

Installation Guide FIPS 140-2 Level 2 Kit

McAfee[®] Firewall Enterprise

F model appliances

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Preface

About this guide

The *McAfee Firewall Enterprise FIPS 140-2 Level 2 Kit Installation Guide* describes how to install the FIPS 140-2 Level 2 kit (hereinafter FIPS kit) on F model appliances. Use this document with the FIPS 140-2 configuration guide that corresponds to the software version you want to use:

- McAfee Firewall Enterprise FIPS 140-2 Configuration Guide
- Secure Firewall (Sidewinder) FIPS 140-2 Configuration Guide

Audience

This guide is intended for network and security administrators who have responsibility for planning, configuring, and managing McAfee[®] Firewall Enterprise. The guide assumes you are familiar with:

- UNIX and Microsoft Windows operating systems
- System administration
- Internet and its associated terms and applications
- Networks and network terminology, including TCP/IP protocols

Conventions

The table summarizes the text conventions used in this guide.

Table i-1 Conventions

Convention	Description
Monospace bold	Identifies commands and key words you type at a system prompt
	Note: A backslash ($\$) signals a command that does not fit on the same line. Type the command as shown, ignoring the backslash.
Monospace italic	Indicates a placeholder for text you type
<monospace italic=""></monospace>	When enclosed in angle brackets ($< >$), identifies optional text
nnn.nnn.nnn.nnn	Indicates a placeholder for an IP address you type
Monospace plain	Used to show text that appears on a computer screen
Plain text italics	Identifies the names of files and directories
	Used for emphasis (for example, when introducing a new term)
Plain text bold	Identifies buttons, field names, and tabs that require user interaction
[]	Signals conditional or optional text and instructions (for example, instructions that pertain only to a specific configuration)
Caution:	Signals be careful—in this situation, you might do something that could result in the loss of data or an unpredictable outcome
Note:	Used for a helpful suggestion or a reference to material not covered elsewhere in the guide

Table i-1 Conventions (continued)

Convention	Description
Security Alert:	Identifies information that is critical for maintaining product integrity or security
Tip:	Indicates time-saving actions; might help you solve a problem

Note: The IP addresses, screen captures, and graphics used within this document are for illustration purposes only. They are not intended to represent a complete or appropriate configuration for your specific needs. Features might be enabled in screen captures to make them clear; however, not all features are appropriate or desirable for your setup.

Acronyms

The following acronyms are used in this guide.

Table i-2 Acronyms

Acronym	Description
BIOS	basic input/output system
ESD	electrostatic discharge
FIPS	Federal Information Processing Standards

Find product information

You can find additional information at the following locations.

Table i-3 Product resources

Resource	Location
McAfee Technical Support	Visit mysupport.mcafee.com to find:
ServicePortal	Product documentation
	KnowledgeBase
	Product announcements
	Technical support
Product updates	Visit go.mcafee.com/goto/updates to download the latest Firewall Enterprise patches.
Product installation files	1 Visit www.mcafee.com/us/downloads.
	2 Provide your grant number, then navigate to the appropriate product and version.

FIPS kit overview

Contents

What makes an appliance compliant with FIPS 140-2 Level 2? Introduction to the FIPS kit

What makes an appliance compliant with FIPS 140-2 Level 2?

Software and hardware modifications are required to make a McAfee[®] Firewall Enterprise appliance compliant with FIPS 140-2 Level 2:

- **Hardware** The FIPS 140-2 Level 2 kit must be installed to meet the physical tamper-evidence requirement for the FIPS 140-2 Level 2 standard.
- **Software** Software configuration changes must be made to enable FIPS mode and ensure compliance. These changes are described in the FIPS 140-2 configuration guide that corresponds to the software version you want to use:
 - McAfee Firewall Enterprise FIPS 140-2 Configuration Guide
 - Secure Firewall (Sidewinder) FIPS 140-2 Configuration Guide

Introduction to the FIPS kit

Install the FIPS 140-2 Level 2 kit (hereinafter FIPS kit) to meet the physical tamper-evidence requirement for FIPS 140-2 Level 2 compliance.

Model compatibility

This FIPS kit is compatible with the following Firewall Enterprise appliance models:

- 1100F
- 2150F
- 4150F

Contents

The kit includes baffles to prevent the viewing of circuitry details through ventilation holes, and tamper-evident seals that must be broken to gain physical access to the components within the firewall chassis.

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Contents

Before you begin Install the kit in a model 1100F appliance Install the kit in a model 2150F appliance Install the kit in a model 4150F appliance

Before you begin

Before you install the FIPS kit, complete the following tasks.

Download and follow the configuration guide

Follow the instructions in the FIPS 140-2 configuration guide for the software version you are using.

