

# USER MANUAL

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PSE544-DE-R2, PSE544-FR-R2

# POWER SWITCH OVER IP OFFICE- CABINET

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**BLACK BOX**®

This product carries the CE mark to indicate compliance with the European Directive on Electromagnetic Compatibility (89/336/EEC). It has been tested to:

EN62368

EN55022 Class B:2010, EN55024:2010, EN50581:2012



PSE544-DE-R2 and PSE544-FR-R2

PSE544-DE-R2 (with German/Schuko Sockets) and PSE544-FR-R2 (with French/UTE Sockets) are extension leads that allows you to switch ON or OFF the power supply of any electric device over an Ethernet 10Base-T or 100Base-T network.

The built-in web server enables individual control of the four sockets via a browser.

# CONTENTS

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<b>1.1 DESCRIPTION</b> .....	<b>6</b>
1.1.1 Front Panel of PSE544.....	6
1.1.2 Package list.....	7
<b>2.1 INSTALLATION / CABLING</b> .....	<b>8</b>
<b>3.1 PSE544 NETWORK SETTINGS</b> .....	<b>9</b>
3.1.1 IP Configuration through the LAN using the BB-Finder program.....	9
3.1.2 IP Configuration through an USB Terminal connection.....	10
3.1.3 IP Configuration through the LAN using a Browser.....	11
3.1.4 General / IP configuration.....	12
3.1.5 General / System time.....	13
3.1.6 General / SMTP.....	14
3.1.7 General / SNMP.....	16
3.1.8 General / Trigger.....	17
3.1.9 General / Syslog.....	19
3.1.10 General / Tools.....	20
3.1.11 Settings / Accounts.....	21
3.1.12 Settings / Accounts / Hidden Page account.....	23
3.1.13 Settings / Groups.....	26
3.1.14 Settings / Peripherals.....	28
3.1.15 Settings / Rules.....	31
3.1.16 Settings / Rules - Schedule Rule.....	32
3.1.17 Settings / Rules - Timer Rule.....	37
3.1.18 Settings / Rules - Ping Monitoring Rule.....	39
3.1.19 Settings / Rules - Scan Monitoring Rule.....	44
3.1.20 Settings / Rules - Trigger.....	48
3.1.21 Settings / Associations.....	51
3.1.22 Misc / Control Panel.....	54
3.1.23 Misc / Rule Panel.....	55
3.1.24 Misc / Log.....	55
<b>4.1 POWER OUTLET CONTROL AND PERIPHERALS STATUS</b> .....	<b>56</b>
4.1.1 Via the Internet using a standard browser.....	56
4.1.2 Through an USB connection.....	57
4.1.3 Through the network using simple commands in your own program.....	58
<b>6.1 TROUBLESHOOTING / RESTORE DEFAULT VALUE / UPDATE</b> .....	<b>59</b>
5.1.1 Restore to default factory settings.....	59
5.1.2 Restore to default administrator password.....	59
5.1.3 Special Terminal commands (/Help).....	60
5.1.4 Update.....	60
<b>A.1 GENERAL INFORMATION</b> .....	<b>61</b>
A.1.1 Ping and Scan Methods.....	61
A.1.2 Technical Data.....	62
A.1.3 Commonly used Ports.....	62
A.1.4 Syslog Messages: Severity Level Definitions.....	62



# CONTENTS

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B.1 FCC STATEMENT .....	65
B.2 CE STATEMENT .....	65
B.3 ROHS .....	65
B.4 NOM STATEMENT .....	66
C.1 DISCLAIMER .....	67
C.2 TRADEMARKS USED IN THIS MANUAL .....	67



## IMPORTANT SAFETY INSTRUCTIONS

The PSE544 may only be installed by qualified personnel using the following installation and use instructions.

The manufacturer declines all responsibility in the event of improper use of the Power Switch device, especially when used with devices that could cause damage to persons or property.

- ♦ The PSE544 is designed to be installed on dedicated circuits that must have a circuit breaker or fuse protection.
- ♦ The electrical power sockets used to plug in the power cords of the PSE544 must be close to the PSE544 and easily accessible.
- ♦ Check that the power cords, plugs, and sockets are in good condition.
- ♦ The PSE544 can only be connected to three-wire 100-240VAC (50-60Hz) sockets.
- ♦ Always plug the PSE544 into properly grounded power sockets (two poles plus ground).
- ♦ Never exceed 10 Amp load for each power outlet of the PSE544.
- ♦ Never exceed 16 Amp total load for all four power outlets of the PSE544.
- ♦ The PSE544 is intended for indoor use only. Do not install it in an area where excessive moisture or heat is present.
- ♦ Always disconnect the power cord of the PSE544 if you want to intervene on it or on the equipment powered from the PSE544.
- ♦ The power outlets of the PSE544 are not circuit breakers. If you want to intervene on devices connected to the PSE544, you must disconnect these devices from the PSE544 device.
- ♦ Do NOT attempt to disassemble the PSE544; it contains potentially hazardous voltages.
- ♦ The PSE544 contains no user-serviceable parts. Repairs can only be performed by factory-trained service personnel.
- ♦ Do not overload the PSE544. The output current of each power outlet must be limited to 10 A, and the total load of all four power outlets must not exceed 16A.
- ♦ Do not daisy chain Power Switches.
- ♦ Use a shielded cable for the Ethernet connection.

# CHAPTER 1: DESCRIPTION

## 1.1 DESCRIPTION

PSE544 is an extension lead that enables remote power control over IP or locally through an USB Terminal connection.

The built-in mini Web server allows individual control of the four sockets, using a browser.

Its USB interface can be used to control the power outlets over a Terminal connection, such as a KVM Switch or console server.

An internal Real Time Clock enables scheduled actions to be triggered and all events (logs, SNMP traps, and Syslog events) to have a timestamp.

PSE544 is more than a simple power strip. It offers IP device monitoring with an automatic reboot function in case of lock-up.

PSE544 supports TCP/IP, HTTP, DHCP, SNMP, SMTP, SNTTP, and Syslog.



FIGURE 1-1: FRONT PANEL

### 1.1.1 FRONT PANEL OF PSE544

- ◆ (1) USB connector for Terminal connection
- ◆ (1) RJ-45 Network connector for Ethernet network
- ◆ (1) Power LED
- ◆ (4) Power Outlet Status LEDs

#### **1 2 3 4 Pwr** (LEDs)

1 to 4 Red. Status of power outlet 1 to 4 (On/Off)

Pwr Power Switch is powered

On = PSE544 software is loaded and functional

Off = power default

1 time repeatedly = power on but not ready

2 times repeatedly = waiting on IP address from DHCP server

4 times repeatedly = System error (contact the manufacturer)

## CHAPTER 1: DESCRIPTION

<p><b>Network</b> (RJ-45 Connector) Auto-Sensing 10/100 Mbit/sec Ethernet Port</p> <p><b>Link</b> (LED) Off = Network connection not detected On = Network connection detected Flashing = the device is sending or receiving data over this port</p>	<p><b>100</b> (LED) Off = 10 Mbit/sec network connection On = 100 Mbit/sec network connection</p> <p><b>USB 2.0</b> USB port with Type-B connector.</p>
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### 1.1.2 PACKAGE LIST

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The following items are included:

- ◆ (1) PSE544
- ◆ (1) RJ-45 M/M Network cable, 2 Meters
- ◆ (1) CD with Windows configuration program

## CHAPTER 2: INSTALLATION/CABLING

### 2.1 INSTALLATION / CABLING

Use the provided or any shielded RJ-45 network cable to connect your PSE544 to your network.

Use appropriated three-wire power cords (two poles plus ground) to connect your electrical devices to the power outlets of the PSE544 unit.

Plug the power cable into a grounded socket. The Green LED "Pwr" lights up to confirm that power is on.

You can now configure the PSE544.

### Important safety instructions

**NOTE: Do not daisy chain Power Switch.**

Daisy chaining refers to Power Switches, power strips, or extension cords being plugged into other Power Switches, power strips, or extension cords. Daisy chaining usually occurs when there are not enough power outlets to meet electrical needs. The main problem with daisy chaining is that it violates many safety codes and standards.

**NOTE: Do not overload the PSE544**

The output current of each power outlet must be limited to 10 A and the total load of all four power outlets can't exceed 16A.

Be careful when you plug the power cord of the PSE544 into a socket to not overload wall sockets, which could damage your PSE544, give you an electric shock, or cause a fire.

**NOTE: Check your power cords regularly and unplug your PSE544 if the power cord looks worn. Stop using your PSE544 until you have the power cord replaced by a qualified technician.**

**NOTE: Do not twist, kink, or pinch the power cords.**

## CHAPTER 3: NETWORK SETTINGS

### 3.1 PSE544 NETWORK SETTINGS

In order to use the PSE544 in your network, you must first configure its network parameters. Ask your network administrator for the parameters to use.

There are three methods to configure the network parameters of the PSE544:

#### 3.1.1 IP CONFIGURATION THROUGH THE LAN USING THE BB-FINDER PROGRAM

This is the simplest and fastest configuration method if you use the Windows operating system. It allows you to configure your PSE544 through your local network even if its network parameters are not compatible with those of your PC.

Start the Finder.exe program contained on the CD-ROM.

Open the File menu and choose "SCAN" (or click on the first left button in the tool bar) to discover the PSE544 connected on your LAN.

Open the File menu and choose "CONFIGURE" (or click on the second left button in the tool bar) to configure the network parameters.

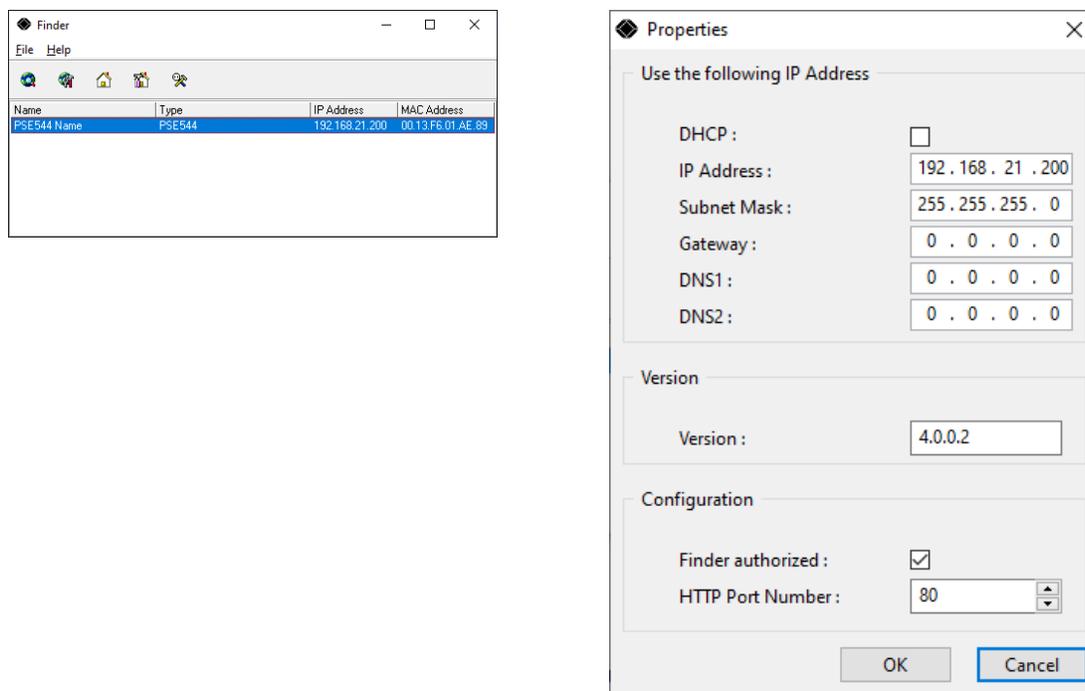


FIGURE 3-1: NETWORK CONFIGURATION

This page enables you to define all IP parameters of the PSE544 and displays the version of the Firmware. The HTTP protocol is enabled, and the Finder program is authorized at factory settings.

