

## IPv6-IPv4 Converter IB-40 Installation Guidance

Thank you for purchasing IPv6-IPv4 Converter, IB-40 (below, "this product").

This product is a protocol converter that allows an IPv4 MFP to be used on IPv6 networks. Once an IPv4 MFP is connected to this product, specifying the environmental settings will allow IPv6 network devices to access the MFP.

This document describes the basic information about this product and the preparation that needs to be completed before it is set up.

### Safety instructions

To ensure safe and proper use, please read the following information carefully before using this product. The safety instructions include important information on safe handling of the product and on general safety issues. Be sure to read these instructions before using the product.

#### [ Danger ]

"Danger" indicates the existence of a hazard that could result in bodily injury if the safety instruction is not observed.

- Do not allow physical impact: When damaged, turn off the MFP main unit, unplug it from the power outlet and contact your point of purchase. Failure to take this action could cause fire or an electrical shock.
- If this product becomes hot, or you smell smoke, turn off the MFP main unit, disconnect the power plug from this product, and then unplug the power cable from electric outlet immediately. If a foreign object (liquid, metal, etc.) gets into this product, turn off the MFP main unit, disconnect the power plug from this product, and then unplug the power cable from electric outlet immediately.
  - Failure to take this action could cause fire or an electrical shock.
  - Contact your point of purchase about repairing this product.
- Keep the cord and cables away from children. They may be injured or receive a shock.
- If MFP main unit has a ground wire, it must be used to prevent electrocution and power surges.
- Do not disassemble or modify this product. Contact your point of purchase about repairing this product.

#### [ Warning ]

"Warning" indicates the existence of a hazard that could result in material damage if the safety instruction is not observed.

- When unplugging the MFP main unit, do not pull on the power cord. This could damage the cord and result in a fire and/or electrical shock. Pull only on the plug.
- When moving this product, always unplug the MFP main unit from the power outlet beforehand. Failure to do so could result in fire or electric shock may occur.
- Verify all cables are properly and safely before using this product.
- When the product will not be used for an extended time, unplug the MFP main unit power cable.
- Do not use or store this product under the following conditions to avoid potential damage to this product.
  - [Prohibited]
  - Hard vibrations
  - Tilted or unstable places
  - Exposure to the direct rays of the sun
  - Humid or dusty places
  - Wet place (kitchen or bathroom)
  - Heated places (near stove or heater)
  - Wide temperature change
  - Strong electromagnetic field (near magnet, radio or wireless device)

### Notes on using this product

#### ● List of compatible protocols

Our company assures that this product works without any problems for the following protocols. Other protocols may also be compatible if they are application layer protocols that use the same communication method for IPv4 and IPv6.

TCP: telnet(#23), http(#80), LPR(#515), IPP(#631), RAW mode print(#9100), SMTP(#25)\*, POP(#162)\*, SMB(#445)\*, FTP-Server(#21), FTP-Client(#21)\*  
UDP: SNMP(#161), SNMP-Trap(#162)\*, DNS(#53)

\* When using a protocol marked with "\*\*", the IPv6 address of the destination device needs to be registered in the Conversion Address List.

#### ● List of incompatible protocols

Protocols applicable to the following conditions cannot be used for IPv6 communication via this product.

- Application layer protocols that include an IP address in the communication data (e.g. SIP)
  - \*Except for the compatible protocols above
- Protocols that have a different structure for the communication data and method for IPv4 and IPv6 (protocols such as DHCP that have different communication specifications for IPv4 and IPv6)
- Other unsupported protocols  
NetWare, AppleTalk, NetBEUI

#### ● List of utilities/drivers not compatible with IPv6

The following utilities and drivers cannot be used with IPv6:

- TWAIN Driver
- TWAIN for Mac
- WIA Driver
- Mac PPD
- Network FAX Driver
- KPrint
- Quick Setup
- Scanner File Utility
- Scan to Mac
- Address Editor
- Address Book for Scanner
- DB Assistant
- KM-NET VIEWER
- KM-NET for Clients
- KM-NET for Accounting
- KMnet Admin

#### ● Number of network devices allowed for IPv6 communication

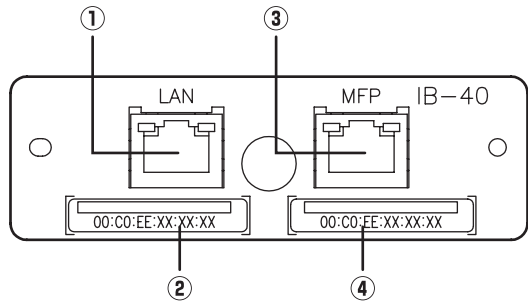
- Up to 1,000 network devices can use IPv6 to communicate with an MFP connected to this product.

#### ● Restrictions

- Name resolution functions (address and host name conversion protocols) on the network such as WINS, Bonjour and NBNS cannot be used. (The communication specification for name resolution is different for IPv4 and IPv6.)
- Software that establishes a communication by combining multiple protocols may not work if one of the protocols is unsupported by this product.

