Note

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 110.

Fifth Edition (August 1999)

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About This Supplement

This supplement contains diagnostic and service information for the IBM PC Server Rack Enclosure, IBM Netfinity Rack enclosures, and IBM Netfinity Rack Enclosure:

The IBM PC Server Rack Enclosure models are:
- Type 9306 19-inch and 24-inch Models:
  - 4QS, 4QX, 9QS
  - 9QX, 9TS, 9TX

The IBM Netfinity Rack enclosure models are:
- Type 9306 Models 001, 200, 900
- Type 9308 Models 42P, 42X

This supplement should be used with the related service information in the IBM PC Servers Hardware Maintenance Manual (part number 70H0751, form number S30H-2501-01).

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Important

This manual is intended for trained servicers who are familiar with IBM PC Server and IBM Netfinity Server products.

Before servicing an IBM product, be sure to review “Safety Information” on page 95.
## Related Publications

The following publications are available for IBM products. For more information, contact IBM or an IBM Authorized Dealer.

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General Checkout

Use the following procedure for diagnosing keyboard, mouse, and video problems for the IBM PC Server Rack Enclosure and the IBM Netfinity Rack enclosure (Type 9306).

For power problems, see “Power Checkout” on page 4.

Attention

- For Models 4QS, 4QX, 9QS, 9QX, 9TS, 9TX only:
  Ensure that the voltage selector switch on each server installed in the server rack is set to 230 V ac.
- For Models 200, 900 only:
  Ensure that the voltage selector switch on each server installed in the server rack is set to the proper voltage as supplied by the Power Distribution Unit, PDU.

001

- Ensure the external power cord is in good condition and properly connected to a known-good power source.
- Ensure the internal power cables are in good condition and properly connected. (The internal power cables connect between the power distribution unit and the servers installed in the server rack.)
- Ensure the following devices are powered on.
  1. Power distribution unit
  2. Server selector unit
  3. All system units
  4. Display

ARE ALL THE ABOVE ITEMS/CONDITIONS OK?

Yes  No

002

Correct the problem and verify that the server rack is operating correctly.

003

- Using the server selector keypad buttons, check the operation of the failing device for all of the servers that are installed in the rack.

DID THE FAILURE OCCUR ON MORE THAN ONE SERVER?

Yes  No

004

(Step 004 continues)
Go to the Hardware Maintenance manual for the server that was selected when the failure occurred. Disconnect the keyboard and mouse from the server selector unit and connect them directly to the failing server. Then, run the server diagnostic programs on the failing server.

If the problem still remains, disconnect the keyboard and mouse from the failing server and reconnect them to the server selector unit. Then, replace the server rack components in the following order until the problem goes away.

1. Device cable (connects between the server selector unit and the server that was selected when the failure occurred).
2. Server selector cable (connects between the server selector keypad and the server selector unit).
4. Server selector unit.

Power-off the server rack and replace the server rack components in the following order until the problem goes away. See “Powering Off The Rack” on page 5.

1. Device extender cable (connects between the device and the server selector unit)
2. Failing device
3. Server selector cable (connects between the server selector keypad and the server selector unit)
4. Server selector keypad
5. Server selector unit
Power Checkout

Use the following procedure for diagnosing power problems for the IBM PC Server Rack Enclosure and IBM Netfinity Rack enclosure (Type 9306).

Attention

- For Models 4QS, 4QX, 9QS, 9QX, 9TS, 9TX only:
  Ensure that the voltage selector switch on each server installed in the server rack is set to 230 V ac.
- For Models 200, 900 only:
  Ensure that the voltage selector switch on each server installed in the server rack is set to the proper voltage as supplied by the Power Distribution Unit, PDU.

001

- Ensure the external power cord is in good condition and properly connected to a known-good power source.
- Ensure the internal power cables are in good condition and properly connected. (The internal power cables connect between the power distribution unit and the servers installed in the server rack.)
- Ensure the following devices are powered on.
  1. Power distribution unit
  2. Server selector unit
  3. All system units
  4. Display

ARE ALL THE ABOVE ITEMS/CONDITIONS OK?

Yes  No

002

Correct the problem and verify correct operation of the server rack.

003

- Using the server selector keypad buttons, check for correct operation of all the servers installed in the rack.

DID THE FAILURE OCCUR ON MORE THAN ONE SERVER?

Yes  No

004

Go to the Hardware Maintenance manual for the server that was selected when the failure occurred and run the server diagnostic programs.

(Step 004 continues)
If the problem still remains, replace the power distribution unit.

Power-off the server rack and replace the server rack components in the following order until the problem goes away. See “Powering Off The Rack.”

1. Power distribution unit fuse.
2. Power distribution unit.

**Powering Off The Rack**

Before performing service on the rack, follow this procedure to prevent personal injury and to avoid damaging the rack and the installed servers.

To power-off the IBM PC Server/Netfinity Rack:

1. Shut down and power-off all installed servers.
2. Power-off the server selector unit.
3. If a UPS system is installed in the rack, power-off the UPS system.
4. Disconnect power from the IBM PC Server/Netfinity Rack.
   - If the rack is plugged into a wall-mounted power supply, disconnect the power cord plug from the wall socket.
   - If the power cord is wired directly into the installed location's power supply, open the rear door of the rack cabinet and disconnect the power plug from the base of the power distribution unit.
Type 9306 Models 4QS, 4QX, 9QS, 9QX, 9TS, 9TX

Features
The 9306 IBM PC Server Rack Enclosure, models 4QS, 9QS, 9TS come in three primary models.

- 19-inch Quad Primary Server Rack, Model 9QS
- 19-inch Tri Primary Server Rack, Model 9TS
- 24-inch Quad Primary Server Rack, Model 4QS

A Quad Primary Server Rack can house up to four IBM PC Servers. The Tri Primary Server Rack can house up to three IBM PC Servers.

Both Quad and Tri Primary Server Racks provide a built in server selector which connects to one set of console devices (monitor, keyboard, and mouse.) The server selector works independently from the server's operating systems, enabling the connected servers to run different operating systems.

These IBM 9306 PC Server Rack Enclosure models are shipped preassembled and pre-cabled.

IBM PC Server Expansion Rack Models
Three optional IBM PC Server Rack Expansion models are available to expand the capacity of the IBM PC Server Rack Primary Enclosure. The optional IBM PC Server Rack Expansion models are:

- 19-inch Quad Expansion Rack, Model 9QX
- 19-inch Tri Expansion Rack, Model 9TX
- 24-inch Quad Expansion Rack, Model 4QX

The IBM PC Server Rack Expansion models allow the installation of up to four more servers using the Primary IBM PC Server Rack monitor, keyboard, and mouse.
Locations
This section contains the following:
- “Server Selector Console.”
- “Server Selector Unit” on page 9.
- “Power Distribution Unit” on page 11.
- “Cooling Fan” on page 12.
- “Sliding Trays” on page 13.
- “Sliding Rails” on page 15.
- “Keyboard Tray” on page 15.

Note
For instructions on how to power-off the rack, see “Powering Off The Rack” on page 5.

Server Selector Console
To remove the Server Selector Console:
1. Power-off the rack.
2. Use an 1/8-inch allen wrench to remove screws.
3. Disconnect the server selector cable from the back of the server selector console.
4. Remove the server selector console from the cabinet.
Server Selector Unit

The server selector unit is located in the upper rear of the rack cabinet. The server selector unit can only be accessed or removed from the rear of the IBM Netfinity Rack cabinet.

**Caution:**

The server selector unit is heavy. You will need two people to safely remove the server selector unit.

See “Safety Notice (Multi-Lingual Translations)” on page 104.

To remove the server selector unit:

1. Power-off the rack.
2. Unplug the keyboard, mouse, video cables, and the power cord.
3. Remove the server selector console.
4. With one person bracing the server selector unit from below, have the second person use a 5/16-inch wrench to remove the four nuts that secure the server selector unit to the rack cabinet.
5. Remove the server selector unit from the cabinet.

**Note**

When replacing the server selector unit, be sure that the Server Selector cable is fed through the indentation along the left side of the server selector unit.
Connections

Server Rack Monitor Connection

Server Monitor Connections

AC Power Input

Server Selector Unit On-Off Switch

Server Rack Mouse Connection

Server Rack Keyboard Connection

Server Keyboard and Mouse Connections

Server Rack

Monitor

Connections

1

IBM PC Server/Netfinity Racks HMM
Power Distribution Unit

Note

To remove the power distribution unit, you might need to remove the right side cabinet panel, the server installed in sliding tray 2 (in the primary IBM PC Server Rack), or sliding tray 5 (in the IBM PC Server Expansion Rack).

To remove the power distribution unit:

1. Power-off the rack.
2. Disconnect all power plugs from the power distribution unit.
3. Using a Phillips screwdriver, remove the four screws from the front of the power distribution unit.

Note

These screws are held in place by nuts and washers. Hold the nut while you are unscrewing the screw to prevent the nut and washer from falling into the bottom of the cabinet.

4. Remove the power distribution unit from the cabinet.
Cooling Fan

To remove the cooling fan:

1. Power-off the rack.
2. Open the rear door of the rack cabinet.
3. Disconnect the power plug from the rear of the cooling fan.
4. Use a 5/16-inch wrench to remove the eight nuts that secure the cooling fan to the top of the rack cabinet.
5. Remove the cooling fan from the cabinet.

**Note**

When installing the fan, make sure that the green and yellow ground wire is attached to one of the top fan mounting screws and that the strain-relieving clamp is attached to another. The power cable should be secured by the strain-relieving clamp.
Sliding Trays
Models 4QS and 4QX come with either single latch slide rails or dual latch slide rails. Single latch slide rails have a front latch release on the right rail only. Dual latch slide rails have a front latch release on both rails. The slide rail FRU number for the 24-inch rack replaces the single latch slide rail with the dual latch slide rail.

Note
If a server is installed on a tray being removed, first remove the server.