## CHAPTER 3: NETWORK SETTINGS

**NOTE: To achieve the highest security level, disable the configuration using the Finder program after the first installation.**

**DHCP:** Check this box if you want to obtain the IP address, the subnet mask, and the default gateway for your PSE544 via DHCP.

Use of DHCP (Dynamic Host Configuration Protocol) requires a DHCP host to be set up on the network.

**IP Address:** IP address of the PSE544; default is 192.168.100.200.  
**Subnet Mask:** Subnet Mask of the PSE544; default is 255.255.255.0.  
**Gateway:** Generally the address of your router; default is blank.  
**DNS 1:** Primary DNS (Domain Name Server); default is blank.  
**DNS 2:** Secondary DNS; default is blank.  
**Version:** Firmware version of the PSE544  
**Port Number:** Port number: default is 80 (HTTP).  
**Finder authorized:** The Network parameters of the PSE544 can be configured through a Local Area Network using the provided Finder Program. It is a simple and fast configuration method if you use the Windows operating system.

**NOTE: The Finder Program is enabled by default. To achieve the highest security level, disable the Finder program after the first configuration.**

### 3.1.2 IP CONFIGURATION THROUGH AN USB TERMINAL CONNECTION

---

1. Use an USB cable to connect the PSE544 to an USB port of your PC.
2. Run a Terminal program.
3. On your computer, press <**ENTER**> until the menu appears on your screen.
4. Press the "**M**" on your keyboard and follow the menu to configure the network parameters of your PSE544.



## CHAPTER 3: NETWORK SETTINGS

### Configuration menu

-----  
NETWORK INTERFACE PARAMETERS:

IP address on LAN is 192.168.100.200

LAN interface's subnet mask is 255.255.255.0

IP address of default gateway to other networks is 0.0.0.0

IP address of primary DNS server is 0.0.0.0

IP address of secondary DNS server is 0.0.0.0

MISCELLANEOUS:

HTTP Port is 80

Finder program is enabled

HARDWARE PARAMETERS:

Address is 00.13.F6.01.3C.80  
-----

### 3.1.3 IP CONFIGURATION THROUGH THE LAN USING A BROWSER

---

During initial installation, temporarily change your PC's network settings to match the PSE544's default network settings.

PSE544's Factory Network Settings:

IP Address:               **192.168.100.200**

Port number:           **80**

Gateway:               **255.255.255.0**

Open your Web browser and type following IP address: <http://192.168.100.200/sysadmin.htm>

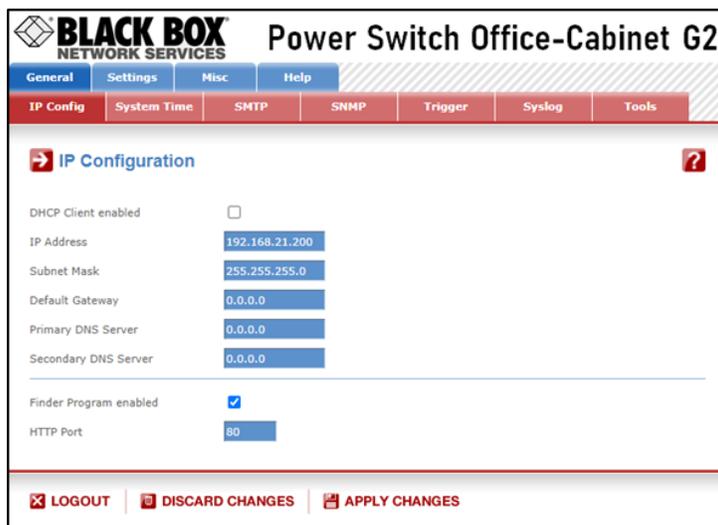
Enter the administrator name and password (default for both = **admin**)

The home page appears, allowing you to configure the PSE544's settings.

## CHAPTER 3: NETWORK SETTINGS

### 3.1.4 GENERAL / IP CONFIGURATION

This page enables you to define the PSE544's IP parameters.



The screenshot shows the 'IP Configuration' page in the Black Box Network Services web interface. The page title is 'Power Switch Office-Cabinet G2'. The navigation menu includes 'General', 'Settings', 'Misc', and 'Help'. The 'Settings' menu is expanded to show 'IP Config', 'System Time', 'SMTP', 'SNMP', 'Trigger', 'Syslog', and 'Tools'. The 'IP Configuration' page has a red header with a question mark icon. The configuration options are:

- DHCP Client enabled:
- IP Address: 192.168.21.200
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- Primary DNS Server: 0.0.0.0
- Secondary DNS Server: 0.0.0.0
- Finder Program enabled:
- HTTP Port: 80

At the bottom, there are three buttons: 'LOGOUT', 'DISCARD CHANGES', and 'APPLY CHANGES'.

FIGURE 3-2: IP CONFIGURATION

#### DHCP Client enabled:

Check this box if you want to obtain the IP address, the subnet mask, and the default gateway for your PSE544 via DHCP. The default setting for this option is disabled.

**NOTE: Use of DHCP (Dynamic Host Configuration Protocol) requires a DHCP host to be set up on the network.**

<b>IP Address:</b>	IP address of the PSE544; default is 192.168.100.200.
<b>Subnet Mask:</b>	Subnet Mask of the PSE544; default is 255.255.255.0.
<b>Default Gateway:</b>	Generally, the address of your router; default is blank.
<b>Primary DNS Address:</b>	Primary DNS (Domain Name Server); default is blank
<b>Secondary DNS Address:</b>	Secondary DNS; default is blank

#### Finder Program enabled:

The Network parameters of the PSE544 can also be configured through a Local Area Network using the provided Finder Program. It is a very simple and fast configuration method if you use the Windows operating system.

**NOTE: The Finder Program is enabled by default.**

**NOTE: For security reasons, deactivate the Finder program after the first configuration.**

#### HTTP Port:

This field stores the port number; the default is 80.

## CHAPTER 3: NETWORK SETTINGS

### LOGOUT:

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES:

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES:

Click “Apply Changes” at the bottom of the page to save changes.

## 3.1.5 GENERAL / SYSTEM TIME

---

The PSE544's system time is used for synchronizing scheduling actions and to time stamp SNMP traps, Syslog information, and internal logs. The system time can be set manually with the browser time of the connected computer, or it can be automatically synchronized with one or two NTP timeservers.

### Current System Time:

This field shows the current system time of the PSE544.

**NOTE: Since the system time is displayed via the browser, there may be a slight difference (1 to 2 seconds) compared to the exact hour. The system time is still correct.**

### Use Browser Time:

If you want to set the system time using the your PC's current browser time, select this option and click on the “Set System Time” button.

### Use NTP Server:

If you want to set the system time using an NTP time server, select this option, choose a refresh interval, and enter the IP address of the time server that you wish to use in the “Primary” field. The address of a second time server can be specified in the “Secondary” field. The secondary time server is optional and is used only if the primary time server is not available.

**NOTE: You can enter either the hostname (if you have specified a DNS server on the IP configuration page) or the IP address of an NTP server.**

NTP uses port 123/UDP.

### Time Zone:

Set the time zone corresponding to your location. The system clock will subsequently show local time. Without setting a time zone, the system clock will show UTC/GMT time. Setting a time zone is only relevant if you are synchronizing with an NTP server.

## CHAPTER 3: NETWORK SETTINGS

### Daylight Saving Time:

If you want to set Daylight Saving dates, check this box and specify the date that you want to use.

### LOGOUT:

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES:

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES:

Click “Apply Changes” at the bottom of the page to save changes.

## 3.1.6 GENERAL / SMTP

This page is used to configure the SMTP mail transmission protocol.

To send e-mails you need an SMTP server in the network and following parameters must be configured:

**BLACK BOX** NETWORK SERVICES Power Switch Office-Cabinet G2

General Settings Misc Help

IP Config System Time SMTP SNMP Trigger Syslog Tools

SMTP Configuration

SMTP Client enabled

SMTP Server Address

SMTP Port

From (e-mail Address)

Authentication enabled

Server Login

Server Password

Server Timeout (sec)

Maximum Times to Resend

Resend Interval (sec)

LOGOUT DISCARD CHANGES APPLY CHANGES

FIGURE 3-3: SMTP CONFIGURATION

### SMTP Client enabled

Check this box if you want to enable the SMTP protocol and send emails.

### SMTP Server Address

Enter either the hostname or the IP address of your mail server.

**NOTE:** If you use a hostname, the system will have to resolve the hostname, and you must configure a Default Gateway and at least one DNS Server on the Network Settings Page, accessible through General/IP Config page.

## CHAPTER 3: NETWORK SETTINGS

### SMTP Port

This field stores the SMTP Communication port to use; the default is 25.

### From (email Address)

This field stores the email address that messages will appear to come from. The name can be 1 to 64 characters long, and it can contain alphanumeric characters. This should be a valid address, since servers typically reject messages that don't have a valid address.

### Authentication enabled

Check this box if you want to enable Authentication.

### Server Login

This field stores the SMTP Server Username.

### Server Password

This field stores the SMTP Server user password.

### Server Timeout (sec)

This field stores the timeout used to send the email; the value can be set to be between 1 and 60 seconds.

### Maximum Times to Resend

This field stores the maximum times the email can be resent; the value can be set to be between 1 and 9 times.

### Resend Interval (sec)

This field stores the Resend Interval; the value can be set to be between 0 and 65,535 seconds.

### LOGOUT

Click "Logout" at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES

Click "Discard Changes" at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES

Click "Apply Changes" at the bottom of the page to save changes.

## CHAPTER 3: NETWORK SETTINGS

### 3.1.7 GENERAL / SNMP

The PSE544 provides a built-in SNMP (Simple Network Management Protocol) agent, which enables you to manage the PSE544 through SNMP-based network management systems. The PSE544 MIB file enables remote read out of the status of all power outlets and the values of all sensors (temperature, humidity, and ambient light). It also enables individual control of all power outlets and all groups of power outlets.

**NOTE:** The MIB file is stored on the PSE544, and it can be downloaded from the General / Tools Page.

BLACK BOX NETWORK SERVICES Power Switch Office-Cabinet G2

General Settings Misc Help

IP Config System Time SMTP SNMP Trigger Syslog Tools

SNMP Configuration

SNMP enabled

Contact

Name

Location

Read Community

Write Community

Trap Community

Trap Destination 1

Trap Destination 2

LOGOUT DISCARD CHANGES APPLY CHANGES

FIGURE 3-4: SNMP CONFIGURATION

#### SNMP enabled

Check this box if you want to enable the SNMP protocol.

#### Contact

This field stores the name that you want to assign to the Contact field. The name can have 1 to 64 characters, and it can contain alphanumeric characters. The default name is “contact.”

#### Name:

This field stores the name that you want to assign to the Name field. The name can have 1 to 64 characters, and it can contain alphanumeric characters. The default name is “name.”

#### Location:

This field stores the name that you want to assign to the Location field. The name can have 1 to 64 characters, and it can contain alphanumeric characters. The default name is “location.”

## CHAPTER 3: NETWORK SETTINGS

### Read Community:

This field stores the name that you want to assign to the Read Community field. The name can have 1 to 64 characters, and it can contain alphanumeric characters. The default name is “public.”