### Parts and function

[Network connections]



|   |  |   |
|---|--|---|
| ① | LAN network port                         | Used to connect the LAN end of the network cable.   |
| ② | LAN network port Ethernet address        | Ethernet address of the LAN network port on this product.The serial number is the last 6 digits of this address.E.g. If the Ethernet address is 00:C0:EE:10:00:0D, the serial number is 10000D. |
| ③ | MFP network port                         | Used to connect the MFP end of the network cable.   |
| ④ | Ethernet address of the MFP network port | This is the Ethernet address for the MFP network port.  |

### IB-40 Specifications

|  |   |
|--|---|
| Operating environment  | Temperature : +0 °C to +70 °C , +32 °F to +158 °F<br>Humidity : 20% to 80%RH (Non-condensing) |
| Storage environment  | Temperature : -10 °C to +50 °C , 14 °F to +122 °F<br>Humidity : 20% to 80%RH (Non-condensing) |
| EMI  | VCCI Class B / FCC Class B / EN55022 / EN55024  |
| CPU  | 32bit RISC CPU  |
| Memory   | RAM : 8MByte<br>FlashROM : 2MByte   |
| Wired network interface  | 10BASE-T/100BASE-TX 2 ports. (automatic detection)  |
| LED  | 10BASE/100BASE Link(Green)<br>Status(Orange)  |
| Maximum number of IPv6 devices this product can communicate with | 1000  |
| Recommended Web browsers   | Internet Explorer 6 (or higher)   |

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CE EN55022 Class-B  
EN55024

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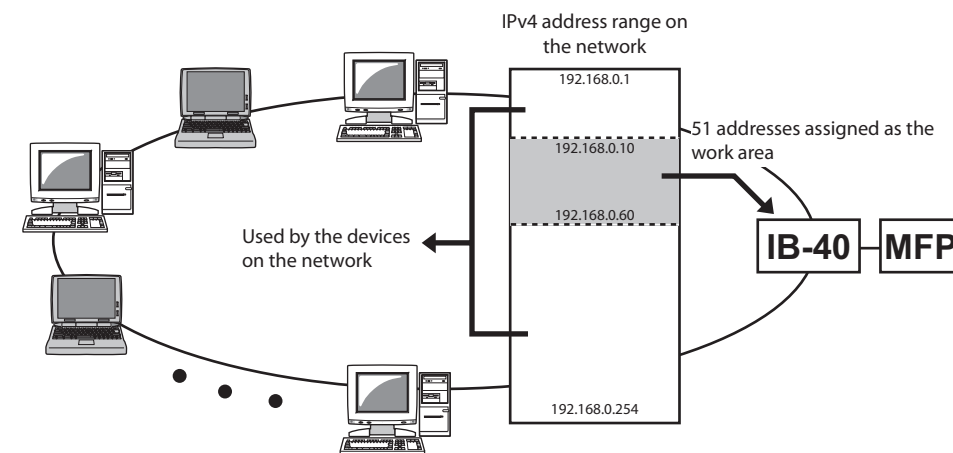
## Before using this product c (Check the network environment)

This product maintains a conversion list for IPv6 addresses and IPv4 addresses and automatically converts IPv6 addresses to IPv4 addresses to establish communication with the MFP main unit. To utilize this function, a certain address range within the IPv4 address area on the network needs to be exclusively reserved as a work area for this product.

Following are the conditions regarding the IPv4 address range to be registered to this product.

- The addresses should be available on the network to which this product will be connected.
- The addresses should not already be in use on the network to which this product will be connected.
- Enough addresses should be reserved for all IPv6 devices to be communicated with via this product. (One address is used for this product.)
- A contiguous address range should be reserved.

Example: When fifty IPv6 devices are connected to an IPv4 network that uses the address range from 192.168.0.1 to 192.168.0.254 :

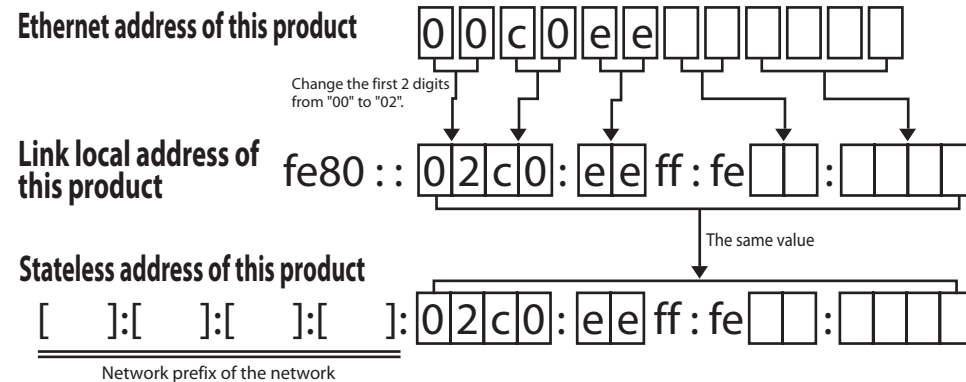


Before configuring the environmental settings of this product, check the IPv4 address range assigned to the network environment where this product is to be connected, and reserve the IPv4 address range to be registered to this product.