Single Latch Rail Tray:
To remove a sliding tray with single latch rails:
1. Power-off the rack.
2. Open the rear door of the rack cabinet and remove the pin 1 that secures the sliding tray to the cable management arm.
3. Loosen the thumb screws 2 on the sliding tray and fully extend the sliding tray.
4. Use a 3/32-inch allen wrench to remove the five screws 3 from the left side of the sliding tray.
5. Lift the rear locking tab 4 and push the sliding tray approximately two inches into the cabinet.
6. Release the forward locking tab 5. Then, while holding the sliding tray in place, use your other hand to grasp the outside sliding rail 6 and push it into the rack cabinet until it disconnects from the sliding tray.
Dual Latch Rail Tray:

To remove a sliding tray with dual latch rails:

1. Power-off the rack.
2. Open the rear door of the rack cabinet and remove the pin that secures the sliding tray to the cable management arm.
3. Loosen the thumbscrews on the sliding tray and fully extend the sliding tray.
4. Push in on the spring of the right rear locking tab and push the sliding tray approximately two inches into the cabinet.
5. Release both left and right forward locking tabs. Then, while holding the sliding tray in place, push both left and right outside sliding rails into the rack cabinet until it disconnects from the sliding tray.

**Note**

Left side view for and are not shown.
**Sliding Rails**

This procedure is for single latch sliding rails and dual latch sliding rails.

For single latch sliding rails, the right rail is the one that has the front latch. The left rail does not have a front latch.

For dual latch sliding rails, the right rail is the one that has the rear latch. The left rail does not have a rear latch.

To remove the sliding rails:

1. Power-off the rack.
2. Remove the sliding tray that is attached to the sliding rails that you want to remove. See “Sliding Trays” on page 13.
3. Use a 3/32-inch allen wrench to remove the four screws that secure each of the sliding rails to the rack cabinet.

   **Note**

   You will need to adjust the position of the sliding rail in order to line up the access holes over the locations of the screws.

---

**Keyboard Tray**

To remove the keyboard tray:

1. Power-off the rack.
2. Disconnect the keyboard and mouse cables from the keyboard and mouse extension cables.
3. Remove the keyboard and mouse from the keyboard tray.
4. Pull the keyboard tray straight out of the rack cabinet.
Parts Listing (Type 9306 - 19-Inch)
Models 9QS, 9TS and 9QX, 9TX
# Type 9306 - 19-Inch Rack

Models 9QS, 9TS and 9QX, 9TX

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  - Flanged Nut 1/4-20 (12 each)
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  - Screw 8-32 x 1/4 Button Head Socket Cap Allen (4 each)
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Parts Listing (Type 9306 - 24-Inch)
Models 4QS and 4QX
## Type 9306 - 24-Inch Rack

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<td>76H3735</td>
</tr>
<tr>
<td>2</td>
<td>Monitor Stand</td>
<td>07H0061</td>
</tr>
<tr>
<td>3</td>
<td>Server Selector Cable</td>
<td>07H0036</td>
</tr>
<tr>
<td>4</td>
<td>Blank Bezel (4QX Only)</td>
<td>07H0066</td>
</tr>
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<td>5</td>
<td>Monitor Housing (24-Inch)</td>
<td>07H0065</td>
</tr>
<tr>
<td>6</td>
<td>Server Selector Keypad</td>
<td>07H0097</td>
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<tr>
<td>7</td>
<td>Rack Frame</td>
<td>N/A</td>
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<tr>
<td>8</td>
<td>Spacer (see Spacer Kit, Right Side on page 23)</td>
<td>07H0059</td>
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<td>9</td>
<td>Server Selector Unit Electronics</td>
<td>07H0034</td>
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<td></td>
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<td>10</td>
<td>Internal Cables (see Cable Kit Top Shelf Server and Cable Kit Bottom Shelf Server)</td>
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<td>11</td>
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<td>14F1559</td>
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<tr>
<td></td>
<td>Europe</td>
<td>14F1554</td>
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<tr>
<td></td>
<td>Israel</td>
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<td></td>
<td>Italy</td>
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<td>New Zealand</td>
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<td>South America, India</td>
<td>14F1557</td>
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<td></td>
<td>U.K./Denmark</td>
<td>14F1555</td>
</tr>
<tr>
<td></td>
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<td>14F1553</td>
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<tr>
<td></td>
<td>External Power Cord Option - 6 Ft.</td>
<td>07H0094</td>
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<td>17</td>
<td>Left/Right Side Panel</td>
<td>07H0049</td>
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<td>18</td>
<td>Power Distribution Unit</td>
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<tr>
<td>19</td>
<td>250 V Slow Blow Fuse</td>
<td>0303549</td>
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<td>20</td>
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<td>23</td>
<td>Keyboard Drawer, 24-Inch (with Slides and Brackets)</td>
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<td>24</td>
<td>Slide Rails, Server Tray (one pair)</td>
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<td>24-Inch Front Compartment Door (24-Inch by 26-Inch)</td>
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<td>26</td>
<td>Door Hinge Set</td>
<td>07H0045</td>
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<td>27</td>
<td>Door Valve (4QX Only)</td>
<td>07H0068</td>
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<td>28</td>
<td>Handle, Server/Keyboard Tray</td>
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<td>29</td>
<td>Server Tray</td>
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<tr>
<td>30</td>
<td>Mouse Table</td>
<td>07H0079</td>
</tr>
<tr>
<td></td>
<td>Shelf, Server Tray, 24-Inch</td>
<td>07H0093</td>
</tr>
<tr>
<td></td>
<td>Cable, SVGA-Video (15 Feet)</td>
<td>76H3736</td>
</tr>
<tr>
<td></td>
<td>Monitor Power Cable (connects from monitor to Power Distribution Unit)</td>
<td>07H0075</td>
</tr>
</tbody>
</table>
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24-Inch Rack Enclosure (Type 9306)

- Rack Keyboard Cable (connects from Keyboard Drawer to Server Selector Unit)
- Rack Mouse Cable (connects from Keyboard Drawer to Server Selector Unit)

FRU

07H0067

07H0069

Rack Enclosure Kits 24-Inch (Type 9306)

Bolt-Together Kit (19-Inch to 24-Inch, 24-Inch to 19-Inch)

- 19-Inch Attachment Bracket (2 each)
- Screw 1/4-20 x 1/2 Button Head Socket Cap Allen (8 each)
- Screw 1/4-20 x 1-1/4 Socket Cap (4 each)
- Flanged Nut 1/4-20 (12 each)
- 24-Inch Attachment Bracket (4 each)

Cable Kit Shelf Server (12 foot cables)

- Monitor Cable
- Keyboard Cable
- Mouse Cable
- Internal Power Cable

FRU

76H3627

Miscellaneous Parts Kit

- Rack Nut/Holder 10-32 (8 each)
- Keeper Nut 8-32 Zinc (8 each)
- Keeper Nut 10-32 (6 each)
- Screw 6-32 x 5/16 (2 each)
- Screw 6-32 x 1/4 Button Head Socket Cap Allen (8 each)
- Screw 10-32 x 3/8 Button Head Socket Cap (8 each)
- Screw 6-32 x 3/8 Button Head Socket Cap (2 each)
- Screw 1/4-20 x 1/2 Button Head Socket Cap (2 each)
- Screw 8-32 x 1/4 Button Head Socket Cap Allen (4 each)
- Screw 10-32 x 1/4 Button Head Socket Cap (2 each)
- Screw 8-32 x 1/4 Button Head Socket Cap (8 each)
- Pull-ring, 3-Inch (2 each)
- Shoulder Screw 8-32 x 3/8 (2 each)
- Standoff, 25 Hex, 6-32 FF, .5-Inch (2 each)
- Screw 8-32 x 3/8 Button Head Socket cap (2 each)
- Screw 10-24 x 1/4 Button HeadSocket Cap Allen (2 each)
- Screw 10-24 x 5/16 Button head Socket Allen (2 each)
- Keeper Nut 8-32 (2 each)
- Nut 8-32 (2 each)
- Captive Weld Nut (2 each)
- Whiz-Lock Flange Nut 1/4-20 (2 each)
- Keeper Nut 10-32 (2 each)
- Bumpers (2 each)
- Cable Ties (8 each)

FRU

07H0057

Server Tray Interlock Kit

- Cam (1 each)
- Spring (1 each)

07H0091
Rack Enclosure Kits 24-inch (Type 9306)
Spacer Kit, Right Side
- Rack Joiner (8 each)
- Spacer, Top and Bottom, 34-Inch (1 each)
- Spacer, Body 70-Inch (2 each)
- Screw 10-32 x 3/8 Button Head Socket cap (8 each)
- Screw 1/4-20 x 1/2 Button Head Socket cap (8 each)
- Whiz-Lock Flange Nut 1/4-20 (8 each)
- Screw 6-32 x 3/8 Button Head Socket Cap (8 each)

FRU
07H0059
Type 9306 Model 001

Features
The IBM Netfinity NetBAY3 enclosure provides a convenient 3-U high storage cabinet for the installation of computer devices.

**Note**
Vertical measurements are given in rack units (U). One U is equal to 4.45 cm (1.75-inches).

Up to three NetBAY3 enclosures can be stacked under certain IBM Netfinity servers. Devices such as the IBM Netfinity EXP10, an uninterruptable power supply (UPS), or various telecommunications equipment can also be installed in a NetBAY3 enclosure.

Locations
This section contains the following:
- Casters
- Foot Pads
- Front Cover
- Rear Panel
- Device side rails
- Stacking NetBAY3 enclosures

**Important**
The maximum server weight is 77 kg (170 lb.). Refer to the latest IBM Netfinity and IBM PC Server Hardware Maintenance Manual when servicing the server.

Assure all power and signal cables are routed properly and are not pinched.

Make sure NetBAY3 enclosures in a stack are securely fastened together.

Make sure empty NetBAY3 enclosures (no devices installed) have the rear cover securely attached.

Servers are lifted onto and off of the NetBAY3 enclosure. Make sure you have help when lifting.
Casters

- Two fixed casters 1 at the front of the NetBAY3 enclosure.
- Two swivel casters 2 at the rear of the NetBAY3 enclosure.