### Write Community:

Check this box if you want to be able to control the power outlet(s) through a MIB browser. In the following field, enter the name that you want to assign to the Write Community. The name can be from 1 to 64 characters long, and it can contain alphanumeric characters. The default name is “private.”

### Trap Community:

Check this box if you want to configure the PSE544 SNMP agent to send traps to a community. In the following field, enter the name that you want to assign to the Trap Community. The name can be from 1 to 64 characters long, and it can contain alphanumeric characters. The default name is “trap.”

### Trap Destination 1:

Check this box and enter the primary SNMP Server address that the traps will be sent to.

### Trap Destination 2:

Check this box and enter the secondary SNMP Server address that the traps will be sent to.

### LOGOUT:

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES:

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES:

Click “Apply Changes” at the bottom of the page to save changes.

## 3.1.8 GENERAL / TRIGGER

---

Your PSE544 can send requests over IP to remote Power Switch devices. These requests can then be used to trigger an action on the remote device.

**NOTE: Depending on the model of the remote Power Switch, you could, for instance, switch on a remote power outlet, close or open a remote relay, or send an SNMP Trap, an email, or a Syslog message from the remote Power Switch.**

## CHAPTER 3: NETWORK SETTINGS

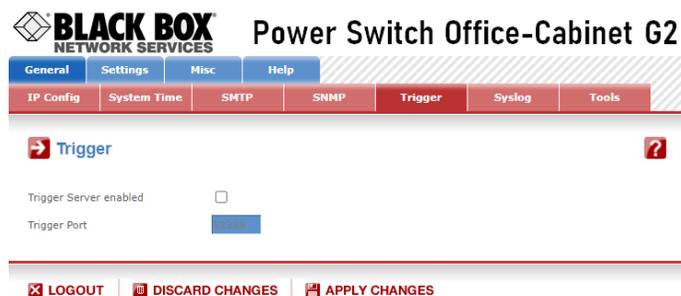


FIGURE 3-5: TRIGGER

### Trigger Server enabled

Check this box if you want to enable the Trigger function.

**NOTE: The Trigger function must be activated on both the emitter device (your device) and the target device (the remote Power Switch).**

### Trigger Port

This field stores the port number used by the Trigger function. The default port is 52389.

**NOTE: The Trigger function must be activated on both the emitter device (your device) and the target device (the remote Power Switch).**

### LOGOUT

Click "Logout" at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES

Click "Discard Changes" at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES

Click "Apply Changes" at the bottom of the page to save changes.

## 3.1.9 GENERAL / SYSLOG

This page is used to define the address of two Syslog Servers.

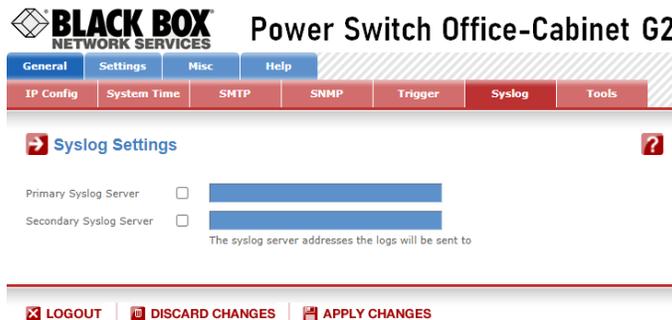


FIGURE 3-6: SYSLOG SETTINGS

### Primary Syslog Server

Select this checkbox and specify the IP address or the hostname of your primary Syslog server.

**NOTE:** If you use a hostname, the system must be able to resolve queries for the hostname into IP address, so you must configure a default gateway and at least one DNS server on the Network Settings Page, accessible through General/IP Configuration page.

### Secondary Syslog Server

In this field you can define the IP Address of a secondary Syslog server.

You can enter either the hostname or the IP address of a Syslog server.

### LOGOUT

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES

Click “Apply Changes” at the bottom of the page to save changes.

## CHAPTER 3: NETWORK SETTINGS

### 3.1.10 GENERAL / TOOLS

This page is used to:

- ♦ download and save the current settings of your PSE544 on your PC,
- ♦ upload an existing configuration file to your PSE544,
- ♦ restore the factory settings,
- ♦ download the PSE544 MIB file on your PC.

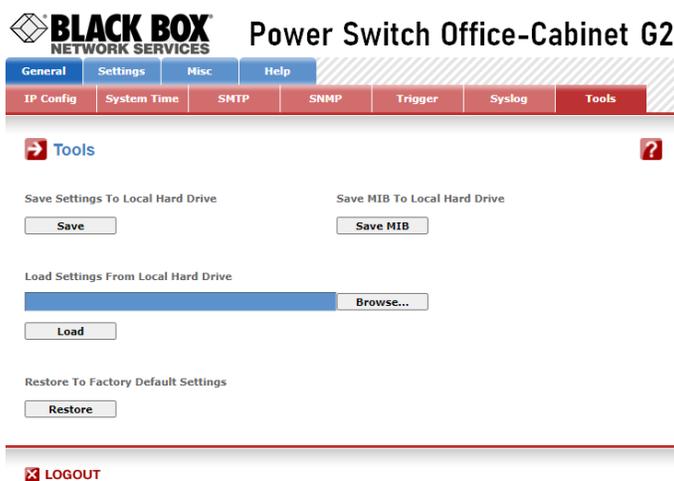


FIGURE 3-7: TOOLS

#### Save:

Click this button to save the current system settings to your local hard drive.

#### Load:

Click this button and select a settings file that you want to download to the PSE544.

#### Restore:

Click this button if you want to restore the factory default settings.

#### Save MIB:

Click this button if you want to download the PSE544 MIB file to your local hard drive.

#### LOGOUT:

Click "Logout" at the bottom of the page to exit the session without saving changes.

## CHAPTER 3: NETWORK SETTINGS

### 3.1.11 SETTINGS / ACCOUNTS

This page is used to create, activate, deactivate, modify, and delete up to 40 accounts:

- ◆ To activate or deactivate an account, check or uncheck the corresponding checkbox.
- ◆ To modify an existing account, click on "Edit" next to the corresponding account.
- ◆ To delete an existing account, click on "Delete" next to the corresponding account.
- ◆ To create a new account, click on "Add a New Account" on the right side of the page.

A new page appears, allowing you to set all account parameters.



FIGURE 3-8: ACCOUNT SCREEN

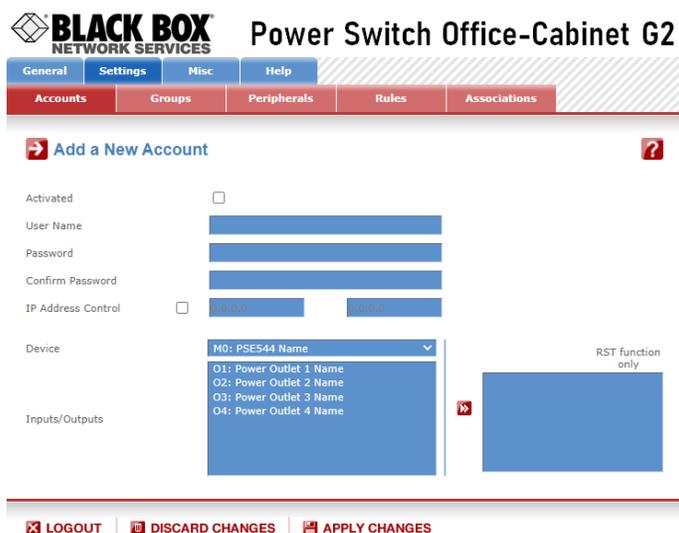


FIGURE 3-9: ADD A NEW ACCOUNT

#### Activated

This checkbox must be checked to activate the account. It enables temporary deactivation of the current account while keeping all of its settings for later use.

## CHAPTER 3: NETWORK SETTINGS

### User Name:

This field stores the name that you want to assign to the user account. It can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

### Password:

This field stores the password that you want to assign to the user. It can be from 4 to 32 characters long, and it can contain alphanumeric characters.

### Confirm Password:

In this field, enter the password again.

### IP Address Control:

Check this checkbox and specify an IP address or a range of IP addresses if you want to restrict access for this account.

### Device:

In this drop-down list, choose the power outlet or group of power outlets that you want to add to the current account.

**NOTE: Groups are only visible if they have already been created through Settings/Groups Tab.**

To add a power outlet or a group of power outlets to the current account, click on the account or group(s) that you want to add to the account and click on the red arrow. The IDs of the selected power outlets or group of power outlets are displayed on the right side of the Groups field.

**NOTE: This field appears only if you have already created at least one group on the Settings/Groups Tab.**

### Inputs/Outputs:

This field is used to add/remove Inputs or Outputs to/from the current account.

To add Inputs or Outputs to the current account, press the <Ctrl> key and click on the Inputs/Outputs of the device selected in the previous field. The selected Inputs/Outputs are marked dark blue, and their IDs are listed on the right side of the Inputs/Outputs field.

### RST function only

With this function you can create an account which only enables restarting of specified power outlets. The ON and OFF buttons will no longer appear on the Misc/Control Panel outlet control page. This function is very helpful if you have to restart the router used to access to your Power Switch. It avoids switching the router off with no possibility to switch it on again. After pressing the Restart button, the router will always automatically be switched On by the Power Switch.

### LOGOUT:

Click "Logout" at the bottom of the page to exit the session without saving changes.

## CHAPTER 3: NETWORK SETTINGS

### DISCARD CHANGES:

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES:

Click “Apply Changes” at the bottom of the page to save changes.

### 3.1.12 SETTINGS / ACCOUNTS / HIDDEN PAGE ACCOUNT

This account is intended for developers who want to implement the power outlet control in own programs. If activated, users can access a special page named hidden.htm and individually control the power outlets using simple commands.



FIGURE 3-10: HIDDEN ACCOUNT

- ♦ To activate or deactivate this account, check or uncheck the corresponding checkbox.
- ♦ To modify the Hidden page account, click on “Edit” next to the corresponding account.

A new page appears, allowing you to set all of the account’s parameters.

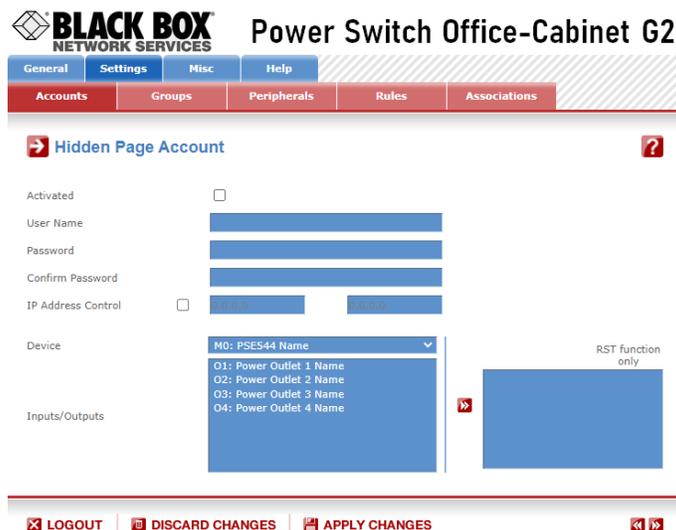


FIGURE 3-11: HIDDEN ACCOUNT SCREEN

## CHAPTER 3: NETWORK SETTINGS

### Activated

This check box must be checked to activate the Hidden Page Account. It enables temporary deactivation of this account while keeping all its settings for later use. The Hidden Page Account cannot be deleted.

### User Name

In this field, enter the name that you want to assign to the Hidden Page Account. It can be up to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

### Password

This field stores the password that you want to assign to the Hidden Page Account. It can be up to 32 characters long, and it can contain alphanumeric characters.