- 1 Download the FIPS 140-2 configuration guide.
 - a Go to the McAfee Technical Support ServicePortal at mysupport.mcafee.com.
 - **b** Under Self Service, click Product Documentation.
 - **c** Select the appropriate product and version.
 - **d** Download the appropriate FIPS 140-2 configuration guide:
 - McAfee Firewall Enterprise FIPS 140-2 Configuration Guide
 - Secure Firewall (Sidewinder) FIPS 140-2 Configuration Guide
- **2** Follow the instructions to configure the appliance for FIPS mode.

Note: The configuration guide specifies when to install the FIPS kit.

Protect against electrostatic discharge

Static electricity can harm delicate components inside your appliance. When adding baffles to your appliance, take the following steps to prevent damage from electrostatic discharge (ESD):

Caution: To guard against electrical shock, always unplug your appliance from the electrical outlet before opening the cover.

- Handle all electrostatic sensitive components in a static-safe area. If possible, use antistatic floor pads and workbench pads.
- Discharge static electricity from your body before you touch any electronic components.

Install the kit in a model 1100F appliance

Verify the contents of the FIPS kit, then install the kit in your appliance.

Verify kit contents

Make sure the kit contains the following items:

- Two opacity baffles:
 - Rectangular opacity baffle for the cover
 - · Form-fitted opacity baffle for the rear of the appliance
- Adhesive Velcro strips

Table 2-1 Adhesive Velcro strips

Velcro strip length	Quantity
4.4 inches	1
2.5 inches	2
2.2 inches	1
1.25 inches	1
1.15 inches	1
.55 inches	1

- Tamper-evident seals with serial numbers
- McAfee warranty seal

Install opacity baffles

Install opacity baffles to prevent the viewing of circuitry details through ventilation holes.

- **1** Turn off the appliance and disconnect all cords and cables.
 - **a** Use the Admin Console to Halt System and turn off the appliance.
 - **b** Disconnect the appliance and all attached devices from their electrical outlets, then press the power button to ground the system board.
 - c Unplug all network cables from the appliance.
- 2 If a front bezel is installed on the appliance, remove it.

3 Remove the top cover of the appliance.

Note: Removing the cover breaks the McAfee warranty seal. The FIPS kit contains a replacement seal that you will apply after the opacity baffles are installed.

- a Rotate the latch release lock counterclockwise to the unlocked position.
- **b** Lift up on the latch on top of the system and slide the cover back.
- c Grasp the cover on both sides and lift it away from the system.



Figure 2-1 Removing the appliance cover

- 1 Latch
- 2 Latch release lock
- 4 Install an opacity baffle on the cover.
 - a Locate the following materials from the kit:
 - Rectangular baffle
 - One 4.4 inch adhesive Velcro strip
 - Two 2.5 inch adhesive Velcro strips
 - **b** Turn the cover upside down.

c Apply three adhesive Velcro strips around the inside edges of the rectangular ventilation hole.
Note: Do not apply an adhesive Velcro strip to the outside edge of the cover.



Figure 2-2 Velcro strips by the ventilation grate

- 1 4.4 inch adhesive Velcro strip
- **2** 2.5 inch adhesive Velcro strips
- **d** Apply the rectangular opacity baffle to the Velcro strips.
- 5 Remove each expansion card.
 - a Open the expansion card latch.
 - **b** Grasp the expansion card by its edges and carefully remove it from the expansion slot.



Figure 2-3 Removing an expansion card

- 1 Expansion card latch
- 2 Expansion card
- 3 Expansion card riser

- **6** Install an opacity baffle on the rear of the appliance.
 - **a** Locate the following materials from the kit:
 - Form-fitted baffle
 - Remaining adhesive Velcro strips
 - **b** Apply the adhesive Velcro strips to the inside of the rear chassis as shown in the following figure.



Figure 2-4 Velcro strips installed on the rear chassis

- **1** 1.15 inch adhesive Velcro strip
- 2 2.2 inch adhesive Velcro strip
- 3 1.25 inch adhesive Velcro strip
- 4 .55 inch adhesive Velcro strip
- **c** Apply the form-fitted opacity baffle to the Velcro strips.
- **7** Finish the installation.
 - a Re-install the expansion cards.
 - **b** Re-attach the appliance cover.
 - c Apply the replacement McAfee warranty seal over the broken seal.
 - d Connect all cords and cables.
 - **e** Turn on the appliance.
 - f Attach the bezel to the front of the appliance and lock it.

Apply tamper-evident seals

Apply tamper-evident seals to meet the physical tamper-evidence requirement for FIPS 140-2 Level 2 standards.

- 1 Place a seal on the top where the bezel and cover meet. Make sure that the seal is attached to both the bezel and the cover.
- 2 Place a seal over the right side seam where the cover and case meet.





- 1 Tamper-evident seals
- 3 Place a seal on each power supply where it meets the top of the chassis.