Foot Pads
Front Cover
**Rear Panel**

**Note**

Make sure empty NetBAY3 enclosures (no devices installed) have the rear cover securely attached.
Device Side Rails

Stacking NetBAY3 Enclosures

Note
Make sure NetBAY3 enclosures in a stack are securely fastened together.
**Note**

The maximum server weight is 77 kg (170 lb.).
### Parts Listing (Type 9306 Model 001)

<table>
<thead>
<tr>
<th>Index</th>
<th>NetBAY3 Enclosure (Type 9306 Model 001)</th>
<th>FRU</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3-U Enclosure Frame</td>
<td>03K8797</td>
</tr>
<tr>
<td>2</td>
<td>Front Bezel Assembly with Lock and Keys</td>
<td>03K8798</td>
</tr>
<tr>
<td>3</td>
<td>Foot Pads Qty. 4</td>
<td>03K8800</td>
</tr>
<tr>
<td>4</td>
<td>Casters Fixed, Front, Qty. 2</td>
<td>12J3279</td>
</tr>
<tr>
<td>4</td>
<td>Casters Swivel, Rear, Qty. 2</td>
<td>12J3283</td>
</tr>
<tr>
<td>5</td>
<td>3-U Blank Panel</td>
<td>03K8799</td>
</tr>
<tr>
<td></td>
<td>Miscellaneous Parts Kit - Includes:</td>
<td>03K9056</td>
</tr>
<tr>
<td></td>
<td>• Screw, M16 (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Cased Nut (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• M5 Nut (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Tread Screw M6X16 (2)</td>
<td></td>
</tr>
</tbody>
</table>
Type 9306 Model 200

Features
The IBM Netfinity NetBAY22, Type 9306, Model 200 Rack enclosure is a 22-U high (38.5-inch) industry-standard, 19-inch rack that houses and controls multiple IBM PC Servers/IBM Netfinity Servers and related equipment.

Locations
This section contains the following:

- “Side Panel” on page 34.
- “Selector Switch Locations” on page 35.
- “Power distribution Unit” on page 38.
- “Blank Bezel” on page 39.
- “Fixed Shelf” on page 39.
- “Keyboard Tray” on page 40.

Note
For instructions on how to power-off the rack, see “Powering Off The Rack” on page 5.
Side Panel

Locked

Unlocked

IBM PC Server/Netfinity Racks HMM
Selector Switch Locations

Selector Switch in monitor compartment

Selector Switch between side panels
One eight-port primary selector switch can accommodate up to eight secondary selector switches which can then support up to 64 servers.

**Note**

There are two types of selector switches available:
- 4 port
- 8 port
Selector Switch Environment

Single Selector Switch

Multiple Selector Switch
Power distribution Unit

Power Distribution vertical installation

Power Distribution horizontal installation

**Note**

There are two types of Power distribution units available:
- High voltage
- Low voltage
Blank Bezel

Fixed Shelf
Keyboard Tray

To remove the tray from the side rails, pull up on the left rail tab and push down on the right rail tab.
Starting the System

Start the system by:
1. Power-on the selector switch(s)
2. Power-on the monitor
3. Power-on the servers

**Note**
The selector switch must be powered on first, then the servers. This is to assure that the device drivers for the servers send device settings to the selector switch.

When the selector switch is powered on, it:
- Identifies the mouse and keyboard and puts them into default status.
- Switches to port 1 by default, and displays the number ‘1’ in the status flag field on the monitor.

Configuring the Selector Switch

**Note**
Some selector switch units have different functions and displays. Refer to the Apex PC Solutions® Outlook™ Concentrator User Guide. This guide is shipped with the Selector Switch Unit.

No configuration is necessary for normal switch operation.

Switch configuration can be performed to:
- Assign unique names to servers
- Display servers by their assigned port names and port numbers

Switching Among Servers

To switch among servers:
- Press the **Print Screen** key
- Type the port number of the server to be switched
- Press **Enter**

**Note**
One depression of the Print Screen key starts the switching process. To print a screen, depress the **Print Screen** key twice.
Using the Up Arrow (↑) and Down Arrow (↓), select the server you want to switch to, or press the numeric key that corresponds to the server’s port number and then press Enter.

The symbols after the Port or Name columns on the menu show the status of the port as follows:

<table>
<thead>
<tr>
<th>Type of Symbol</th>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plus</td>
<td>+</td>
<td>Server connected and running</td>
</tr>
<tr>
<td>Asterisk</td>
<td>*</td>
<td>Secondary selector switch connected and running</td>
</tr>
</tbody>
</table>

**Advanced Selector Switch functions**

System configuration is performed through the keyboard and menus to include these Advanced selector switch functions:

- Scanning the servers
- Displaying server BIOS versions and settings
- Saving the Hardware Configuration
- Resetting the mouse and keyboard
- Setting a scan pattern
- Assigning unique names to the servers
- Listing servers by name or port number (Changing Menu Attributes)
- Changing the position and color of the operation menus and windows (Changing Flag Attributes)
- Assigning a specific monitor type to a certain port (server)

**Scanning the Servers:** To place the selector switch in scan mode:

- Press the **Print Screen** key
- Press the **F2** key to display the Advanced Menu screen.
- Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to **Scan** and press **Enter**. The selector switch enters the scan mode and the display returns to the status flag. To cancel the operation, press Esc any time before you press Enter.
- To cancel the scan mode, press any key or move the mouse. The scan stops at the currently connected server.

**Displaying Version Information and Device Settings:** The selector switch BIOS version number along with keyboard and mouse information can be displayed for the currently selected server.

- Press the **Print Screen** key
- Press the **F2** key to display the Advanced Menu screen.
- Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to **Version** and press **Enter**.

```
<table>
<thead>
<tr>
<th>Version</th>
<th>BIOS</th>
<th>X.XX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td>1 Magic 1</td>
<td></td>
</tr>
</tbody>
</table>

**Keyboard**
- **Enabled**: Enabled
- **Rate ZC**: Rate 100
- **LEDs 2**: Res 2
- **Mode 2**
- **Type 101**: Type Gen

Keyboard information includes:
- Enabled or disabled
```
– Typematic rate
– LED settings
– Port mode
– Keyboard type.

Mouse information includes:
– Enabled or disabled
– Sample rate
– Resolution
– Mouse type

• Press Esc to remove the Version menu.

**Saving Hardware Configuration:** Whenever servers are added to or removed from the configuration, or whenever there is a change in the mouse or monitor, save the hardware configuration setting by:

1. Press the **Print Screen** key
2. Press the **F2** key to display the Advanced Menu screen.
3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to **Snapshot** and press the **Enter** key. The hardware settings are saved to memory.

**Important**

If the settings are not saved and the selector switch power is lost, it might be necessary to restart each server in the configuration to reestablish keyboard and mouse communications.

**Resetting the Mouse and Keyboard:**

Resetting the mouse and keyboard restores the default setting for the selected server.

• Press the **Print Screen** key
• Press the **F2** key to display the Advanced Menu screen.
• Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to **Reset** and press the **Enter** key. The mouse and keyboard are now reset.

**Setting a Scan Pattern:** The selector switch has a standard scan routine for sequentially connecting each server to the monitor, keyboard, and mouse. The scan routine can be configured to scan all or any of the servers in a particular pattern. To create a scan pattern, do the following.

1. Press the **Print Screen** key
2. Press the **F2** key to display the Advanced Menu screen. Press the Right Arrow (→) key to move the highlight to the **Setup Menu**.
3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to **Scan** and press the **Enter**
key. The Scan Pattern Setup menu appears with the first port position or server name highlighted. The following example screen displays when the port order mode is selected.

<table>
<thead>
<tr>
<th>Scan Pattern Setup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port/Sec</td>
</tr>
<tr>
<td>6/20</td>
</tr>
<tr>
<td>5/20</td>
</tr>
<tr>
<td>4/10</td>
</tr>
<tr>
<td>1/10</td>
</tr>
</tbody>
</table>

F2 for defaults

If Name order was selected, the Port and Name columns will be reversed.

4. Using the keyboard keys, select the port number of the first server to be included in the scan. Note that the server name, if any is assigned, appears in the far right column on the menu.

5. Press the Tab key or Right Arrow (→) key to move the highlighting to the Sec column. Then, use the keyboard keys to enter a time value, in seconds, for the length of time you want this server to be connected to the monitor and keyboard, before switching to the next server in the scan.

6. Press the Down Arrow (↓) key to move the highlighting to the next port in the Port column and repeat step 5.

To delete unwanted ports from the scan list in the Scan Pattern Setup window, place the highlighting on the top-most port to be removed and press the Delete key (not the Del key on the numeric keypad).

7. When you have finished setting the scan pattern, press the Enter key. Press Esc at any time before pressing Enter to retain the previous scan pattern.

Note

Pressing the F2 key will return all Port and Sec values to the factory defaults.

8. To exit, press Esc

Assigning Unique Names to Servers: Unique names can be given to servers and secondary selector switches. To assign names:

1. Press the Print Screen key
2. Press the F2 key to display the Advanced Menu
screen. Press the Right Arrow (→) key to move the highlight to the **Setup Menu**.

3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to **Names** and press the **Enter** key. The Port Naming menu appears, as shown below.

<table>
<thead>
<tr>
<th>Port</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MAGIC</td>
</tr>
<tr>
<td>2</td>
<td>CENTRALOFC</td>
</tr>
<tr>
<td>3</td>
<td>SALES-C</td>
</tr>
<tr>
<td>4</td>
<td>SALES-B</td>
</tr>
<tr>
<td>5</td>
<td>SALES-A</td>
</tr>
<tr>
<td>6</td>
<td>DOWNTOWN</td>
</tr>
<tr>
<td>7</td>
<td>FOREIGN</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

4. Move the highlighting to the Port entry for which the server name is to be entered or changed. Type in the name of the server using up to 12 alphanumeric characters.

**Note**

Legal characters are A-Z, 0-9, and the dash character. Lowercase letters are converted to uppercase. Press the Backspace key to delete an incorrect entry.

5. If necessary, repeat step 4 for each of the servers that are to be named.

6. Press the **Enter** key to save the server names in nonvolatile RAM. Press Esc at any time before pressing Enter to cancel the operation.