### Confirm Password

In this field, enter the password again for confirmation.

### IP Address Control

Network security can be increased by IP address filtering. Check this checkbox and specify an IP address or a range of IP addresses which has the right to access the Hidden Page Account.

### Groups

**NOTE: This field appears only if at least one group has already been created. To create a group, go to the Settings/Groups page.**

- ◆ To add an existing group of Power Outlets to the current account, select the group that you want to add in the left field and click on the arrow button. The group will then appear in the right field.
- ◆ To remove a Group from the current account, select the group that you want to remove in the right field and click on the arrow button. The group will then appear in the left field.

**NOTE: Each group is clearly identified by its own ID (G1, G2, G3...) followed by the name given during the configuration. If the symbol “!” appears between brackets behind the ID Code, the Group is not activated. It can be activated on the Settings/Groups page.**

### Device

In this drop-down list, choose the device from which you want to add Inputs or Outputs to the current account.

#### NOTE:

**Only properly connected devices which already have been connected to the Power Switch appear in this field.**

**Each peripheral is clearly identified by its own ID followed by the name given during the configuration. Behind the ID can appear a character between brackets which has following meaning:**

**“!” means that the corresponding device is properly connected to the Power Switch but not activated. It can be activated on the Settings/Peripherals page.**

**“X” means that the corresponding device has already been connected to the Power Switch but is currently no longer connected to the Power Switch.**

## CHAPTER 3: NETWORK SETTINGS

### Inputs/Outputs

This field is used to add/remove Inputs or Outputs to/from the current account.

To add an Input or Output to the current account, select the Input / Output that you want to add in the left field and click on the arrow button. The selected Input / Output will then appear in the right field.

To remove an Input or Output from the current account, select the Input / Output that you want to remove in the right field and click on the arrow button. The selected Input / Output will then appear in the left field.

### Accessing the Hidden Page Account

To be able to access the Hidden Page, you must have configured the Hidden Page Account and activated it. For the first tests, simply check the Activated check box, start your browser, and type the IP address of your Power Switch followed by the name of the hidden page into your browser's address bar.

Example:

If the IP address of your Power Switch is 192.168.100.200, type in:

<http://192.168.100.200/hidden.htm> followed by <ENTER>.

Your Web browser will now display:

Hidden Page

21 Jul 2011 01:50:03

Version: 2.3.0.0

### Controlling Power Outlets

Only power outlets which have been selected can be controlled through the Hidden Page. To select power outlets, go to the Settings/Accounts page and edit the Hidden Page Account. In the Inputs/Outputs field, select the power outlets that you want to control and click on the arrow button next to the Inputs/Outputs field. The selected power outlets will appear in the right field. Click on **Apply Change** to validate the configuration.

Example:

If you have selected all four power Outlets and the IP address of your Power Switch is 192.168.100.200, type in:

<http://192.168.100.200/hidden.htm> followed by <ENTER>.

Your web browser will now display:

Hidden Page

21 Jul 2011 02:29:01

Version: 2.3.0.0

M0:O1=On

M0:O2=On

M0:O3=On

M0:O4=On

## CHAPTER 3: NETWORK SETTINGS

Each Power Outlet individually supports three commands: On, Off, and Restart using following syntax:

M0:Ox=[ON], [OFF], [RESTART]

M0: ID of your Power Switch

Ox: Outlet number of your Power Switch

ON: ON command

OFF: OFF command

RESTART: Restart command

The first command must be preceded by a “?”

Commands can be concatenated using the character “&.”

Commands can be specified in upper case, lower case, or mixed case.

The Hidden Page functionality also allows the user to control peripherals connected to the A-xBus, including all sensors, Digital I/O Modules, Power Switches, and Current probe.

Example:

If you want to switch OFF Power Outlet #1 and 3, type in:

<http://192.168.100.200/hidden.htm?M0:O1=OFF&M0:O3=OFF>

Your Web browser will now display:

Hidden Page

21 Jul 2011 02:42:08

Version: 2.3.0.0

M0:O1=Off

M0:O2=On

M0:O3=Off

M0:O4=On

### 3.1.13 SETTINGS / GROUPS

This page is used to create, modify, and delete groups of power outlets which can be controlled by the PSE544. This functionality is particularly useful if you have to control the power supply of devices using redundant power supplies. You can create groups, including multiple power outlets distributed on multiple Power Switch 8XS devices.

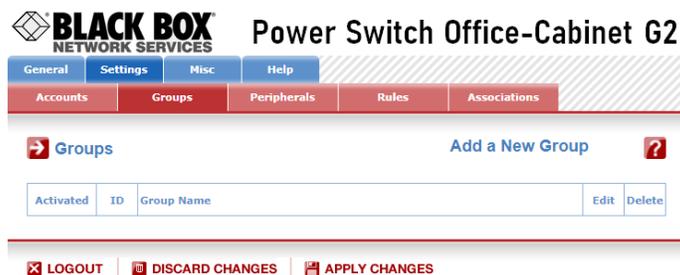


FIGURE 3-12: GROUPS

## CHAPTER 3: NETWORK SETTINGS

- ◆ To delete an existing group, click on “Delete” for the corresponding device.
- ◆ To add or remove power outlets to/from an existing group, click on “Edit” for the corresponding device.
- ◆ To deactivate a Group, uncheck the box “Activated” for the corresponding group.
- ◆ To add a new group, click on “Add a New Group” on the right side of the page. A new page appears, allowing you to set all group parameters.

The screenshot shows the 'Add a New Group' configuration page in the Black Box Network Services interface. The page title is 'Power Switch Office-Cabinet G2'. The navigation menu includes 'General', 'Settings', 'Misc', and 'Help'. Below the navigation, there are tabs for 'Accounts', 'Groups', 'Peripherals', 'Rules', and 'Associations'. The main content area has a red 'Add a New Group' button. The form fields are: 'Activated' (checkbox), 'Group ID' (text input with 'G1'), 'Group Name' (text input), 'Device' (dropdown menu with 'M0: PSE544 Name' selected), and 'Power Outlets' (list of outlets: 'O1: Power Outlet 1 Name', 'O2: Power Outlet 2 Name', 'O3: Power Outlet 3 Name', 'O4: Power Outlet 4 Name'). There is also an 'Inverse Output Function' checkbox and a 'Normal Function' label. At the bottom, there are three buttons: 'LOGOUT', 'DISCARD CHANGES', and 'APPLY CHANGES'.

FIGURE 3-13: ADD A NEW GROUP

### Activated

This check box must be checked to activate the group. It enables temporary deactivation of a group of power outlets while keeping all of its settings for later use.

### Group Id:

The PSE544 automatically creates an ID Code to clearly identify each group of power outlets. All the ID Codes used to identify groups start with the letter “G.”

### Group Name:

This field stores the name that you want to assign to the selected group. It can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

### Device:

In this drop-down list, choose a Power Switch from which you want to add power outlets to the selected group.

## CHAPTER 3: NETWORK SETTINGS

### Power Outlets:

This field is used to add and remove power outlets to and from the group.

To add power outlets to the group, press the <Ctrl> key and click on the power outlets for the Power Switch selected in the field above. The selected power outlets are marked dark blue, and their names are listed at the right of the field “Power Outlets.”

To remove a power outlet from the group, press the <Ctrl> key, and click on the power outlet that you wish to remove.

### LOGOUT:

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES:

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES:

Click “Apply Changes” at the bottom of the page to save changes.

### 3.1.14 SETTINGS / PERIPHERALS

This page enables the user to label the device, the four power outlets of the PSE544, and the shutdown function. Names of up to 32 alphanumeric characters in length are supported and appear in log files, Syslog messages, and SNMP traps to avoid confusion.

Open you browser and log into the Administrator’s Page, (For example, <http://192.168.100.200/sysadmin.htm>).

Enter the administrator name and password (default for both = admin). The home page appears.

Click on the Settings Tab, then on the Peripherals Tab, and then on the Edit symbol.

The following new page appears, allowing you to define the labels.

**BLACK BOX**  
NETWORK SERVICES

Power Switch Office-Cabinet G2

General Settings Misc Help

Accounts Groups Peripherals Rules Associations

Peripherals

Activated	ID	Type	Name	Edit	Info	Delete
<input checked="" type="checkbox"/>	M0	PSE544	PSE544 Name			

LOGOUT DISCARD CHANGES APPLY CHANGES

FIGURE 3-14: PERIPHERALS PAGE

**BLACK BOX NETWORK SERVICES** Power Switch Office-Cabinet G2

General Settings Misc Help

Accounts Groups Peripherals Rules Associations

**PSE544**

ID	Designation	Name	Activated
M0	Device	PSE544 Name	<input checked="" type="checkbox"/>

**Power Outlets**

ID	Designation	Name	Default Power Up	Power Up Delay (sec)	Function Delay (sec)
O1	Power Outlet 1	Power Outlet 1 Name	Last Sta	0	10
O2	Power Outlet 2	Power Outlet 2 Name	Last Sta	0	10
O3	Power Outlet 3	Power Outlet 3 Name	Last Sta	0	10
O4	Power Outlet 4	Power Outlet 4 Name	Last Sta	0	10

LOGOUT DISCARD CHANGES APPLY CHANGES

FIGURE 3-15: LABEL DEFINITION

### ID:

The PSE544 automatically creates an ID Code to clearly identify each device.

M0 identifies the PSE544 device

### Name:

This field stores the name that you want to assign to the selected device. It can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

### Activated

This check box must be checked to activate the device. It enables the device to be deactivated temporarily while keeping all of its settings for later use.

### Power Outlets:

### ID:

The PSE544 automatically creates an ID Code to clearly identify each Power outlet.

O followed by a number identifies each Power outlet



Create new rule:

Click on this button to create a new rule.

### Name:

In this field, enter the name that you want to assign to each power outlet of the Power Switch. It can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

## CHAPTER 3: NETWORK SETTINGS

### Default Power-Up:

In the drop-down list, for each power outlet, choose the default status to apply after power up.

You can choose between:

- ♦ "On" if you want the corresponding power outlet to be always switched on after power up.
- ♦ "Off" if you want the corresponding power outlet to be always switched off after power up.
- ♦ "Last Status" if you want the corresponding power outlet to resume the state it was in before power failure.

### Power up delay:

In this field, enter the power up delay you want to define for each power outlet. Power up delay means the delay before the power outlet will take the defined status after power up. The delay can be set to be between 1 and 255 seconds. The value 0 indicates that no delay will be applied after power up.

### Function delay:

In this field, enter the delay that you want to define before the execution of a function (for example, Restart function of an outlet).

### Shutdowns Functions

#### ID:

The PSE544 automatically creates an ID Code to clearly identify the Shutdown Function.

SD1 identifies the Shutdown Function 1.



Create a new Shutdown Association:

Click on this button to create a new Shutdown Association.

#### Name:

In this field, enter the name that you want to assign to the Shutdown function. It can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

#### LOGOUT:

Click "Logout" at the bottom of the page to exit the session without saving changes.

#### DISCARD CHANGES:

Click "Discard Changes" at the bottom of the page to discard all of the changes that you have made on this page.

#### APPLY CHANGES:

Click "Apply Changes" at the bottom of the page to save changes.

## CHAPTER 3: NETWORK SETTINGS

### 3.1.15 SETTINGS / RULES

The PSE544 is not only a Power Switch over IP, it also supports trigger-action programming, which means users can specify a system's behavior as an event (trigger) and the appropriate action to be taken whenever this event occurs. The trigger and the action are part of different rules that can be easily configured with the mouse.

Rules are used to control actions according to a specific event. For example, you can define a rule to switch a power outlet off and send an alert message using different methods like SNMP or Syslog when a temperature, humidity, ambient light, or current exceeds a predefined value or when a contact is open.



