4391	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N

### Attaching two expansion blades

As you can see Table 1, the HS21, HS21 XM, LS21/41, and LS22/42 support more than one expansion blade. There are configuration requirements that are related to connecting multiple expansion blades, as described in this section. You can only attach one blade of each type (for example, only one SIO expansion blade).

## BladeCenter HS21

For the HS21, you can only attach two expansion blades to the server blade. Attaching three expansion blades is not supported. The following configurations are supported (the sequence is important; the MIO must be directly attached to the HS21, for example):

- HS21 <- MIO <- PEU2
- HS21 <- MIO <- SIO
- HS21 <- SIO <- PEU2

The following configurations are unsupported combinations:

- HS21 <- PEU2 <- MIO (not supported)
- HS21 <- SIO <- MIO (not supported)
- HS21 <- PEU2 <- SIO (not supported)

Although the HS21 supports all three expansion blades, only two expansion blades can be attached to a server at one time. If used, the MIO must be the “closest” expansion blade to the blade server.

## BladeCenter HS21 XM

For the HS21 XM, the SIO and PEU2/PEU3e can be attached at the same time, in the following connection sequence:

- HS21 XM <- SIO <- PEU2
- HS21 XM <- SIO <- PEU3e (only the first slot in the PEU3e will work in this configuration)

The following connection sequences are unsupported combinations:

- HS21 XM <- PEU2 <- SIO (not supported)
- HS21 XM <- PEU3e <- SIO (not supported)

## BladeCenter LS21

For LS21, the SIO and PEU3e can be attached at the same time, in the following connection sequence:

- LS21 <- SIO <- PEU3e (only the first slot in the PEU3e will work in this configuration)

The following connection sequence is an unsupported combination:

- LS21 <- PEU3e <- SIO (not supported)

## BladeCenter LS41

For LS41, the SIO and PEU3e can be attached at the same time, in the following connection sequence:

- LS41 <- MPE <- SIO <- PEU3e (only the first slot in the PEU3e will work in this configuration)

The following connection sequence is an unsupported combination:

- LS41 <- MPE <- PEU3e <- SIO (not supported)

## BladeCenter LS22

For LS22, the SIO and PEU2 or SIO and PEU3e, can be attached at the same time, in the following connection sequence:

- LS22 <- SIO <- PEU2
- LS22 <- SIO <- PEU3e (only the first slot in the PEU3e will work in this configuration)

The following connection sequence is an unsupported combination:

- LS22 <- PEU2 <- SIO (not supported)
- LS22 <- PEU3e <- SIO (not supported)

### **BladeCenter LS42**

For LS42 with the Multi Processor Expansion (MPE) Unit, the SIO and PEU2 or SIO and PEU3e, can be attached at the same time, in the following connection sequence:

- LS42 <- MPE <- SIO - PEU2
- LS42 <- MPE <- SIO - PEU3e (only the first slot in the PEU3e will work in this configuration)

The following connection sequence is an unsupported combination:

- LS42 <- MPE <- PEU2 <- SIO (not supported)
- LS42 <- MPE <- PEU3e <- SIO (not supported)

## **Related publications**

For more information, see the following documents:

- IBM Redbooks publication *IBM BladeCenter Products and Technology*, SG24-7523  
<http://www.redbooks.ibm.com/abstracts/sg247523.html>
- IBM BladeCenter Interoperability Guide  
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5073016>
- IBM BladeCenter Storage and I/O (SIO) Expansion Unit Installation and User's Guide  
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5070759>
- IBM BladeCenter Memory and I/O Expansion Blade Installation Guide  
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5070758>
- IBM BladeCenter PCI Expansion Unit II (PEU2) Installation Instructions  
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-61501>
- IBM BladeCenter PCI Express I/O Expansion Unit (PEU3e)  
<http://www.ibm.com/support/docview.wss?uid=psg1MIGR-5076806>

## **Related product families**

Product families related to this document are the following:

- [Blade Expansion Units](#)
- [Blade Servers](#)

## Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service. Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.  
8001 Development Drive  
Morrisville, NC 27560  
U.S.A.  
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk. Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

© Copyright Lenovo 2025. All rights reserved.

This document, TIPS0670, was created or updated on September 16, 2009.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:  
<https://lenovopress.lenovo.com/TIPS0670>
- Send your comments in an e-mail to:  
[comments@lenovopress.com](mailto:comments@lenovopress.com)

This document is available online at <https://lenovopress.lenovo.com/TIPS0670>.

## Trademarks

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at <https://www.lenovo.com/us/en/legal/copytrade/>.

The following terms are trademarks of Lenovo in the United States, other countries, or both:

Lenovo®

BladeCenter®

The following terms are trademarks of other companies:

IBM®, Redbooks®, and ibm.com® are trademarks of IBM in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.