7. To exit, press **Esc**
Changing Menu Attributes: The menus displayed on the monitor can be altered in visual appearance to suit the particular use of the system. You can:

- Position the menu in a convenient location on the display.
- List servers by port or by name, whichever is desired, in the appropriate menus.
- Adjust character height.
- Change colors.
- Display the selection menu for a certain period.

To change the menu attributes, do the following:

- Press the Print Screen key
- Press the F2 key to display the Advanced Menu screen. Press the Right Arrow (→) key to move the highlighting to the Setup list.
- Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to OSCAR (On Screen Configuration and Activity Reporting) and press the Enter key. The following Attribute menu appears.

<table>
<thead>
<tr>
<th>OSCAR Attributes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>640</td>
</tr>
<tr>
<td>Height</td>
<td>16</td>
</tr>
<tr>
<td>Horizontal</td>
<td>12</td>
</tr>
<tr>
<td>Vertical</td>
<td>7</td>
</tr>
<tr>
<td>Background</td>
<td>1</td>
</tr>
<tr>
<td>Highlight</td>
<td>4</td>
</tr>
<tr>
<td>Text</td>
<td>7</td>
</tr>
<tr>
<td>Delay Time</td>
<td>0</td>
</tr>
<tr>
<td>Order</td>
<td>Port</td>
</tr>
</tbody>
</table>

- Highlight the settings you want to change and use the + or – keys to change the values. As you select different values, the effect of the changes is reflected immediately on the display.
- When all changes are completed, press the Enter key to save the changes to nonvolatile RAM. Press Esc at any time before pressing Enter to cancel the operation and retain the previous settings.
Note

It is possible, while changing the attributes, to garble the menu and windows, making it difficult to correct. If this occurs, reset the selector switch to its default values by pressing the following keys in this order:

1. Esc
2. Esc
3. Print Screen
4. F10
5. Y
6. Enter

Available menu attributes:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Effect on Menu or Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>Affects the size of the menu and windows as they appear on the display. Choose from values of 320, 480, and 640. The lower the value, the larger the size.</td>
</tr>
<tr>
<td>Height</td>
<td>Affects the size of the text in the menu and windows. The larger the value, the larger the text.</td>
</tr>
<tr>
<td>Horizontal/Vertical</td>
<td>Determines the position of the menu or window on the screen.</td>
</tr>
<tr>
<td>Background</td>
<td>Determines the menu or window background color.</td>
</tr>
<tr>
<td>Highlight</td>
<td>Determines the menu or window highlight bar color.</td>
</tr>
<tr>
<td>Text</td>
<td>Determines the menu or window text color.</td>
</tr>
<tr>
<td>Delay Time</td>
<td>Sets the time in seconds that the OSCAR selection window is delayed before appearing after the Print Screen key is pressed. This delay may be increased so that the menu is not a distraction when performing simple server switching operations at the keyboard.</td>
</tr>
<tr>
<td>Order</td>
<td>Determines the order which the servers are listed, numerically by port or alphabetically by assigned name.</td>
</tr>
</tbody>
</table>
Changing the Status Flag Attributes: The status flag shows the currently connected server and can be set to appear on the screen whenever the system is operating. You can alter how and where the flag appears on the screen by changing one or more of the following attributes:

- Appearance on the screen: none, timed, or constant
- Position on the screen
- Color and opaqueness

To change the flag attributes, do the following:

1. Press the **Print Screen** key
2. Press the **F2** key to display the Advanced Menu screen. Press the Right Arrow (→) key to move the highlighting to the **Setup** menu.
3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlight to **Flag** and press the **Enter** key. The following menu appears.

<table>
<thead>
<tr>
<th>Flag Attributes</th>
<th>Values and Effect on Flag Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabled</td>
<td>Flags Off = Flag does not appear</td>
</tr>
<tr>
<td></td>
<td>Ports On = Flag shows the connected port number</td>
</tr>
<tr>
<td></td>
<td>Names On = Flag shows the connected server by name</td>
</tr>
<tr>
<td></td>
<td>Ports Timed = Port number displays for five seconds after connection</td>
</tr>
<tr>
<td></td>
<td>Names Timed = Name displays for five seconds after connection</td>
</tr>
<tr>
<td>Row</td>
<td>Select values from 0–14 to position the flag vertically on the screen</td>
</tr>
<tr>
<td>Column</td>
<td>1</td>
</tr>
<tr>
<td>Color</td>
<td>2</td>
</tr>
<tr>
<td>Text</td>
<td>0</td>
</tr>
<tr>
<td>Mode</td>
<td>Transparent</td>
</tr>
</tbody>
</table>

4. Highlight the setting to be changed and use the + and – keys to adjust the values. The following table describes each of the available menu attributes:
Column  Select values from 0–25 to position the flag horizontally on the screen.

Color  Select values from 0–7 for the flag color.

Text  Select values from 0–7 for the flag text color.

Mode  Choose between Opaque and Transparent.

5. Press the Enter key to save the settings. Press Esc at anytime before pressing Enter to cancel the operation and save the previous settings.

6. Press Esc to exit.

Assigning Specific Device Types: In situations where one or more servers need a special type of monitor device, it might be necessary to assign that device type to the port number associated with the server.

Note
When tiering, you must make the primary selector switch aware of the secondaries through the assignment.

Assign a device type as follows:

1. Press the Print Screen key.

2. Press the F2 key to display the Advanced Menu screen. Press the Right Arrow (→) key to move the highlighting to the Setup menu.

3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to Devices and press the Enter key. The following menu appears:

<table>
<thead>
<tr>
<th>Port</th>
<th>Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SVGA</td>
</tr>
<tr>
<td>2</td>
<td>SVGA</td>
</tr>
<tr>
<td>3</td>
<td>8515</td>
</tr>
<tr>
<td>4</td>
<td>SVGA</td>
</tr>
<tr>
<td>5</td>
<td>Default</td>
</tr>
<tr>
<td>6</td>
<td>Default</td>
</tr>
<tr>
<td>7</td>
<td>Default</td>
</tr>
<tr>
<td>8</td>
<td>8port</td>
</tr>
</tbody>
</table>

4. To assign a monitor type, highlight the port you want and use the + or – keys to select the value that corresponds to the particular monitor.
To assign a secondary selector switch to a port, highlight the port and use the + or – keys to obtain the appropriate 8port value.

5. Press the **Enter** key to save the settings. Press **Esc** at any time before pressing Enter to cancel the operation.

6. Press **Esc** to remove the Advanced Menu from the screen.

**Resetting the Selector Switch**

The selector switch can be reset by depressing the Reset button on the back panel of the selector switch.

---

**Note**

Pressing the reset button might recover the device settings without having to power-off, then power-on all the servers.

---

**Making Connections Under Power**

Additional servers, can be connected to the selector switch while the selector switch is running.

Failed devices such as a keyboard or mouse can be connected to a running selector switch.

---

**Note**

When new devices are connected, the selector switch recognizes it and configures it to the settings of the currently selected server.
Parts Listing (Type 9306 Model 200)
<table>
<thead>
<tr>
<th>Index</th>
<th>Rack Enclosure (Type 9306 Model 200)</th>
<th>FRU</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Top Cover including cover standoffs and screws</td>
<td>28L0548</td>
</tr>
<tr>
<td>2</td>
<td>Rear EIA Rail (1) Includes mounting hardware</td>
<td>28L0547</td>
</tr>
<tr>
<td>3</td>
<td>Rack Frame, Caster (1), Leveler (1)</td>
<td>12J4468</td>
</tr>
<tr>
<td>4</td>
<td>Rear Door Assembly Including latch and lock</td>
<td>76H4960</td>
</tr>
<tr>
<td>5</td>
<td>Side Panel Assembly with Latches and Lock</td>
<td>28L0545</td>
</tr>
<tr>
<td>6</td>
<td>Caster Extension Plinth (1)</td>
<td>12J4468</td>
</tr>
<tr>
<td>7</td>
<td>Stabilizer</td>
<td>12J4468</td>
</tr>
<tr>
<td>8</td>
<td>Front Door Assembly Including latch and lock</td>
<td>28L0544</td>
</tr>
<tr>
<td>9</td>
<td>Front EIA Rail (1)</td>
<td>28L0546</td>
</tr>
<tr>
<td>10</td>
<td>Side Brace (1)</td>
<td>12J4477</td>
</tr>
<tr>
<td></td>
<td>Front/Rear Door Hinge with Pin (1)</td>
<td>76H4966</td>
</tr>
<tr>
<td></td>
<td>Front/Rear Door Latch with Lock and Keys (1)</td>
<td>76H4967</td>
</tr>
<tr>
<td></td>
<td>Includes mounting hardware</td>
<td>12J4465</td>
</tr>
<tr>
<td></td>
<td>Front/Rear Door Striker Plate (1)</td>
<td>12J4466</td>
</tr>
<tr>
<td></td>
<td>Grommet, Cable Exit</td>
<td>28L0553</td>
</tr>
<tr>
<td></td>
<td>Label, EIA Unit Numbers</td>
<td>28L0551</td>
</tr>
<tr>
<td></td>
<td>Miscellaneous Parts Kit - Includes: Caged Nut, M6 (6) Screw, M6 Hex Head (6) Screw, M6 Socket (5) Washer, 10/32 flat (5) Hex Nut, M6 (5) Screw, M6X12 Button Head (5)</td>
<td></td>
</tr>
</tbody>
</table>

**Options**

- **Monitor Housing** | 76H4947
- **Filler Panels: 1U, 3U, and 5U** | 12J4473
- **Keyboard Tray** | 76H4958
- **Keyboard Slides (set) with Hardware** | 76H4961
- **Fixed Shelf with Hardware** | 76H4963
- **Single Slide Shelf** | 76H3628
- **C13 - C14 Power Cable** | 07H0075
- **C19 - C14 Power Cable** | 76H4964
- **C13 - NEMA 5-15P Power Cable** | 76H4962
- **C19 - NEMA 5-15P Power Cable** | 12J4479
- **Video, Mouse, Keyboard Power Cable (12 feet)** | 07H0073
- **Video, Mouse, Keyboard Power Cable (25 feet)** | 12J4484
- **Mouse Extension Cable** | 07H0069
- **Keyboard Extension Cable** | 07H0067
- **Concentrator (4 port) with Hardware** | 28L0543
- **Concentrator (8 port) with Hardware** | 76H4948
- **Low Voltage Power Distribution Unit - 8 AC sockets; With Hardware** | 12J4472
- **208 V Power Distribution Unit - 10 AC sockets; With Hardware** | 12J4483
- **250 V Slow Blow Fuse** | 0303549
Type 9306 Model 900

Features
The IBM Netfinity Server 9306-900 Rack enclosure is an industry-standard, 19-inch rack that houses and controls multiple IBM PC Servers/IBM Netfinity Servers and related equipment.