FIGURE 3-16: RULES

- ◆ To remove an existing rule, click on “Delete” of the corresponding rule.
- ◆ To modify a rule, click on “Edit” of the corresponding rule.

This page is used to create, modify, and delete rules.

To add a new rule, click on “Add a New Rule” on the right side of the page. A new page appears, allowing you to set the rule's parameters.

A total of 32 rules can be created, and there are 8 different types of rules:

#### 1. Schedule Rule:

This rule is used to trigger user-specified actions according to a defined time table.

This rule can be used to:

- ◆ execute defined actions at specified time and weekday(s) **once**. In this case you must only specify the start time and the weekday(s).
- ◆ execute defined actions during a given time **repeatedly**. In this case you must specify the start time, the interval on which the rule has to be repeated, and the end time.

#### Examples:

- ◆ The rule could be used to restart a power outlet (or a group of power outlets) at a regular interval during a specified time.
- ◆ The rule could be used to send sensor values over SNMP or a Syslog message at a regular interval during a specified time.

## CHAPTER 3: NETWORK SETTINGS

### 2. Timer Rule:

This rule can be used to trigger user-specified actions according to a defined time table.

This rule can be used to switch a power outlet, a group of power outlets, or a digital output on or off at a specified time and weekday(s) for a specified time. You must define the start time, the weekday(s), and the stop time.

Example:

The rule could be used to switch on a device every Monday and Friday at 8 a.m. (Start Time) and switch it off automatically every Monday and Friday at 5 p.m. (Stop Time)

### 3. Ping Monitoring Rule:

This rule is used to control actions according to the response to a Ping command.

This rule can be used to check if a computer or any IP device is connected to the network. If the host doesn't reply, the PSE544 can automatically restart the powered device.

### 4. Scan Monitoring Rule:

This rule is used to control actions according to the response to a Scan command.

This rule can be used to check if a specific protocol is available on a server. If the connection is not possible, PSE544 can automatically restart the powered device.

### 5. Trigger Rule

This rule is used to send a request over the Internet from your device to another device. The request sent by your device is used to trigger an action on the second device, for instance, to remotely turn on or off a power outlet, to close or open a relay, or to send an alarm message (SNMP Trap, email, or Syslog).

## 3.1.16 SETTINGS / RULES - SCHEDULE RULE

---

This rule can be used to trigger user-specified actions according to a defined time table. The schedule rule is weekday based, and the administrator can declare, for each weekday, a start time, an end time, and after what time the rule should be repeated.

The schedule rule can also be used to send status information or sensor values on specified weekdays at a regular interval.

FIGURE 3-17: SCHEDULE RULE

### Activated

This check box must be checked to activate the rule. It enables the rule to be temporarily deactivated while keeping all of its settings for later use.

### Rule ID:

The PSE544 automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the letter “R” followed by a number from 1 to 32.

**NOTE: If you delete a rule in the middle of the rule list, the number of this rule will only be used again if no other rule is available.**

### Rule Name:

This field stores the name that you want to assign to the rule. The name can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

### Rule Color:

In this field, select one of the 48 standard colors that you want to use to highlight the rule when executed. To use your own color, enter the Hex value of the color that you want. The Rule highlighting allows the user to quickly identify the triggered rule when displayed in the Rule Panel page or in a special user’s page.

## CHAPTER 3: NETWORK SETTINGS

### Rule Type:

In this drop-down list, choose "Schedule Rule" and then configure both the event and the actions to perform.

## Configuring the Event

### Schedule Action:

Here you can define the time when the rule has to be executed. In the drop-down list choose the time and below, check one or more day boxes.

### Start Time

This field defines the time that the rule starts.

### Repeat Time

This field defines the time period in which the rule repeats.

**NOTE: Repeat Time cannot be set to zero.**

### Stop Time

This field defines the time that the rule ends.

### NOTE:

The end time must be greater than or equal to the start time.

If the rule has to be executed only once at the selected weekday, enter the same value for the start time and end time.

If the rule has to be executed 24 hours on the selected weekday, Start Time must be 1 minute later than End Time.

### Applicable weekday

This field defines which day(s) the rule has to be executed.



## CHAPTER 3: NETWORK SETTINGS

### Configuring the Action(s)

#### Type of Action

For the defined Event, you can choose and configure following actions:

#### Set Outputs

##### NOTE:

This type of Action only appears if:

- ♦ your device has own power outlets or has access to power outlets of connected xBus peripheral units.
- ♦ your device has access to relay outputs of connected xBus peripheral units.
- ♦ you have created interface associations through Settings/Associations.

Select this checkbox and choose in the corresponding drop-down list the output to use for this rule.

Each power outlet can be switched to On, Off, or Restarted.

If you choose "Restart" you can also define a restart delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.
- ♦ If you choose a delay other than 0, this delay will replace the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.

Each Relay Output can be switched to Open, Close, Pulse Open, or Pulse Close.

If you choose Pulse open or Pulse close, you can also define a delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined on the Peripherals page, accessible through Settings/Peripherals/Edit.
- ♦ If you choose a delay other than 0, this delay will replace the one defined on the Peripherals page, accessible through Settings/Peripherals/Edit.

#### Rule to cancel

This type of action only appears if you already have created a rule that you want to cancel.

Select this checkbox and choose in the corresponding drop-down list the rule that you want to cancel.

#### Send Magic

Your device has the possibility to send a Magic Word over IP to another device in order to remotely trigger an action.

- ♦ Send magic: specify the Magic Word to use; it can be from 1 to 32 characters long, and it can contain alphanumeric characters.
- ♦ to: specify the IP address of the destination device
- ♦ port: specify the Port number used to send the Magic Word; the default port number is 52389.

#### Send Syslog Message

This type of Action can only be configured if you have already specified at least one destination Syslog Server through General/Log Settings page.

## CHAPTER 3: NETWORK SETTINGS

Check this box if you want to send a message to a Syslog server. In the following drop-down list choose the facility and the severity of the message to send.

### Send Trap Message

**NOTE: This type of action appears and can be configured only if you have already specified at least one destination SNMP Server through General/SNMP page.**

Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.

### Mail to

**NOTE: This action can only be configured if you have already specified an SMTP Mail Server through General/SMTP.**

Check this box and specify a valid email address.

### Syslog / Trap / Mail Message

**NOTE: This field can only be configured if you already have specified at least one destination Syslog Server through General/Log Settings page or one destination SNMP Server through General/SNMP page.**

Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, in the Trap, and in the emails.

The message can be completed with the status of an input (for example, a power supply or door contact) or the value of a sensor (for example, a temperature sensor). For this, enter, between two “%” characters, the ID of the corresponding input device.

### LOGOUT:

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES:

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES:

Click “Apply Changes” at the bottom of the page to save changes.



## CHAPTER 3: NETWORK SETTINGS

### 3.1.17 SETTINGS / RULES - TIMER RULE

This rule can be used to trigger some actions according to a defined time table.

For example, you could create a rule to switch off a power outlet every Friday at 6 p.m. and create another rule to switch it on again every Monday at 8 a.m.

The screenshot shows the 'Power Switch Office-Cabinet G2' configuration page. The 'Rules' tab is selected. A form titled 'Add a New Monitoring Rule' is displayed. The form includes the following fields and options:

- Activated:** A checkbox that is currently unchecked.
- Rule ID:** A text input field containing 'R1'.
- Rule Name:** An empty text input field.
- Rule Color:** A yellow color selection bar.
- Rule Type:** A dropdown menu set to 'Timer Rule'.
- Timer Action:** A section with 'Start Time' (00:00) and 'End Time' (00:00) dropdowns, and 'Applicable Weekday' checkboxes for Sun, Mon, Tue, Wed, Thu, Fri, and Sat.
- Type of Action:** Two radio button options, both unchecked, labeled 'Set Outputs' with a 'to' field.

At the bottom of the form, there are three buttons: 'LOGOUT', 'DISCARD CHANGES', and 'APPLY CHANGES'.

FIGURE 3-18: TIMER RULE

#### Activated

This check box must be checked to activate the rule. It enables the temporary deactivation of a rule while keeping all of its settings for later use.

#### Rule ID

The Power Switch automatically creates an ID Code to clearly identify each rule. These codes start with the letter "R" followed by a number.

#### Rule Name

This field records the name that you want to assign to the rule. It can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

#### Rule Color:

In this field, select one of the 48 standard colors that you want to use to highlight the rule when executed. To use your own color, enter the Hex value of the color you want. The rule highlighting allows users to quickly identify the triggered rule when displayed in the Rule Panel page or in a special user's page.

## CHAPTER 3: NETWORK SETTINGS

### Rule Type

In this drop-down list, choose Schedule Rule.

Rules are used to control actions according to a specific event. To create a rule, you will first have to configure the chosen event and then choose the actions to perform.

## Configuring the Event

### Timer Action

#### Start Time

This field defines what time the rule starts.

#### Stop Time

This field defines what time the rule ends.

#### Applicable weekday

This field defines which day(s) the rule has to be executed.

## Configuring the Action(s)

### Type of Action

For the defined Event, you can choose and configure following actions:

#### Set Outputs

##### NOTE:

This type of Action can only be configured if:

- ♦ your device has own Power Outlets or has access to Power Outlets of connected xBus Peripheral Units.
- ♦ your device has own Relay Outputs or has access to Relay Outputs of connected xBus Peripheral Units.
- ♦ your Device has access to Relay Outputs of connected xBus Peripheral Units.
- ♦ you have created interface associations, accessible through Settings/Associations.

Select this checkbox and choose in the corresponding drop-down list the output to use for this Rule.

Each Power Outlet can be switched to On, Off, or Restarted.

If you choose "Restart" you can also define a restart delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined in the "Power Outlets Page."
- ♦ If you choose a delay other than 0, this delay will replace the one defined in the "Settings/Peripherals/Edit Page."



## CHAPTER 3: NETWORK SETTINGS

Each relay output can be switched to Open, Close, Pulse Open, or Pulse Close.

If you choose Pulse open or Pulse close, you can also define a delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined in the “Power Outlets Page.”
- ♦ If you choose a delay other than 0, this delay will replace the one defined in the “Settings/Peripherals/Edit Page.”

### **LOGOUT:**

Click “Logout” at the bottom of the page to exit the session without saving changes.

### **DISCARD CHANGES:**

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### **APPLY CHANGES:**

Click “Apply Changes” at the bottom of the page to save changes.

### 3.1.18 SETTINGS / RULES - PING MONITORING RULE

---

This rule can be used to check if a computer or any IP device is connected to the network. It sends ping packets and listens for replies from the specific host. If the host doesn't reply, the PSE544 can automatically switch the powered device off, and, after a specified delay, switch it again on. For details, see “A1.1 Ping and Scan Methods.”

## CHAPTER 3: NETWORK SETTINGS

**BLACK BOX NETWORK SERVICES** Power Switch Office-Cabinet G2

General Settings Misc Help

Accounts Groups Peripherals Rules Associations

**Add a New Monitoring Rule**

Activated

Rule ID

Rule Name

Rule Color

Rule Type

---

Monitored Device Address 1

Monitored Device Address 2

Wait Time for Answer  sec

Interval between Requests  sec

Number of unsuccessful Requests before Action

Delay before First Request after Action  sec

Maximum Number of Actions

---

Type of Action

Set Outputs  to

Set Outputs  to

Send magic to  port

Send Syslog Message

Send Trap Message

Mail to

Syslog/Trap/Mail Message

**LOGOUT** **DISCARD CHANGES** **APPLY CHANGES**

FIGURE 3-19: PING MONITORING RULE

**Activated**

This check box must be checked to activate the Rule. It enables the temporary deactivation of a rule while keeping all of its settings for later use.