Figure 2-6 Tamper-evident seals on the power supplies

1 Tamper-evident seals

Install the kit in a model 2150F appliance

Verify the contents of the FIPS kit, then install the kit in your appliance.

Verify kit contents

Make sure the kit contains the following items:

- Opacity baffles:
 - One rectangular notched baffle for the cover
 - One form-fitted baffle for the rear of the appliance
 - Three rectangular baffles for the expansion slot covers
- Adhesive Velcro strips:

Table 2-2 Adhesive Velcro strips

Velcro strip length	Quantity
4.625 inches	1
4.6 inches	1
2.25 inches	1
2.15 inches	1
1.65 inches	1
1.1 inches	1
.75 inches	1
.6 inches	7

- · Tamper-evident seals with serial numbers
- McAfee warranty seal

Install opacity baffles

Install opacity baffles to prevent the viewing of circuitry details through ventilation holes.

- 1 Turn off the appliance and disconnect all cords and cables.
 - **a** Use the Admin Console to Halt System and turn off the appliance.
 - **b** Disconnect the appliance and all attached devices from their electrical outlets, then press the power button to ground the system board.
 - c Unplug all network cables from the appliance.
- 2 If a front bezel is installed on the appliance, remove it.

3 Remove the top cover of the appliance.

Note: Removing the cover breaks the McAfee warranty seal. The FIPS kit contains a replacement seal that you will apply after the opacity baffles are installed.

- a Rotate the latch release lock counterclockwise to the unlocked position.
- **b** Lift up on the latch on top of the system and slide the cover back.
- c Grasp the cover on both sides and lift it away from the system.



Figure 2-7 Removing the appliance cover

- 1 Latch
- 2 Latch release lock
- 3 Chassis hooks
- 4 Install the opacity baffle on the cover.
 - a Locate the following materials from the kit:
 - Rectangular notched baffle
 - 4.625 inch adhesive Velcro strip
 - 4.6 inch adhesive Velcro strip
 - 2.15 inch adhesive Velcro strip
 - 1.65 inch adhesive Velcro strip
 - **b** Turn the cover upside down.

c Apply the adhesive Velcro strips around the inside edges of the rectangular ventilation hole.
Note: Do not apply an adhesive Velcro strip to the outside edge of the cover.



Figure 2-8 Velcro strips by the ventilation grate

- 1 2.15 inch adhesive Velcro strip
- 2 4.625 inch adhesive Velcro strip
- **3** 1.65 inch adhesive Velcro strip
- 4 4.6 inch adhesive Velcro strip
- **d** Apply the baffle to the Velcro strips.
- **5** Remove each expansion card.
 - a Open the expansion card latch.
 - **b** Grasp the expansion card by its edges and carefully remove it from the expansion slot.



Figure 2-9 Removing an expansion card

- 1 Front card guide
- **2** Expansion card riser 2
- 3 Expansion slot
- 4 Expansion card guide latch
- 5 Expansion card

2

- 6 Install the opacity baffle to the rear of the appliance.
 - **a** Locate the following materials from the kit:
 - Form-fitted baffle
 - Remaining adhesive Velcro strips
 - **b** Apply the adhesive Velcro strips to the inside of the rear chassis as shown in the following figure.



Figure 2-10 Velcro strips installed on the rear chassis

- 1 .75 inch adhesive Velcro strip
- 2 2.25 inch adhesive Velcro strip
- **3** .6 inch adhesive Velcro strip
- 4 1.1 inch adhesive Velcro strip
- **c** Apply the form-fitted opacity baffle to the Velcro strips.
- **7** Install the opacity baffles on the expansion slot covers.
 - **a** Locate the following materials from the kit:
 - Three rectangular baffles
 - Six .6 inch adhesive Velcro strips
 - **b** Apply two adhesive Velcro strips to each expansion slot cover.



Figure 2-11 Velcro strips installed on the rear chassis

- 1 .6 inch adhesive Velcro strips
- **c** Apply the form-fitted opacity baffle to the Velcro strips.

- **8** Finish the installation.
 - a Re-install the expansion cards.
 - **b** Re-attach the appliance cover.
 - c Apply the replacement McAfee warranty seal over the broken seal.
 - **d** Connect all cords and cables.
 - e Turn on the appliance.
 - f Attach the bezel to the front of the appliance and lock it.

Apply tamper-evident seals

Apply tamper-evident seals to meet the physical tamper-evidence requirement for FIPS 140-2 Level 2 standards.

1 Place a seal on the top where the bezel and cover meet. Make sure that the seal is attached to both the bezel and the cover.



Figure 2-12 Tamper-evident seal on the bezel

- 1 Tamper-evident seal
- 2 Place a seal on the right side of the appliance over the seam where the cover and case meet.