\* If the IPv4 address range to be registered for this product is not appropriate, the MFP main unit and the IPv6 devices will not be able to communicate properly. Please be sure to perform the above check.

## How to check the IPv6 address of this product

The IPv6 address of this product can be confirmed by checking the Ethernet address of the LAN network port shown on the LAN network port itself and applying it to the diagram below.



\* The leading zeros in each part of an IPv6 address can be omitted.  
(Example) fe80::02c0:eeff:fe01:0001 → fe80::2c0:eeff:fe01:1

## Setup IPv6 environment for PC

The environmental settings for this product can be configured over the IPv6 network by accessing the web page of this product with a Web browser. The following is an example of how to configure this product using Internet Explorer 6 on Windows XP. Please refer to this example to configure the environmental settings on your PC. (If you are using Windows Vista, please start from "6". If you are using a different OS or Web browser, the configuration method may vary. Please refer to the help for the OS or Web browser.)

### 1. Install IPv6

Start the Command Prompt. Enter "**ipv6 install**" and press the Enter key.

(Example)

```
c:\>ipv6 install
```

### 2. Edit the hosts file

Open the "**hosts**" file stored in <c:\Windows\system32\drivers\etc> (<c:\Windows> may vary depending on the installation environment) with Windows Notepad. Add the IPv6 address and host name of this product to the bottom of the file.

(Example)

```
#
#
# For example:
# 102.54.94.97 rhino.acme.com # source server
# 38.25.63.10 x.acme.com # x client host

127.0.0.1 localhost
fe80::2c0:eeff:fe00:1122 ib40
IPv6 address of this product Host name of this product
```

(If a stateless address is assigned to this product, set the stateless address here. For the host name, any name that is not used by another network device may be set.)

When editing is completed, over write the hosts file and close Windows Notepad.

### 3. Check the network interface number of the PC. (Only if the link local address is specified in the hosts file.)

Check the interface number of the network interface connected to this product. At the Command Prompt, enter "**ipconfig**" and press the ENTER key. From the information displayed, find the link local address of the network interface to be connected to this product, and check the number following "%", indicated **after the link local address**.

(Example)

```
C:\>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix  : 
IP Address. . . . . : xxx.xxx.xxx.xxx
Subnet Mask . . . . . : xxx.xxx.xxx.xxx
IP Address. . . . . : xxx:xxx:xxx:xxx:xxx:xxx:xxx:xxx
IP Address. . . . . : xxx:xxx:xxx:xxx:xxx:xxx:xxx:xxx
IP Address. . . . . : fe80::2xx:xxff:fexx:xxxx%4

Default Gateway . . . . . : xxx.xxx.xxx.xxx
                          fe80::2xx:xxff:fexx:xxxx%4
```

### 4. Set the IPv6 route (Only if the link local address is specified in the hosts file.)

At the Command Prompt, use the "**ipv6**" command to associate the destination of the link local address with the network interface you have checked at "3".

(Example)

```
c:\>ipv6 rtu fe80::/64 4
Specify the number you checked at "3"
```

### 5. Communication check

At the Command Prompt, use the "**ping**" command to verify that a link has been properly established with this product.

(Example)

```
c:\>ping ib40

Pinging ib40 [fe80::2c0:eeff:fe00:1122] with 32 bytes of data:
(When there is reply)
Reply from fe80::2c0:eeff:fe00:1122: time=2ms
Reply from fe80::2c0:eeff:fe00:1122: time<1ms
Reply from fe80::2c0:eeff:fe00:1122: time<1ms
Reply from fe80::2c0:eeff:fe00:1122: time<1ms
```

```
(When there is no reply)
Request timed out.
Request timed out.
Request timed out.
Request timed out.
```

### 6. Access the Web page of this product using a Web browser

Access the Web page of this product using a Web browser. To perform the initial configuration of this product, please use Internet Explorer 6 or 7 on Windows XP. If a different OS or browser is used, the method to access the Web page via IPv6 may vary.

This product uses **TCP port #60000** to allow access to the Web page for configuration. To access the Web page, enter the host name (the one registered in the hosts file) followed by "**:60000**" into the address bar of the Web browser.

(Example)  
http://ib40:60000/

To access the Web page of this product when using Windows Vista, enter the **IPv6 address enclosed in "[ ]"** and followed by "**:60000**" into the address bar of the Web browser.

(Example)  
http://[fe80::2c0:eeff:fe00:1122]:60000/

\* If your Web browser is configured to use a proxy server, add the IPv6 Address of this product to the exception list (Avoid communicating with this product via the proxy server.)

➡ For information on how to configure this product, please refer to the Setup Guide.