**Rule ID:**

The PSE544 automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the letter "R" followed by a number from 1 to 32.

**NOTE: If you delete a rule in the middle of the rule list, the number of this rule will only be used again if no other rule is available.**

**Rule Name:**

This field records the name that you want to assign to the rule. It can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

## CHAPTER 3: NETWORK SETTINGS

### Rule Color:

In this field, select one of the 48 standard colors that you want to use to highlight the rule when executed. To use your own color, enter the Hex value of the colour you want. The rule highlighting allows users to quickly identify the triggered rule when displayed in the Rule Panel page or in a special user's page.

### Rule Type:

In this drop-down list, choose Ping Monitoring Rule. Then configure the event and the actions to perform.

## Configuring the Event

### Monitored device address:

In this field enter the IP address of the IP device that you want to monitor using the Ping command.

### Wait Time for Answer:

In this field, define the delay in seconds for the Answer Timeout. The delay can be set to be between 1 and 10 seconds.

### Interval between Requests:

In this field, define the delay in seconds between ping commands sent to the IP device to monitor. The delay can be set to be between 30 and 65,535 seconds.

### Number of unsuccessful Requests before Action:

In this field, define the number of Ping commands to be sent to the IP device before executing the actions.

The number can be set to be between 1 and 65,535 seconds.

### Delay before First Request after Action:

In this field, define the time in seconds before restarting the monitoring after the reboot action.

The delay can be set to be between 30 and 65,535 seconds.

### Maximum Number of Actions

In this field, define the maximum number of actions. The number can be set to be between 0 and 255.

## CHAPTER 3: NETWORK SETTINGS

### Configuring the Action(s)

#### Type of Actions:

For the defined event, you can choose and configure following actions:

#### Set Outputs

##### NOTE:

This type of Action only appears if:

- ♦ your device has own power outlets or has access to power outlets of connected xBus Peripheral Units.
- ♦ your device has access to Relay Outputs of connected xBus Peripheral Units.
- ♦ you have created interface associations through Settings/Associations.

Select this checkbox and choose in the corresponding drop-down list the Output to use for this Rule.

Each Power Outlet can be switched to On, Off, or Restarted.

If you choose "Restart" you can also define a Restart delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.
- ♦ If you choose a delay other than 0, this delay will replace the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.

Each Relay Output can be switched to Open, Close, Pulse Open, or Pulse Close.

If you choose Pulse open or Pulse close, you can also define a delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.
- ♦ If you choose a delay other than 0, this delay will replace the one defined Peripherals page, accessible through Settings/Peripherals/Edit.

#### Rule to cancel

This type of Action only appears if you already have created a rule that you want to cancel.

Select this checkbox and choose in the corresponding drop-down list the rule that you want to cancel.

#### Send Magic to

Your Device has the possibility to send a Magic Word over IP to another device in order to remotely trigger an action.

- ♦ Send magic: specify the Magic Word to use; it can be from 1 to 32 characters long, and it can contain alphanumeric characters.
- ♦ to: specify the IP address of the destination device
- ♦ port: specify the port number used to send the Magic Word; the default port number is 52389.

## CHAPTER 3: NETWORK SETTINGS

### Send Syslog Message

**NOTE:** This type of Action can only be configured if you have already specified at least one destination Syslog Server through General/Log Settings page.

Check this box if you want to send a message to a Syslog server. In the following drop-down list, choose the facility and the severity of the message to send.

### Send Trap Message

**NOTE:** This type of Action appears and can be configured only if you have already specified at least one destination SNMP Server through General/SNMP page.

Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.

### Mail to

**NOTE:** This Action can only be configured if you have already specified an SMTP Mail Server through General/SMTP.

Check this box and specify a valid email address.

### Syslog / Trap / Mail Message

**NOTE:** This field can only be configured if you already have specified at least one destination Syslog Server through General/Log Settings page or one destination SNMP Server through General/SNMP page.

Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, in the Trap, and in the emails.

The message can be completed with the status of an input (for example, a power supply or door contact) or the value of a sensor (for example, a temperature sensor). For this, enter, between two “%” characters, the ID of the corresponding input Device.

### LOGOUT:

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES:

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES:

Click “Apply Changes” at the bottom of the page to save changes.

## CHAPTER 3: NETWORK SETTINGS

### 3.1.19 SETTINGS / RULES - SCAN MONITORING RULE

This rule can be used to check if a specific protocol is available on a server (for example HTTP, FTP, Telnet, or POP). If the connection is possible, PSE544 knows that a server program is running there. If the connection is not possible, PSE544 can automatically switch the powered device off and, after a specified delay, switch it again on. For details, see “A1.1 Ping and Scan Methods.”

**BLACK BOX NETWORK SERVICES** Power Switch Office-Cabinet G2

General Settings Misc Help

Accounts Groups Peripherals Rules Associations

➔ Add a New Monitoring Rule ?

Activated

Rule ID R1

Rule Name

Rule Color

Rule Type Scan Monitoring Rule

Monitored Device Address 1 Port to scan

Monitored Device Address 2 Port to scan

Wait Time for Answer 1 sec

Interval between Requests 30 sec

Number of unsuccessful Requests before Action 1

Delay before First Request after Action 30 sec

Maximum Number of Actions 0

Type of Action

- Set Outputs to
- Set Outputs to
- Send magic to port 30300
- Send Syslog Message
- Send Trap Message
- Mail to
- Syslog/Trap/Mail Message

LOGOUT DISCARD CHANGES APPLY CHANGES

FIGURE 3-20: SCAN MONITORING RULE

#### Activated

This check box must be checked to activate the Rule. It enables temporary deactivation of a rule while keeping all of its settings for future use.

#### Rule ID:

The PSE544 automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the letter “R” followed by a number from 1 to 32.

**NOTE:** If you delete a rule in the middle of the Rule list, the number of this rule will only be used again if no other rule is available.

## CHAPTER 3: NETWORK SETTINGS

### Rule Name:

In this field, enter the name that you want to give to the rule. The name can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

### Rule Color:

In this field, select one of the 48 standard colors that you want to use to highlight the rule when executed. To use your own color, enter the Hex value of the color that you want. The Rule highlighting allows users to quickly identify the triggered rule when displayed in the Rule Panel page or in a special user's page.

### Rule Type:

In this drop-down list, choose "Scan Monitoring Rule." Then configure the event and the actions to perform.

## Configuring the Event

### Monitored Device Address:

In this field, enter the IP address of the IP device that you want to monitor using the Scan command. In the "Port to scan" field, enter the port number that you want to monitor.

The value can be set to be between 1 and 65,535.

### Wait Time for Answer:

In this field, define the delay in seconds for the Answer Timeout. It can be set to be between 1 and 10 seconds.

### Interval between Requests:

In this field, define the delay between the scan commands sent to the IP device. It can be set to be between 30 and 65,535 seconds.

### Number of unsuccessful Requests before Action:

In this field, define the number of Port scanning commands to be sent to the IP device before executing the actions. It can be set to be between 1 and 65,535 seconds.

### Delay before First Request after Action:

In this field, define the time in seconds before restarting the monitoring after the reboot action. It can be set to be between 30 and 65,535 seconds.

### Maximum Number of Actions

You can limit the number of times the action can be executed. This option is useful to limit the number of times that a server can be rebooted. In this field, define the number of times that the rule can be executed. The delay can be set to be between 0 and 255 seconds. The default is 0, which means that the action can be performed continuously.

## CHAPTER 3: NETWORK SETTINGS

### Configuring the Actions

For the defined Event, you can choose and configure following actions:

#### Set Outputs

##### NOTE:

This type of Action only appears if:

- ♦ your device has own power outlets or has access to power outlets of connected xBus Peripheral Units.
- ♦ your device has access to Relay Outputs of connected xBus Peripheral Units.
- ♦ you have created interface associations through Settings/Associations.

Select this checkbox and choose in the corresponding drop-down list the output to use for this rule.

Each Power Outlet can be switched to On, Off, or Restarted.

If you choose "Restart" you can also define a Restart delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.
- ♦ If you choose a delay other than 0, this delay will replace the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.

Each Relay Output can be switched to Open, Close, Pulse Open, or Pulse Close.

If you choose Pulse open or Pulse close, you can also define a delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.
- ♦ If you choose a delay other than 0, this delay will replace the one defined Peripherals page, accessible through Settings/Peripherals/Edit.

#### Rule to cancel

This type of action only appears if you already have created a rule that you want to cancel.

Select this checkbox and choose in the corresponding drop-down lists the rule that you want to cancel.

#### Send Magic to

Your Device has the possibility to send a Magic Word over IP to another Device in order to remotely trigger an action.

- ♦ Send magic: specify the Magic Word to use; it can be from 1 to 32 characters long, and it can contain alphanumeric characters.
- ♦ to: specify the IP address of the destination device
- ♦ port: specify the Port number used to send the Magic Word; the default port number is 52389.

#### Send Syslog Message

**NOTE: This type of Action can only be configured if you have already specified at least one destination Syslog Server through General/Log Settings page.**

Check this box if you want to send a message to a Syslog server. In the following drop-down list, choose the facility and the severity of the message to send.

## CHAPTER 3: NETWORK SETTINGS

### Send Trap Message

This type of action appears and can be configured only if you have already specified at least one destination SNMP Server through General/SNMP page.

Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.

### Mail to

**NOTE:** This action can only be configured if you have already specified an SMTP Mail Server through General/SMTP.

Check this box and specify a valid email address.

### Syslog / Trap / Mail Message

**NOTE:** This field can only be configured if you already have specified at least one destination Syslog Server through General/Log Settings page or one destination SNMP Server through General/SNMP page.

Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, in the Trap, and in the emails.

The message can be completed with the status of an input (for example, a power supply or door contact) or the value of a sensor (for example, a temperature sensor). For this, enter, between two “%” characters, the ID of the corresponding input Device.

### LOGOUT:

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES:

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES:

Click “Apply Changes” at the bottom of the page to save changes.

## CHAPTER 3: NETWORK SETTINGS

### 3.1.20 SETTINGS / RULES - TRIGGER

This rule is used to send a request over the Internet from your device to another device. The request sent by your device is used to trigger an action on the second device, for instance to remotely turn on or off a power outlet, to close or open a relay, or to send an alarm message (SNMP Trap, email, or Syslog).

FIGURE 3-21: TRIGGER RULE

#### Activated

This check box must be checked to activate the rule. It enables temporary rule deactivation while keeping all of its settings for later use.

#### Rule ID

The administrator can create up to 255 rules, and the power switch automatically creates an ID Code to clearly identify each rule. These codes start with the character “R” followed by a number from 1 to 255.

#### Rule Name

This field records the name that you want to assign to the rule. The name can be from 1 to 32 characters long, and it can contain alphanumeric characters.

#### Rule Color

In this Drop-Down Color Picker, choose the color that you want to apply for the rule in the Rule Panel page (accessible through Misc/Rule Panel) if the rule is triggered.

## CHAPTER 3: NETWORK SETTINGS

### Rule Type

In this drop-down list, choose Trigger Rule. Then configure the event and the actions to perform.

### Configuring the Event

#### Magic word:

In this field, enter the word that you want to use to trigger the corresponding action on a remote device. It can be from 1 to 32 characters long, and it can contain alphanumeric characters.

### Configuring the Actions

#### Type of Action

For the defined Event, depending on your device, you can choose different actions:

#### Set Outputs

##### NOTE:

This type of Action only appears if:

- ♦ your device has own power outlets or has access to power outlets of connected xBus Peripheral Units.
- ♦ your device has access to Relay Outputs of connected xBus Peripheral Units.
- ♦ you have created interface associations through Settings/Associations.