Locations
This section contains the following:
- “Side Panel” on page 56.
- “Selector Switch Locations” on page 57.
- “Power distribution Unit” on page 60.
- “Blank Bezel” on page 61.
- “Fixed Shelf” on page 61.
- “Keyboard Tray” on page 62.

Note
For instructions on how to power-off the rack, see “Powering Off The Rack” on page 5.
Side Panel

Locked
Unlocked
Selector Switch Locations

Selector Switch in monitor compartment

Selector Switch between side panels
One eight-port primary selector switch can accommodate up to eight secondary selector switches which can then support up to 64 servers.

**Note**

There are two types of selector switches:

- 4 port
- 8 port
Selector Switch Environment

Single Selector Switch

Multiple Selector Switch
Power distribution Unit

There are two types of Power distribution units available:
- High voltage
- Low voltage
Blank Bezel

Fixed Shelf
Keyboard Tray

To remove the tray from the side rails, pull up on the left rail tab and push down on the right rail tab.
Starting the System

Start the system by:

1. Power-on the selector switch(s)
2. Power-on the monitor
3. Power-on the servers

**Note**
The selector switch must be powered on first, then the servers. This is to assure that the device drivers for the servers send device settings to the selector switch.

When the selector switch is powered on, it:

- Identifies the mouse and keyboard and puts them into default status.
- Switches to port 1 by default, and displays the number ‘1’ in the status flag field on the monitor.

Configuring the Selector Switch

**Note**
Some selector switch units have different functions and displays. Refer to the Apex PC Solutions® Outlook™ Concentrator User Guide. This guide is shipped with the Selector Switch Unit.

No configuration is necessary for normal switch operation.

Switch configuration can be performed to:

- Assign unique names to servers
- Display servers by their assigned port names and port numbers

Switching Among Servers

To switch among servers:

- Press the **Print Screen** key
- Type the port number of the server to be switched
- Press **Enter**

**Note**
One depression of the Print Screen key starts the switching process. To print a screen, depress the **Print Screen** key twice.
<table>
<thead>
<tr>
<th>Port</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Magic +</td>
</tr>
<tr>
<td>2</td>
<td>CentralOfc +</td>
</tr>
<tr>
<td>3</td>
<td>Sales-C +</td>
</tr>
<tr>
<td>4</td>
<td>Sales-B</td>
</tr>
<tr>
<td>5</td>
<td>Sales-A +</td>
</tr>
<tr>
<td>6</td>
<td>Downtown</td>
</tr>
<tr>
<td>7</td>
<td>Foreign +</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

F1 Help F2 Advanced

- Using the Up Arrow (↑) and Down Arrow (↓), select the server you want to switch to, or press the numeric key that corresponds to the server’s port number and then press Enter.

The symbols after the Port or Name columns on the menu show the status of the port as follows:

<table>
<thead>
<tr>
<th>Type of Symbol</th>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plus</td>
<td>+</td>
<td>Server connected and running</td>
</tr>
<tr>
<td>Asterisk</td>
<td>*</td>
<td>Secondary selector switch connected and running</td>
</tr>
</tbody>
</table>

**Advanced Selector Switch functions**

System configuration is performed through the keyboard and menus to include these Advanced selector switch functions:

- Scanning the servers
• Displaying server BIOS versions and settings
• Saving the Hardware Configuration
• Resetting the mouse and keyboard
• Setting a scan pattern
• Assigning unique names to the servers
• Listing servers by name or port number (Changing Menu Attributes)
• Changing the position and color of the operation menus and windows (Changing Flag Attributes)
• Assigning a specific monitor type to a certain port (server)

Scanning the Servers: To place the selector switch in scan mode:

• Press the Print Screen key
• Press the F2 key to display the Advanced Menu screen.
• Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to Scan and press Enter. The selector switch enters the scan mode and the display returns to the status flag. To cancel the operation, press Esc any time before you press Enter.
• To cancel the scan mode, press any key or move the mouse. The scan stops at the currently connected server.

Displaying Version Information and Device Settings: The selector switch BIOS version number along with keyboard and mouse information can be displayed for the currently selected server.

• Press the Print Screen key
• Press the F2 key to display the Advanced Menu screen.
• Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to Version and press Enter.

Keyboard information includes:
– Enabled or disabled
– Typematic rate
– LED settings
– Port mode
– Keyboard type.

Mouse information includes:
– Enabled or disabled
– Sample rate
– Resolution
– Mouse type

Press Esc to remove the Version menu.

**Saving Hardware Configuration:** Whenever servers are added to or removed from the configuration, or whenever there is a change in the mouse or monitor, save the hardware configuration setting by:

1. Press the Print Screen key
2. Press the F2 key to display the Advanced Menu screen.
3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to Snapshot and press the Enter key. The hardware settings are saved to memory.

**Important**

If the settings are not saved and the selector switch power is lost, it might be necessary to restart each server in the configuration to reestablish keyboard and mouse communications.

**Resetting the Mouse and Keyboard:**

Resetting the mouse and keyboard restores the default setting for the selected server.

• Press the Print Screen key
• Press the F2 key to display the Advanced Menu screen.

• Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to Reset and press the Enter key. The mouse and keyboard are now reset.

**Setting a Scan Pattern:** The selector switch has a standard scan routine for sequentially connecting each server to the monitor, keyboard, and mouse. The scan routine can be configured to scan all or any of the servers in a particular pattern. To create a scan pattern, do the following.

1. Press the Print Screen key
2. Press the F2 key to display the Advanced Menu screen. Press the Right Arrow (→) key to move the highlight to the Setup Menu.
3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to Scan and press the Enter key.
key. The Scan Pattern Setup menu appears with the first port position or server name highlighted. The following example screen displays when the port order mode is selected.

<table>
<thead>
<tr>
<th>Port/Sec</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/20</td>
<td>Downtown</td>
</tr>
<tr>
<td>5/20</td>
<td>Sales-A</td>
</tr>
<tr>
<td>4/10</td>
<td>Sales-B</td>
</tr>
<tr>
<td>1/10</td>
<td>Match</td>
</tr>
</tbody>
</table>

F2 for defaults

If Name order was selected, the Port and Name columns will be reversed.

4. Using the keyboard keys, select the port number of the first server to be included in the scan. Note that the server name, if any is assigned, appears in the far right column on the menu.

5. Press the Tab key or Right Arrow (→) key to move the highlighting to the Sec column. Then, use the keyboard keys to enter a time value, in seconds, for the length of time you want this server to be connected to the monitor and keyboard, before switching to the next server in the scan.

6. Press the Down Arrow (↓) key to move the highlighting to the next port in the Port column and repeat step 5.

To delete unwanted ports from the scan list in the Scan Pattern Setup window, place the highlighting on the top-most port to be removed and press the Delete key (not the Del key on the numeric keypad).

7. When you have finished setting the scan pattern, press the Enter key. Press Esc at any time before pressing Enter to retain the previous scan pattern.

Note

Pressing the F2 key will return all Port and Sec values to the factory defaults.

8. To exit, press Esc

Assigning Unique Names to Servers: Unique names can be given to servers and secondary selector switches. To assign names:

1. Press the Print Screen key
2. Press the F2 key to display the Advanced Menu
screen. Press the Right Arrow (→) key to move the highlight to the Setup Menu.

3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to Names and press the Enter key. The Port Naming menu appears, as shown below.

<table>
<thead>
<tr>
<th>Port</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MAGIC</td>
</tr>
<tr>
<td>2</td>
<td>CENTRALOFC</td>
</tr>
<tr>
<td>3</td>
<td>SALES-C</td>
</tr>
<tr>
<td>4</td>
<td>SALES-B</td>
</tr>
<tr>
<td>5</td>
<td>SALES-A</td>
</tr>
<tr>
<td>6</td>
<td>DOWNTOWN</td>
</tr>
<tr>
<td>7</td>
<td>FOREIGN</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

4. Move the highlighting to the Port entry for which the server name is to be entered or changed. Type in the name of the server using up to 12 alphanumeric characters.

**Note**

Legal characters are A-Z, 0-9, and the dash character. Lowercase letters are converted to uppercase. Press the Backspace key to delete an incorrect entry.

5. If necessary, repeat step 4 for each of the servers that are to be named.

6. Press the Enter key to save the server names in nonvolatile RAM. Press Esc at any time before pressing Enter to cancel the operation.

7. To exit, press Esc
Changing Menu Attributes: The menus displayed on the monitor can be altered in visual appearance to suit the particular use of the system. You can:

- Position the menu in a convenient location on the display.
- List servers by port or by name, whichever is desired, in the appropriate menus.
- Adjust character height.
- Change colors.
- Display the selection menu for a certain period.