Figure 2-13 Tamper-evident seal on the side

1 Tamper-evident seal

3 Place a seal on each power supply where it meets the top of the chassis.



Figure 2-14 Tamper-evident seals on the power supplies

1 Tamper-evident seals

Install the kit in a model 4150F appliance

Verify the contents of the FIPS kit, then install the kit in your appliance.

Verify kit contents

Make sure the kit contains the following items:

- Opacity baffle
- Two adhesive Velcro strips
- Tamper-evident seals with serial numbers
- McAfee warranty seal

Install opacity baffles

Install opacity baffles to prevent the viewing of circuitry details through ventilation holes.

- 1 Turn off the appliance and disconnect all cords and cables.
 - **a** Use the Admin Console to Halt System and turn off the appliance.
 - **b** Disconnect the appliance and all attached devices from their electrical outlets, then press the power button to ground the system board.
 - **c** Unplug all network cables from the appliance.
- 2 If a front bezel is installed on the appliance, remove it.
- 3 Remove the top cover from the appliance.

Note: Opening the system breaks the McAfee warranty seal. The FIPS kit contains a replacement seal that you will apply after the opacity baffles are installed.

- a Turn the lock on the cover release latch counterclockwise to the unlocked position
- **b** Pull the cover release latch, and rotate the latch end of the cover away from the system.
- c Grasp the cover on both sides and lift it away from the system.



Figure 2-15 Removing the appliance cover

- 1 Cover release latch
- 2 Cover release latch lock
- 3 System cover

- **4** Install the opacity baffle to the rear of the appliance above the expansion slots.
 - **a** Locate the following materials from the kit:
 - Opacity baffle
 - Two adhesive Velcro strips
 - **b** Apply the adhesive Velcro strips to the inside of the rear chassis as shown in the following figure.
 - **c** Apply the opacity baffle to the Velcro strips.



Figure 2-16 Velcro strips installed on the rear chassis

- 1 Adhesive Velcro strips
- **5** Finish the installation.
 - **a** Re-attach the appliance cover.
 - **b** Apply the replacement McAfee warranty seal over the broken seal.
 - c Connect all cords and cables.
 - **d** Turn on the appliance.
 - e Attach the bezel to the front of the appliance and lock it.

Apply tamper-evident seals

Apply tamper-evident seals to meet the physical tamper-evidence requirement for FIPS 140-2 Level 2 standards.

1 Place a seal on the top where the bezel and cover meet. Make sure that the seal is attached to both the bezel and the cover.



Figure 2-17 Tamper-evident seal on the bezel

- 1 Tamper-evident seal
- **2** Place seals on the power supplies at the rear of the appliance.
 - a Apply one seal to the upper power supply where it meets the chassis.
 - **b** Apply one seal to the lower power supply where it meets the chassis.





1 Tamper-evident seals

Modifying BIOS settings

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Requirements

You must enter your firewall's System Setup program to address the following FIPS 140-2 requirements:

- McAfee Firewall Enterprise must start only from the FIPS-enabled hard drive. All other bootable devices must be disabled.
- Unauthorized users are not allowed to enter the System Setup program. You must create a password that is used each time an administrator enters the System Setup program.
- The power button is not accessible. You must change the AC Power Recovery setting.

Modify BIOS settings

To update the BIOS settings:

- 1 Connect a monitor and keyboard to the firewall.
- 2 From the command line, restart the firewall.
- **3** When <F2> = System Setup appears in the upper right corner of the screen, press **F2**. The BIOS window appears.
- **4** Reset the BIOS to the default settings.
 - a Press Alt+F.
 - **b** If a prompt appears, press **Enter** to continue.
- **5** Disable other bootable devices.
 - a Select Boot Settings, then press Enter.
 - **b** Select **Boot Sequence**, then press **Enter**.
 - c Verify that the hard drive is enabled. If necessary, use the space bar to enable the hard drive.
 - **d** Select all other devices and use the space bar to disable them.
 - e Press Esc twice to return to the main BIOS menu.

Note: PXE booting on Ethernet devices is not allowed. If you have enabled PXE booting on an onboard NIC, select **Integrated Devices**, select the appropriate NIC, and use the right arrow to select **Enabled** (do not select Enabled with PXE).

- **6** Create a password for the System Setup program and set the power restore option.
 - a Select System Security, then press Enter.
 - **b** Select **Setup Password**, then press **Enter**.
 - c Enter a password and a confirmation, then press Enter.
 - d Select **AC Power Recovery**, then use the space bar to set AC Power Recovery to **On**.
 - e Press **Esc** to return to the main BIOS menu.
- **7** Save the changes and exit the BIOS.
 - a Press Esc.
 - **b** Select **Save Changes and Exit**, then press **Enter**. The firewall finishes starting up.

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