Select this checkbox and choose in the corresponding drop-down list the output to use for this rule.

Each power outlet can be switched to On, Off, or Restarted.

If you choose “Restart” you can also define a Restart delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.
- ♦ If you choose a delay other than 0, this delay will replace the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.

Each Relay Output can be switched to Open, Close, Pulse Open, or Pulse Close.

If you choose Pulse open or Pulse close, you can also define a delay to be between 0 and 3,600 seconds.

- ♦ If you choose 0 seconds for the delay, the delay will be the one defined in the Peripherals page, accessible through Settings/Peripherals/Edit.
- ♦ If you choose a delay other than 0, this delay will replace the one defined Peripherals page, accessible through Settings/Peripherals/Edit.

## CHAPTER 3: NETWORK SETTINGS

### Rule to cancel

This type of action only appears if you already have created a rule that you want to cancel.

Select this checkbox and choose in the corresponding drop-down list the rule that you want to cancel.

### Send Magic to

Your device has the possibility to send a Magic Word over IP to another device in order to remotely trigger an action.

- ◆ Send magic: specify the Magic Word to use; it can be from 1 to 32 characters long, and it can contain alphanumeric characters.
- ◆ to: specify the IP address of the destination device
- ◆ port: specify the port number used to send the Magic Word; the default port number is 52389.

### Send Syslog Message

**NOTE: This type of action can only be configured if you have already specified at least one destination Syslog Server through General/Log Settings page.**

Check this box if you want to send a message to a Syslog server. In the following drop-down list, choose the facility and the severity of the message to send.

### Send Trap Message

**NOTE: This type of action appears and can be configured only if you have already specified at least one destination SNMP Server through General/SNMP page.**

Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.

### Mail to

**NOTE: This action can only be configured if you have already specified an SMTP Mail Server through General/SMTP.**

Check this box and specify a valid email address.

### Syslog / Trap / Mail Message

**NOTE: This field can only be configured if you already have specified at least one destination Syslog Server through General/Log Settings page or one destination SNMP Server through General/SNMP page.**

Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, in the Trap, and in the emails.

The message can be completed with the status of an input (for example, a power supply or door contact) or the value of a sensor (for example, a temperature sensor). For this, enter, between two “%” characters, the ID of the corresponding input Device.

### LOGOUT

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

## CHAPTER 3: NETWORK SETTINGS

### APPLY CHANGES

Click “Apply Changes” at the bottom of the page to save changes.

### 3.1.21 SETTINGS / ASSOCIATIONS

This page is used to configure the settings related to Safe Shutdown and Wake on LAN. It enables to create an Association of interfaces which can be implemented in Rules or used manually with your browser.

The following associations can be created:

#### Safe Shutdown

Association of a Power Outlet (or a Group of Power Outlets) and an USB interface

#### Wake on LAN

Association of a Power Outlet (or a Group of Power Outlets) and the MAC address of a Server

#### Safe Shutdown and Wake on LAN

Association of a Power Outlet (or a Group of Power Outlets), an USB interface, and the MAC address of a Server



FIGURE 3-22: ASSOCIATIONS

- ◆ To remove an existing association, click on the corresponding “Delete” button.
- ◆ To modify an association, click on the corresponding “Edit” button.

## CHAPTER 3: NETWORK SETTINGS

This page is used to create, modify and delete an association. Click on “Add a New Association” on the right side of the page. A new page appears, allowing you to set all of the parameters.

The screenshot shows the Black Box Network Services web interface for a device named "Power Switch Office-Cabinet G2". The interface has a navigation menu with tabs for "General", "Settings", "Misc", and "Help". Below this, there are sub-tabs for "Accounts", "Groups", "Peripherals", "Rules", and "Associations". The "Associations" tab is active, and a red arrow points to a button labeled "Add a New Association".

The form contains several sections:

- General Settings:** Includes an "Activated" checkbox (unchecked), an "Association ID" field with the value "AS1", an "Association Name" field, and a "Function Delay (sec)" field with the value "10".
- Device Selection:** Includes an "Activated" checkbox (unchecked) and a "Device Outlet/Group" field with a dropdown menu showing "001 - Power Outlet 1 (Power)".
- Wake on LAN:** Includes an "Activated" checkbox (unchecked), a "WoL Delay (sec)" field with the value "10", and a "MAC Address" field with the value "00:00:00:00:00:00".
- Shutdown:** Includes an "Activated" checkbox (unchecked), a "Shutdown Delay" field with the value "10", and a "Device Serial Port" field.

At the bottom of the form, there are three buttons: "LOGOUT" (with a red 'X' icon), "DISCARD CHANGES" (with a red 'D' icon), and "APPLY CHANGES" (with a red 'A' icon).

FIGURE 3-23: ADD A NEW ASSOCIATION

### Activated

This check box must be checked to activate the association. It enables temporary association deactivation while keeping all of its settings for later use.

### Association ID

The Power Switch automatically creates ID codes to clearly identify each rule. The codes used to identify associations start with the letters “AS” followed by a number.

### Association Name

This field records the name that you want to assign to the Association. It can be from 1 to 32 characters long, and it can contain alphanumeric characters.

**NOTE: Do not use quotes or special characters in labels.**

### Function Delay (after Shutdown before continue)

In this field, specify a delay after which the associated power outlet will be switched to off.

## CHAPTER 3: NETWORK SETTINGS

This delay is applicable only if the association does not have a power outlet. The delay can be set to be between 1 and 3,600 seconds.

### Device selection

#### Activated

This check box must be checked to activate the device. It enables temporary device deactivation while keeping all of its settings for later use.

#### Device

In the first drop-down list, choose the device that you want to control. If the Power Switch is used as stand-alone unit, this drop-down list will only show the Power Switch itself.

In the second drop-down list, choose the power outlet that you want to control.

### Wake Up on LAN

#### Activated

This check box must be checked to activate the function. It enables temporary Wake Up on LAN deactivation while keeping all of its settings for later use.

#### WoL Delay

This field records the delay before function execution.

#### MAC Address

In this field, enter the MAC address of the PC that you want to associate with the Wake Up on LAN function.

### Shutdown

#### Activated

This check box must be checked to activate the function. It enables temporary Shutdown deactivation while keeping all of its settings for later use.

#### Shutdown Delay

This field records the delay before function execution.

#### Shutdown Device

In this drop-down list, choose the device which will be used to trigger the shutdown action. If the Power Switch is used as stand-alone unit, this drop-down list will only show the Power Switch itself.

## CHAPTER 3: NETWORK SETTINGS

### Group:

**NOTE:** This type of action appears and can be configured only if you have already created at least one group through Settings/Groups tab.

- ◆ In this field, choose the group of power outlets that will be used for the shutdown rule.
  - To select a group, select the output that you want to add in the left field and click on the arrow button; the output will then appear in the right field.
  - To remove the group displayed in the right field, select this group in the right field and click on the arrow button. The group will then appear in the left field.

### LOGOUT:

Click “Logout” at the bottom of the page to exit the session without saving changes.

### DISCARD CHANGES:

Click “Discard Changes” at the bottom of the page to discard all of the changes that you have made on this page.

### APPLY CHANGES:

Click “Apply Changes” at the bottom of the page to save changes.

## 3.1.22 MISC / CONTROL PANEL

This page is very helpful for the administrator because it gives a complete overview of all the peripherals which are currently connected or have been connected to the PSE544. At a glance, the administrator can check the status of the power supplies of the PSE544 and the connected peripherals. He can also check the values of the connected sensors, check the status of the connected dry contacts and control all the power outlets of the connected Power Switch units.

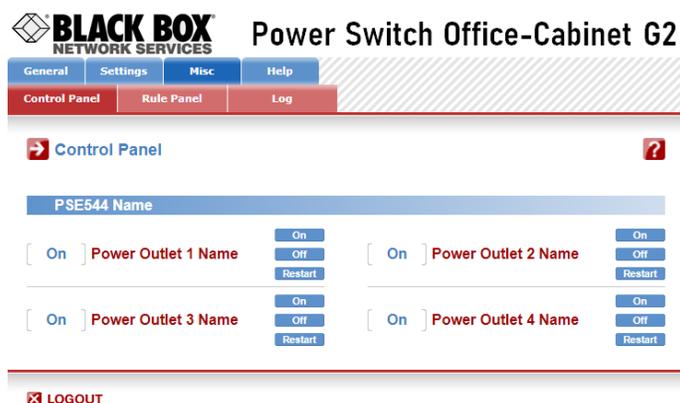


FIGURE 3-24: CONTROL PANEL

## CHAPTER 3: NETWORK SETTINGS

### 3.1.23 MISC / RULE PANEL

This page shows all of the rules that the administrator has created and activated. The rules which have been executed can also be highlighted in different colors according to the action's emergency. The **highlight colors** can be customized during the creation of the rule through the Settings/Rules page.

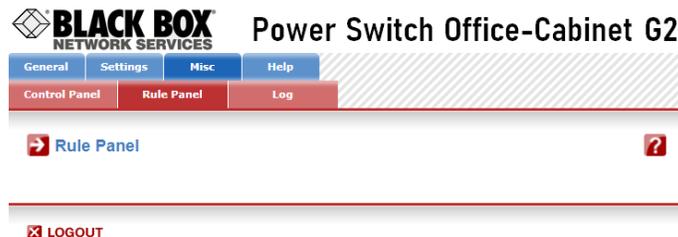


FIGURE 3-25: RULE PANEL

#### NOTES:

The page is automatically refreshed every 10 seconds.

Unlike a standard session, the web server of the PSE544 won't automatically close this type of session. Opening many of these sessions affects the web server's performance.

### 3.1.24 MISC / LOG

The log file keeps a running log of events and activities occurring on the device. The logs are automatically cleared when the device is rebooted. The file will display 10 recent logs.

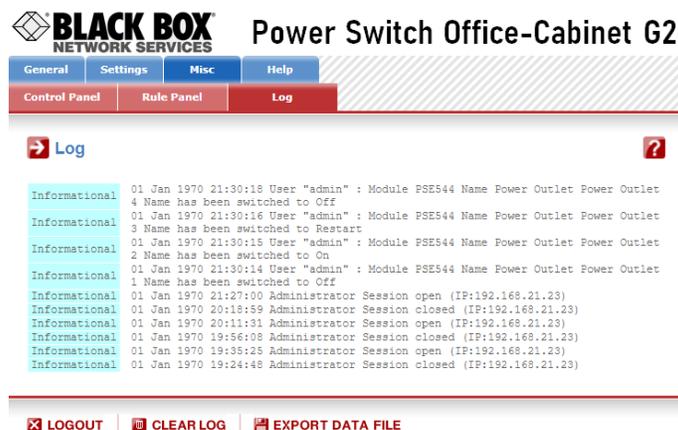


FIGURE 3-26: LOG

## CHAPTER 4: POWER OUTLET CONTROL AND PERIPHERALS

### 4.1 POWER OUTLET CONTROL AND PERIPHERALS STATUS

#### 4.1.1 VIA THE INTERNET USING A STANDARD BROWSER

1. Start your Web browser and type the PSE544's IP address. The browser displays the authentication dialog box.
2. Enter a username and its corresponding password. The PSE544's status is displayed.