To change the menu attributes, do the following:

- Press the Print Screen key.
- Press the F2 key to display the Advanced Menu screen. Press the Right Arrow (→) key to move the highlighting to the Setup list.
- Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to OSCAR (On Screen Configuration and Activity Reporting) and press the Enter key. The following Attribute menu appears.

```
OSCAR Attributes
Resolution  640
Height      16
Horizontal  12
Vertical    7
Background  1
Highlight   4
Text        7
Delay Time  0
Order       Port
```

- Highlight the settings you want to change and use the + or – keys to change the values. As you select different values, the effect of the changes is reflected immediately on the display.
- When all changes are completed, press the Enter key to save the changes to nonvolatile RAM. Press Esc at any time before pressing Enter to cancel the operation and retain the previous settings.
It is possible, while changing the attributes, to garble the menu and windows, making it difficult to correct. If this occurs, reset the selector switch to its default values by pressing the following keys in this order:

1. Esc
2. Esc
3. Print Screen
4. F10
5. Y
6. Enter

Available menu attributes:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Effect on Menu or Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Affects the size of the menu and windows as they appear on the display. Choose from values of 320, 480, and 640. The lower the value, the larger the size.</td>
</tr>
<tr>
<td>Resolution</td>
<td>Affects the size of the text in the menu and windows. The larger the value, the larger the text.</td>
</tr>
<tr>
<td>Height</td>
<td>Determines the position of the menu or window on the screen.</td>
</tr>
<tr>
<td>Horizontal/Vertical</td>
<td>Determines the menu or window background color.</td>
</tr>
<tr>
<td>Background</td>
<td>Determines the menu or window highlight bar color.</td>
</tr>
<tr>
<td>Highlight</td>
<td>Determines the menu or window text color.</td>
</tr>
<tr>
<td>Text</td>
<td>Sets the time in seconds that the OSCAR selection window is delayed before appearing after the Print Screen key is pressed. This delay may be increased so that the menu is not a distraction when performing simple server switching operations at the keyboard.</td>
</tr>
<tr>
<td>Order</td>
<td>Determines the order which the servers are listed, numerically by port or alphabetically by assigned name.</td>
</tr>
</tbody>
</table>
Changing the Status Flag Attributes: The status flag shows the currently connected server and can be set to appear on the screen whenever the system is operating. You can alter how and where the flag appears on the screen by changing one or more of the following attributes:

- Appearance on the screen: none, timed, or constant
- Position on the screen
- Color and opaqueness

To change the flag attributes, do the following:

1. Press the Print Screen key
2. Press the F2 key to display the Advanced Menu screen. Press the Right Arrow (→) key to move the highlighting to the Setup menu.
3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlight to Flag and press the Enter key. The following menu appears.

<table>
<thead>
<tr>
<th>Flag Attributes</th>
<th>Enabled</th>
<th>Names On</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Column</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Text</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>Transparent</td>
<td></td>
</tr>
</tbody>
</table>

4. Highlight the setting to be changed and use the + and – keys to adjust the values. The following table describes each of the available menu attributes:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Values and Effect on Flag Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabled</td>
<td>Flags Off = Flag does not appear</td>
</tr>
<tr>
<td></td>
<td>Ports On = Flag shows the connected port number</td>
</tr>
<tr>
<td></td>
<td>Names On = Flag shows the connected server by name</td>
</tr>
<tr>
<td></td>
<td>Ports Timed = Port number displays for five seconds after connection</td>
</tr>
<tr>
<td></td>
<td>Names Timed = Name displays for five seconds after connection</td>
</tr>
<tr>
<td>Row</td>
<td>Select values from 0–14 to position the flag vertically on the screen</td>
</tr>
</tbody>
</table>
Column  Select values from 0–25 to position the flag horizontally on the screen
Color   Select values from 0–7 for the flag color.
Text    Select values from 0–7 for the flag text color
Mode    Choose between Opaque and Transparent

5. Press the Enter key to save the settings. Press Esc at anytime before pressing Enter to cancel the operation and save the previous settings.

6. Press Esc to exit.

Assigning Specific Device Types: In situations where one or more servers need a special type of monitor device, it might be necessary to assign that device type to the port number associated with the server.

Note
When tiering, you must make the primary selector switch aware of the secondaries through the assignment.

Assign a device type as follows:
1. Press the Print Screen key
2. Press the F2 key to display the Advanced Menu screen. Press the Right Arrow (→) key to move the highlighting to the Setup menu.
3. Using the Up Arrow (↑) and Down Arrow (↓) keys, move the highlighting to Devices and press the Enter key. The following menu appears:

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<thead>
<tr>
<th>Port</th>
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</tr>
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<tr>
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<td>SVGA</td>
</tr>
<tr>
<td>2</td>
<td>SVGA</td>
</tr>
<tr>
<td>3</td>
<td>8515</td>
</tr>
<tr>
<td>4</td>
<td>SVGA</td>
</tr>
<tr>
<td>5</td>
<td>Default</td>
</tr>
<tr>
<td>6</td>
<td>Default</td>
</tr>
<tr>
<td>7</td>
<td>Default</td>
</tr>
<tr>
<td>8</td>
<td>8port</td>
</tr>
</tbody>
</table>

4. To assign a monitor type, highlight the port you want and use the + or - keys to select the value that corresponds to the particular monitor.
To assign a secondary selector switch to a port, highlight the port and use the + or – keys to obtain the appropriate 8port value.

5. Press the Enter key to save the settings. Press Esc at any time before pressing Enter to cancel the operation.

6. Press Esc to remove the Advanced Menu from the screen.

**Resetting the Selector Switch**
The selector switch can be reset by depressing the Reset button on the back panel of the selector switch.

---
**Note**
Pressing the reset button might recover the device settings without having to power-off, then power-on all the servers.

---
**Making Connections Under Power**
Additional servers can be connected to the selector switch while the selector switch is running.

Failed devices such as a keyboard or mouse can be connected to a running selector switch.

---
**Note**
When new devices are connected, the selector switch recognizes it and configures it to the settings of the currently selected server.
Parts Listing (Type 9306 Model 900)
<table>
<thead>
<tr>
<th>Index</th>
<th>Rack Enclosure (Type 9306 Model 900)</th>
<th>FRU</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Top Cover including cover standoffs and screws</td>
<td>12J4481</td>
</tr>
<tr>
<td>2</td>
<td>Rear EIA Rail (1) Includes mounting hardware</td>
<td>76H4956</td>
</tr>
<tr>
<td>3</td>
<td>Rack Frame Caster (1) Leveler (1)</td>
<td>76H4959, 12J4468, 76H4960</td>
</tr>
<tr>
<td>4</td>
<td>Rear Door Assembly Including latch and lock</td>
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<td>76H4966, 76H4967, 12J4465, 12J4469, 12J4471, 76H4950</td>
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**Rack Enclosure (Type 9306 Model 900) Options**

- Monitor Housing
- Side Panel Lock with Keys
- Side Panel Latch
- Filler Panel (1U, 3U, and 5U)
- Keyboard Tray
- Keyboard Slides (set) with Hardware
- Fixed Shelf with Hardware
- Single Slide Shelf
- Rack to Rack Mounting Kit - Includes: Horizontal Trim (1) Vertical Trim (2) M6x16 Screws (12) M6 Cage Nuts (4) M6 Whiz nuts (10) Brackets, Rack Mounting (4)

- C13 - C14 Power Cable
- C19 - C14 Power Cable
- C13 - NEMA 5-15P Power Cable
- C19 - NEMA 5-15P Power Cable
- Video, Mouse, Keyboard Power Cable (12 feet)
- Video, Mouse, Keyboard Power Cable (25 feet)
- Mouse Extension Cable

12J4476, 12J4479, 07H0073, 12J4484, 07H0069
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Type 9308 Model 42P, 42X

Features
The IBM Netfinity Server 9308 Rack - Models 42P, 42X enclosure is an industry-standard, 19-inch rack cabinet that houses multiple IBM Netfinity Servers and related equipment.

Primary Rack (Model 42P)

Extension Rack (Model 42X)
Locations

This section contains the following:

- “Side panels” on page 79.
- “Top 6U side panels” on page 80.
- “Front and rear doors” on page 81.
- “Top 6U of rack” on page 82.
- “Installing the stabilizer bracket” on page 83.
- “Rack attachment” on page 84.
- “Installing L-channel support rails to rack mounting brackets” on page 85.
- “Installing an optional device on sliding rails” on page 86.
- “Fixed shelf” on page 87.
- “Single-slide shelf” on page 88.
- “Keyboard tray” on page 89.
- “Monitor shelf” on page 90.
- “Flat panel monitor rack mount kit” on page 91.
- “Blank filler panel” on page 92.
Side panels

To remove a main side panel:
1. Loosen the captured screw (a security feature) inside the rear of the rack which secures a panel in place.
2. Push down the release latches and tilt the panel slightly towards you; then lift the panel to remove it.

Note
Reverse this procedure to install main side panels.
Top 6U side panels

To remove a top 6U side panel:

1. Loosen the four screws, located on the top of the rack, which hold each side panel in place.
2. Tilt the side panel slightly towards you, then remove it from the rack.

Note

Reverse this procedure to install top 6U side panels.
Front and rear doors

To remove a door:
1. Unlock the door and open it fully.
2. Grasp the door 1 firmly with both hands and lift it upwards until it is fully off of the hinges 2.

Notes
1. Reverse this procedure to reinstall front and rear doors.
2. The top hinge pin is longer than the bottom; engage it first when you reinstall doors.
Top 6U of rack

To remove and install the top 6U portion of the rack:

**Note**
You must first remove the side panels from top 6U (see “Top 6U side panels” on page 80) and doors (see “Front and rear doors” on page 81) in order to remove the top 6U of the Rack.

1. Install the support bars 1 in the front and the rear of the rack, using two screws per support bar.
2. Remove the 16 screws (eight per side) that secure the top 6U 2 in place.
3. Once the 9308 Rack is in the desired location, reinstall the top 6U using all 16 of the screws that you removed; then, add top side covers and remove the support bars.
Installing the stabilizer bracket

To lower the leveling feet and install the stabilizer bracket:

1. Lower each of the four feet [1] just enough so that they touch the floor.

   **Note**
   
   The rack casters will support the weight of the 9308 Rack. The feet prevent the rack from rolling.

2. Secure the stabilizer bracket [2] to the front of the rack with the screws that come with the rack.
Rack attachment

To attach racks in a suite:

1. Remove main side panel (see “Side panels” on page 79) and top 6U side panel (see “Top 6U side panels” on page 80) from the side of the primary rack that is adjacent to an expansion rack in a suite.

2. Install the four threaded standoffs on the outside of the two adjacent racks:
   a. Install two threaded standoffs on the rack on the left, one on the top-front and one on the bottom-rear.
   b. Install two threaded standoffs on the rack on the right, one on the bottom-front and one on the top-rear.

3. Attach the racks together by securing the four bolts and washers to the threaded standoffs.

   **Note**

   You must install the top-front and bottom-rear bolts from right-to-left; then, install the bottom-front and top-rear bolts from left-to-right.

4. Snap the trim pieces (one in the front and one in the rear) in place.

5. Install the main side panel and top 6U side panel on the outside of the outermost expansion rack.
Installing L-channel support rails to rack mounting brackets

Installing L-channel support rails:

- The front 1 and rear 2 of a l-channel support bracket is secured with clip nuts 3 and screws with washers 4.
- The length of the l-channel is adjusted on the inside of the bracket with the screws 5 provided.
- To secure the device to the mounting bracket use the screws and clip nuts 6 provided.
Installing an optional device on sliding rails

To install an optional device on sliding rails:

1. Install and adjust the slide rails at the front 1 and rear 2 of the optional device.

2. Using screws, secure the device to the extended slide rails 3; then, slide the device into the rack.

3. Install the cable-management arm on the rear of the rack 4; then, attach the arm to the device as detailed in the device documentation.
Fixed shelf

Note
A fixed shelf can support a device or option weighing up to 45kg (100 lbs).

To install a fixed shelf:
1. Determine the location for the fixed shelf within the rack.
2. Secure the threaded mounting brackets 1 to the rear of the shelf; then, secure the brackets to the rack with two screws and clip nuts per bracket.
3. Secure the front of the shelf 2 with two screws and clip nuts.
Single-slide shelf

**Note**
The single-slide shelf can support a device or option weighing up to 68kg (150 lbs).

To install a single-slide shelf:

1. Secure the mounting rails to the front 1 and rear 2 of the rack, adjusting them as needed.
2. Attach the cable-management arm to the rear of the shelf and to the mounting rail 3, using the screws and arm pins provided.
Keyboard tray

To install a keyboard tray:

1. Secure the slide rails to the front 1 and rear 2 of the rack, adjusting them as needed.
2. Slide the keyboard tray onto the rails and store the keyboard 3 in the area provided.
To install a monitor shelf:

1. Secure the rear monitor shelf bracket in the rear of the rack 1 with two screws per side.

2. Place the monitor shelf inside of the rack, resting on the rear bracket; then, secure it to the front of the rack 2 with three screws and clip nuts per side.
Flat panel monitor rack mount kit
A T55a Flat Panel Monitor can be installed in a keyboard tray with the flat panel monitor rack mount kit.

To install the flat panel monitor rack mount kit and monitor:

1. Install a keyboard tray (see “Keyboard tray” on page 89) in the rack with at least 2U of clearance above it.
2. Install the flat panel monitor base 1 on the monitor.
3. Install the mounting studs 2 and bumpers 3 on the keyboard tray.
4. Secure the monitor base inside of the keyboard tray with the screws 4 that come with the flat panel monitor rack mount kit.
5. Fold the monitor down and slide the keyboard tray inside of the rack to ensure that proper clearance exists.

---

**Note**
Refer to the documentation that comes with the flat panel monitor rack mount kit for cabling information.
Blank filler panel
Blank filler panels can occupy 1U, 3U, or 5U of space on a rack.

To install a blank filler panel:
1. Determine the size (1U, 3U, or 5U) panel you need.
2. Secure the blank filler panel in place with four screws and clip nuts.
Parts Listing (Type 9308 Model 42P, 42X)
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Related Service Information

Safety Information

The following section contains the safety information that you need to know before servicing an IBM PC Server/IBM Netfinity Server or IBM supporting equipment such as the Type 9306 IBM PC Server Rack Enclosure and Type 9306 IBM Netfinity Rack.

1. DANGER

- The maximum allowable weight for devices mounted on slides is 80 Kg (176 lbs). Do not install sliding devices exceeding this weight.
- The center of gravity for an extended unit cannot exceed 362 mm (14.25 in.) from the face of the rack. If an extended device exceeds this distance, the configured rack might be unstable.

2. DANGER

- Always install servers and power devices in the rack from the bottom to the top.
- Always install the heaviest equipment in the bottom of the rack.
- Always install the UPS (uninterruptible power supply) in the bottom of the rack.
- Always install the stabilizer bracket.
- Do not extend more than one sliding device at a time.
3. **DANGER**

   Plug rack power cords into electrical outlets that are located near the rack and are easily accessible.

4. **DANGER**

   Connect all devices installed in a rack to power devices installed in the same rack. Do not plug the power cord from a device installed in one rack into a power device installed in a different rack.

1. **PERIGO**

   - O peso máximo permitido para dispositivos montados em trilhos é de 80 kg (176 lbs). Não instale dispositivos em trilhos que excedam este peso.
   - O centro de gravidade para uma unidade estendida não pode exceder 362 mm (14,25 in.) da frente do rack. Se um dispositivo estendido exceder esta distância, o rack configurado pode se tornar instável.

2. **PERIGO**

   - Instale sempre os servidores e dispositivos de alimentação no rack de baixo para cima.
   - Sempre instale o equipamento mais pesado na parte inferior do rack.
   - Sempre instale a fonte de alimentação contínua (UPS) na parte inferior do rack.
   - Sempre instale o suporte do estabilizador.
   - Não estenda mais de um dispositivo com trilho de uma vez.
3. **PERIGO**

Conecte os cabos de alimentação do rack em saídas elétricas localizadas perto do rack e de fácil acesso.

4. **PERIGO**

Conecte todos os dispositivos de um rack aos dispositivos de energia instalados no mesmo rack. Não conecte um cabo de alimentação de um dispositivo instalado em um rack a um dispositivo de energia instalado em um rack diferente.

1. **警告**

- 在机架上安装的设备最大允许重量是40千克（16磅）。超过该值的设备不允许安装。
- 一个展开的单元架重心从机架底座上不能超过36mm（1.43英寸）。展开的设备如果超过了该距离，已展开的机架可能不稳固。

2. **警告**

- 请务必在机架中自下而上安装服务器和电源设备。
- 请务必在机架底部安装最重的设备。
- 请务必在机架底部安装UPS（不间断电源）。
- 请务必安装固定设备托架。
- 一次最多展开一个滑动设备。

3. **警告**

将机架电源插头插进电源插座。
1. **DANGER**

- Le poids maximal d’une unité montée sur glissières est de 80 kg ; n’installez pas d’unités dont le poids est supérieur.
- Le centre de gravité d’une unité tirée hors de son logement ne doit pas être éloigné de plus de 362 mm de la face avant de l’armoire. Sinon, l’armoire configurée risque de ne pas être stable.

2. **DANGER**

- Commencez toujours par installer les serveurs et les blocs d’alimentation dans la partie inférieure de l’armoire.
- Installez toujours les composants les plus lourds dans la partie inférieure de l’armoire.
- Installez toujours les blocs d’alimentation (UPS) dans la partie inférieure de l’armoire.
- Installez toujours les stabilisateurs.
- Certaines unités sont installées sur des tiroirs coulissants. N’ouvrez pas plusieurs de ces tiroirs à la fois.

3. **DANGER**

Branchez les cordons d’alimentation sur des socles de prises de courant proches de l’armoire et facilement accessibles.
4. DANGER

Toutes les unités installées dans une armoire doivent être reliées à des unités d'alimentation situées dans la même armoire. Ne branchez jamais le cordon d'alimentation d'une unité installée dans une armoire sur une unité d'alimentation installée dans une autre armoire.

1. VORSICHT

- Das zulässige Höchstgewicht für auf Schienen montierte Einheiten beträgt 80 kg. Keine Einheiten mit höheren Gewicht einbauen.
- Der Schwerpunkt einer ausgefahrenen Einheit darf nicht mehr als 362 mm von der Frontseite des Gehäuse entfernt liegen. Liegt der Schwerpunkt weiter entfernt, kann das konfigurierte Gehäuse instabil werden.

2. VORSICHT

- Server und Netzeinheiten immer von unten nach oben im Gehäuse installieren.
- Die schwersten Einheiten unten installieren.
- Die USV (Unterbrechungsfreie Stromversorgung) immer unten installieren.
- Immer die Kippsicherung anbringen.
- Nie mehr als jeweils eine Einschubeinheit herausziehen.
3. **VORSICHT**

Die Netzkabel des Gehäuses an Steckdosen anschließen, die sich in der Nähe des Gehäuses befinden und gut zugänglich sind.

4. **VORSICHT**


1. **PERICOLO**

- Il peso massimo consentito per i dispositivi montati su slitte è di 80 kg. Non installare dispositivi scorrevoli che hanno un peso superiore a quello sopra citato.
- Il centro di gravità di un'unità estratta non può superare i 362 mm dalla superficie del rack. In caso contrario, il rack configurato potrebbe essere instabile.
2. **PERICOLO**

- Installare sempre i serventi e gli alimentatori nel rack dal basso verso l'alto.
- Installare sempre il componente più pesante nella parte inferiore del rack.
- Installare sempre l'UPS (uninterruptible power supply) nella parte inferiore del rack.
- Installare sempre il supporto stabilizzatore.
- Non aprire più di un'unità scorrevole alla volta.

3. **PERICOLO**

Inserire i cavi di alimentazione del rack in prese elettriche situate vicino al rack e di facile accesso.

4. **PERICOLO**

Collegare tutte le unità installate nel rack ai dispositivi di alimentazione installati nello stesso rack. Non collegare il cavo di alimentazione di un'unità installata in un rack al dispositivo di alimentazione di un differente rack.

1. **Note**

- L'UPS (uninterruptible power supply) deve essere installato in seguito ai serventi e ai componenti pesanti.
- Non collegare mai un cavo di alimentazione di un rack a un dispositivo di alimentazione di un differente rack.