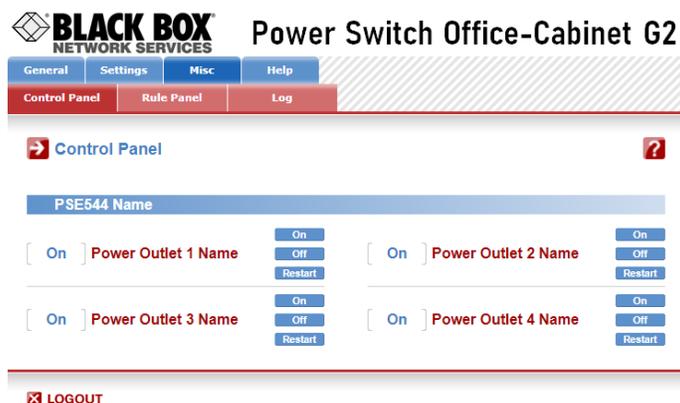


FIGURE 4-1: PSE544 CONTROL OPTIONS

3. In the drop-down list, choose the power control unit that you want to control or the peripheral for which you want to know the status.

If you log in as system administrator, you will be able to:

- ♦ control all the power outlets and all the power outlet groups of the connected Power Switch devices,
- ♦ display the instant values of all the connected sensors (temperature, humidity, and ambient light),
- ♦ display the status of all digital inputs.

If you log in as a user (PSE544 handles up to 40 accounts), you will be able to:

- ♦ individually control all of the power outlets and all of the power outlet groups for which you have the rights,
- ♦ display the values of all the connected sensors for which you have the rights,
- ♦ display the status of all the digital inputs for which you have the rights.

The On button allows you to switch On the corresponding power outlet or group of power outlets.

The Off button allows you to switch Off the corresponding power outlet or group of power outlets.

The Restart button allows you to switch Off the corresponding power outlet or group of power outlets. The power outlet or group of power outlets will then be automatically switched On after the delay defined by the administrator. See Settings / power outlets page.

## CHAPTER 4: POWER OUTLET CONTROL AND PERIPHERALS

### 4.1.2 THROUGH AN USB CONNECTION

The power outlets of the Power Switch

1. Connect the USB interface of the Power Switch to an available USB port of your PC.
2. Run a terminal program.

On your PC, press <ENTER> until the configuration menu appears on your screen.

-----

#### NETWORK INTERFACE PARAMETERS:

IP address on LAN is 192.168.1.240

LAN interface's subnet mask is 255.255.255.0

IP address of default gateway to other networks is 192.168.1.2

#### MISCELLANEOUS:

HTTP Port is 80

Finder program is enabled.

HTTP config is enabled.

-----

Press "M" to modify these settings.

#### Syntax of the command line:

/P0y=z (the command line MUST start with a slash)

Parameter	Value	Function
y	0	means that all 8 power outlets have to be controlled together with one command
	1 to 4	indicates the number of the power outlet you want to control
z	0	Command to switch the socket(s) Off
	1	Command to switch the socket(s) On
	r	Command to restart the socket(s)
	t	Command to toggle the state of the socket

## CHAPTER 4: POWER OUTLET CONTROL AND PERIPHERALS

Examples to control the Master:

```
/P00=1 <ENTER>    switch all the 4 power outlets ON
/P00=0 <ENTER>    switch all the 4 power outlets OFF
/P03=r <ENTER>    restart power outlet 3
/P02=t <ENTER>    toggle power outlet 2
```

### NOTE:

- ♦ The Power Switch accepts lowercase and uppercase commands.
- ♦ The Power Switch sends an echo for each received character.

### 4.1.3 THROUGH THE NETWORK USING SIMPLE COMMANDS IN YOUR OWN PROGRAM

---

Developers who want to implement the power outlet control in own programs can access a special page named `hidden.htm` and individually control the power outlets using simple commands.

To configure the Hidden Page Account, go to `Settings / Accounts / Hidden Page Account`.



## CHAPTER 5: TROUBLESHOOTING, RESTORE, UPDATE

### 6.1 TROUBLESHOOTING / RESTORE DEFAULT VALUE / UPDATE

#### 5.1.1 RESTORE TO DEFAULT FACTORY SETTINGS

---

1. Use an USB cable to connect the PSE544 to an USB port of your PC.
2. Run a Terminal program.
3. On your computer, press <ENTER> until the menu appears on your screen.
4. Type in following command: **/restorefactconf**

**NOTE: The command must be preceded by a slash.**

After restoring the PSE544 to factory settings, it will reboot and have following parameters:

IP Address:	192.168.100.200.
Subnet Mask:	255.255.255.0.
Default Gateway:	blank
Primary DNS Address:	blank
Secondary DNS Address:	blank

#### 5.1.2 RESTORE TO DEFAULT ADMINISTRATOR PASSWORD

---

1. Use an USB cable to connect the **PSE544** to an USB port of your PC.
2. Run a Terminal program.
3. On your computer, press <ENTER> until the menu appears on your screen.
4. Type in following command: **/initadminaccount**

**NOTE: The command must be preceded by a slash.**

Now you can log in as administrator by using **admin** as both the Login name and password.

**NOTE: The login values are case sensitive.**

## CHAPTER 5: TROUBLESHOOTING, RESTORE, UPDATE

### 5.1.3 SPECIAL TERMINAL COMMANDS (/HELP)

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The user can send following Terminal commands over the USB interface:

/viewlog	Display the log file
/initlog	Clear the log file
/initadminaccount	Restore default administrator password
/restorefactconf	Restore to factory default settings
/help or /?	Display this help

### 5.1.4 UPDATE

---

The update can **ONLY** be done over the LAN.

The IP address of the product to be updated **MUST** set to 192.168.100.200.

The product to be updated **MUST** be accessible via a browser on the PC used for the update.



## APPENDIX A: GENERAL INFORMATION

### A.1 GENERAL INFORMATION

#### A.1.1 PING AND SCAN METHODS

PSE544 has two methods to check whether a piece of IP equipment, such as a PC, server, router, or Webcam, is still alive:

##### **Address Pinging:**

The first method uses the well-known Ping command in which a request is sent to a specific IP address. The Ping command, which is an echo request, enables you to determine through an ICMP protocol (Internet Control Message Protocol) if an IP device is available on the network. If the system reacts to this request, PSE544 knows that the TCP/IP connection is established. If the system does not react to one or several requests, PSE544 can automatically switch the device off and, after a specified delay, switch it again on (Reboot function).

##### **Port Scanning:**

The second method uses the Port Scan command to test a specific TCP/IP port. In other words, this command allows you to find out if a specific protocol is available on a server (for example, HTTP, FTP, Telnet, or POP). PSE544 simply tries to connect to a specific server port. If the connection is possible, PSE544 knows that a server program is running there. If the connection is not possible, PSE544 can automatically switch the device off and, after a specified delay, switch it again on (Reboot function).

##### **Remarks:**

**The Supervision function works only if the PSE544 is connected to the LAN.**

**The Ping and Scan functions can be used separately or together.**

**The network route between PSE544 and the IP device you wish to supervise should be as direct as possible, so do not use unnecessary routers and complex wiring between them.**

**A problem on a router or the wiring could reboot the IP device to supervise.**

**Execute several Pings and/or Scans before running the Reboot function. It could be possible that the IP device doesn't respond although it is still working.**

**Choose a realistic supervision cycle. One second is possible. However it's not necessary to overload the network with Ping and Scan requests.**

##### **Recommended values:**

- ♦ Interval between requests: 10 seconds or more
- ♦ Number of unsuccessful requests before reboot: 3 or more
- ♦ Delay before reboot: 10 seconds or more
- ♦ Delay before restarting monitoring after reboot: 120 seconds or more

## APPENDIX A: GENERAL INFORMATION

### A.1.2 TECHNICAL DATA

TABLE 1-1. GENERAL SPECIFICATIONS

SPECIFICATION	DESCRIPTION
Network standards	IEEE 802.3, 10/100 BASE-T
Network protocols	TCP/IP, HTTP,
xBus Network connection	RJ-45 connector for STP CAT5 Max. network cable length 200 meters
Terminal connection	USB Type-B male
Operating temperature	0 to 50°C
Operating humidity	10 to 80% RH (not condensing)
Dimensions (LxDxH)	485 x 73 x 45 mm

### A.1.3 COMMONLY USED PORTS

<b>TCP 80:</b>	Used for HTTP connections
<b>UDP 123:</b>	Used to allow time synchronization over NTP (Network Time Protocol)
<b>UDP 161:</b>	Used for SNMP Requests
<b>UDP 162:</b>	Used for SNMP Traps
<b>UDP 514:</b>	Used to deliver Syslog messages

### A.1.4 SYSLOG MESSAGES: SEVERITY LEVEL DEFINITIONS

The Emergency level is the most severe type of message generated by PSE544, and the Debug severity level is the least severe one.

#### Severity Level 0, Emergency:

The following messages appear at severity 0:

- ♦ Continuous error!

#### Severity Level 1, Alert:

The following messages appear at severity 1:

- ♦ Settings have been reinitialized through the USB connection
- ♦ PSE544 does not respond
- ♦ Satellite "number" does not respond
- ♦ Sensor "number" does not respond
- ♦ Failure on Power Input of Master M0



## APPENDIX A: GENERAL INFORMATION

- ◆ Failure on Power Input A of Satellite (number)
- ◆ Failure on Power Input B of Satellite (number)

### **Severity Level 2, Critical:**

The following messages appear at severity 2:

- ◆ "file" config corrupted: restoring default values

### **Severity Level 3, Error:**

PSE544 doesn't generate Severity Level 3.

### **Severity Level 4, Warning:**

The following messages appear at severity 4:

- ◆ Settings have been changed through the USB connection
- ◆ Settings have been changed through the network by User "name"

### **Severity Level 5, Notice:**

The following messages appear at severity 5:

- ◆ Master M0 has been connected
- ◆ Satellite (number) has been connected
- ◆ Sensor (number) has been connected
- ◆ System has been restarted through the USB connection
- ◆ Power Supply of Master restored
- ◆ Power Supply A of Satellite (number) restored
- ◆ Power Supply B of Satellite (number) restored
- ◆ Rule (number) : Outlet (number) of Master has been switched ON
- ◆ Rule (number) : Group (number) has been switched ON
- ◆ Rule (number) : Dry Contact Output (number) has been open

### **Severity Level 6, Informational:**

- ◆ The following messages appear at severity 6:
- ◆ System has been started
- ◆ Date & Time have been synchronized to a Network Time Server
- ◆ User "name" : Outlet (number) of Master M0 has been switched ON
- ◆ User "name" : Group (number) has been switched ON
- ◆ Dry Contact Input (number) has been opened
- ◆ Dry Contact Input (number) has been closed
- ◆ Dry Contact Output (number) has been opened

## APPENDIX A: GENERAL INFORMATION

- ◆ Dry Contact Output (number) has been closed
- ◆ Session opened by user "name"

### **Severity Level 7, Debug:**

PSE544 doesn't generate Severity Level 7.



## APPENDIX B: REGULATORY INFORMATION

### B.1 FCC STATEMENT

This equipment has been tested and found to comply with the regulations 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this Quick Installation Guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case, the user will be required to correct the interference at his/her own expense.

### B.2 CE STATEMENT

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

### B.3 ROHS

This product is RoHS compliant.

## APPENDIX B: REGULATORY INFORMATION

### B.4 NOM STATEMENT

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
  - A: El cable de poder o el contacto ha sido dañado; u
  - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
  - C: El aparato ha sido expuesto a la lluvia; o
  - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
  - E: El aparato ha sido tirado o su cubierta ha sido dañada.



## APPENDIX C: DISCLAIMER/TRADEMARKS

### C.1 DISCLAIMER

Black Box Corporation shall not be liable for damages of any kind, including, but not limited to, punitive, consequential or cost of cover damages, resulting from any errors in the product information or specifications set forth in this document and Black Box Corporation may revise this document at any time without notice.

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