2. **Note**

- L'UPS (uninterruptible power supply) deve essere installato in seguito ai serventi e ai componenti pesanti.
- Non collegare mai un cavo di alimentazione di un rack a un dispositivo di alimentazione di un differente rack.
PELIGRO

- El peso máximo permitido para los dispositivos montados en correderas es de 80 Kg (176 lbs).
- No instale dispositivos deslizantes que excedan este peso.
- El centro de gravedad de una unidad extendida no puede exceder los 362 mm (14,25 pgda.) desde la parte frontal del bastidor. Si un dispositivo extendido excede esta distancia, el bastidor que lo contuviese podría ser poco estable.
2. PELIGRO

- Instale siempre los servidores y dispositivos de alimentación en el bastidor de abajo a arriba.
- Instale siempre el equipo más pesado en la parte baja del bastidor.
- Instale siempre los UPS (fuentes de alimentación ininterrumpible) en la parte baja del bastidor.
- Instale siempre la pestaña estabilizadora.
- No extienda más de un dispositivo deslizante a la vez.

3. PELIGRO

Enchufe los cables de alimentación del bastidor en tomas eléctricas que estén situadas cerca de éste y a las que se pueda acceder fácilmente.

4. PELIGRO

Conecte todos los dispositivos instalados en un bastidor a los dispositivos de alimentación instalados en dicho bastidor. No enchufe el cable de alimentación de un dispositivo instalado en un bastidor en un dispositivo de alimentación instalado en un bastidor diferente.
Safety Notice (Multi-Lingual Translations)
This safety notice for (Type 9306 models 4QS, 4QX, 9QS, 9QX, 9TS, 9TX) is provided in the following languages:

- English
- Brazilian
- Chinese
- French
- German
- Italian
- Spanish

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Caution:
The server selector unit is heavy. You will need two people to safely remove the server selector unit.

A unidade seletora do servidor é pesada. Você irá precisar de duas pessoas para remover com segurança esta unidade.

此伺服器選擇裝置非常的重。您將需要二個人小心地移動此伺服器選擇裝置。

Le bloc sélecteur est lourd. Faites-vous aider pour le retirer en toute sécurité.

Die Server Selektor Einheit ist schwer. Um sie zu transportieren, sind mindestens zwei Personen erforderlich.

L'unità per la selezione dei serventi è pesante ed occorrono due persone per rimuoverla in maniera sicura.

La unidad de selector del servidor es pesada. Se necesitan dos personas para extraer la unidad de selector del servidor sin peligro.
Safety Inspection Guide:

The intent of this inspection guide is to assist you in identifying potentially unsafe conditions on these products. Each machine, as it was designed and built, had required safety items installed to protect users and service personnel from injury. This guide addresses only those items. However, good judgment should be used to identify potential safety hazards due to attachment of non-IBM features or options not covered by this inspection guide.

If any unsafe conditions are present, you must determine how serious the apparent hazard could be and whether you can continue without first correcting the problem.

Consider these conditions and the safety hazards they present:

- Electrical hazards, especially primary power (primary voltage on the frame can cause serious or fatal electrical shock).
- Explosive hazards, such as a damaged CRT face or bulging capacitor
- Mechanical hazards, such as loose or missing hardware

The guide consists of a series of steps presented in a checklist. Begin the checks with the power-off, and the power cord disconnected.

Checklist:

1. Check exterior covers for damage (loose, broken, or sharp edges).
2. Power-off the computer. Disconnect the power cord.
3. Check the power cord for:
   a. A third-wire ground connector in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and frame ground.
   b. The power cord should be the appropriate type as specified in the parts listings.
   c. Insulation must not be frayed or worn.
4. Remove the cover.
5. Check for any obvious non-IBM alterations. Use good judgment as to the safety of any non-IBM alterations.
6. Check inside the unit for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
7. Check for worn, frayed, or pinched cables.
8. Check that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.
Handling Electrostatic Discharge-Sensitive Devices:

Any computer part containing transistors or integrated circuits (ICs) should be considered sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the machine, the part, the work mat, and the person handling the part are all at the same charge.

Notes:

1. Use product-specific ESD procedures when they exceed the requirements noted here.
2. Make sure that the ESD protective devices you use have been certified (ISO 9000) as fully effective.

When handling ESD-sensitive parts:

- Keep the parts in protective packages until they are inserted into the product.
- Avoid contact with other people.
- Wear a grounded wrist strap against your skin to eliminate static on your body.
- Prevent the part from touching your clothing. Most clothing is insulative and retains a charge even when you are wearing a wrist strap.
- Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
- Select a grounding system, such as those listed below, to provide protection that meets the specific service requirement.

   **Note**
   
   The use of a grounding system is desirable but not required to protect against ESD damage.

   - Attach the ESD ground clip to any frame ground, ground braid, or green-wire ground.
   - Use an ESD common ground or reference point when working on a double-insulated or battery-operated system. You can use coax or connector-outside shells on these systems.
   - Use the round ground-prong of the AC plug on AC-operated computers.

Grounding Requirements:

Electrical grounding of the PC Server Rack and computers is required for operator safety and correct system function. Proper grounding of the electrical outlet can be verified by a certified electrician.
Problem Determination Tips

Due to the variety of hardware and software combinations that can be encountered, use the following information to assist you in problem determination. If possible, have this information available when requesting assistance from Service Support and Engineering functions.

- Machine type and model
- Processor or hard disk upgrades
- Failure symptom
  - Do diagnostics fail?
  - What, when, where, single, or multiple systems?
  - Is the failure repeatable?
  - Has this configuration ever worked?
  - If it has been working, what changes were made prior to it failing?
  - Is this the original reported failure?
- Reference/Diagnostics Diskette Version
  - Type and version level
- Hardware configuration
  - Print (print screen) configuration currently in use
  - BIOS level
- Operating system software
  - Type and version level

Important

To eliminate confusion, identical systems are considered identical only if they:

1. Are the exact machine type and models
2. Have the same BIOS level
3. Have the same adapters/attachments in the same locations
4. Have the same address jumpers/terminators/cabling
5. Have the same software versions and levels
6. Have the same Reference/Diagnostics Diskette (version)
7. Have the same configuration options set in the system
8. Have the same setup for the operation system control files

Comparing the configuration and software set-up between “working and non-working” systems will often lead to problem resolution.
Phone Numbers, U.S. and Canada

Note
EMEA customers should contact their Dealer or IBM Service organization.

Before you place a call to the Support Center, refer to “Problem Determination Tips” on page 107.

Authorized Dealers or Servicers

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<td>919-517-0001</td>
<td>Bulletin Board Service - PC Company</td>
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<td>800-528-7705</td>
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<td>800-937-3737</td>
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<tr>
<td>800-426-2472</td>
<td>IBM Customer Engineer Technical Support</td>
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<tr>
<td>800-IBM-DEAL</td>
<td>IBM Dealer Support Center</td>
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<tr>
<td>800-342-6672</td>
<td>IBM Direct Desktop Software Sales</td>
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<td>303-924-4015</td>
<td>IBM Part Number ID and Look Up</td>
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<td>800-426-7763</td>
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<td>800-237-5511</td>
<td>IBM Software Defect Support (CSDs)</td>
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<td>800-327-5711</td>
<td>IBM Software Ordering (Publications)</td>
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<tr>
<td>800-426-1484</td>
<td>IBM Supplies Technical Hotline</td>
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<tr>
<td>800-388-7080</td>
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U.S. Customers and Helpware Subscribers

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<td>800-426-8322</td>
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<td>800-999-0052</td>
<td>Customized Operational Services</td>
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<td>800-237-4824</td>
<td>EduQuest (Educational Computers)</td>
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<tr>
<td>800-964-8523</td>
<td>End User HelpDesk Support</td>
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<tr>
<td>800-742-2493</td>
<td>IBM Anti-Virus Services</td>
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<tr>
<td>800-447-4700</td>
<td>IBM Authorized Dealer Referrals</td>
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<td>800-426-2468</td>
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<td>800-426-3333</td>
<td>IBM Information Referral Service</td>
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<td>800-IBM-SERV</td>
<td>IBM Service</td>
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<tr>
<td>800-772-2227</td>
<td>IBM PC HelpCenter and HelpDesk</td>
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<td>800-426-7282</td>
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<td>800-426-9402</td>
<td>Multimedia Information Center</td>
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<td>800-241-1620</td>
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<td>OS/2 Information Line</td>
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<td>800-284-5933</td>
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<td>914-962-0310</td>
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<td>Technical Coordinator Program</td>
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<td>800-551-2832</td>
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## IBM Canada Customer and Servicer Support

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<td>Business Partner Marketing Support</td>
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<td>905-316-5556</td>
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<td>514-938-6048</td>
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<td>800-465-6600</td>
<td>Customer Relations</td>
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<td>905-316-6666</td>
<td>Customer Relations - Toronto</td>
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<tr>
<td>800-465-6666</td>
<td>Customer Service Dispatch</td>
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<td>800-263-2769</td>
<td>Customer Service Parts</td>
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<td>800-465-2222</td>
<td>Customer Support Center (ISC)</td>
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<tr>
<td>416-443-5701</td>
<td>Customer Service Repair Centre</td>
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<td>800-465-7999</td>
<td>HelpClub Registration</td>
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<td>IBM Direct</td>
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<td>905-513-3367</td>
<td>IBM Certification Administrator</td>
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<td>905-316-2683</td>
<td>IBM Certification Coordinator</td>
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<td>Mail to: 50 Acadia Drive Markham, Ontario L3R 0B3</td>
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<td>800-465-3299</td>
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<td>800-566-3344</td>
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<td>800-268-3100</td>
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<td>800-387-8343</td>
<td>IBM PC Service Partners</td>
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<td>800-263-2769</td>
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<td>416-443-5808</td>
<td>Parts Regular Orders, Exchange</td>
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<td>514-938-3022</td>
<td>PC Co Bulletin Board - Montreal</td>
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<td>905-316-4255</td>
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<td>604-664-6464</td>
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<td>204-934-2735</td>
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<td>800-661-7768</td>
<td>PS Marketing Support (PSMT)</td>
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<td>800-465-1234</td>
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<td>800-661-2131</td>
<td>PS/1 Warranty Customer Helpline</td>
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<td>800-387-8483</td>
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<td>Warranty Claim Fulfillment</td>
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<td>416-443-5778</td>
<td>Warranty Provider Support Hotline</td>
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<tr>
<td>800-505-1855</td>
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