SAMSUNG TURN ON TOMORROW **SMARTLINK** WiFi

Samsung's OMS (Optical Media Solution) Customer Support Website (www.samsung-ODD.com) offers the latest versions of firmware for ODD products, user instructions and product information.

SAFETY PRECAUTIONS

Important to read and understand at all times
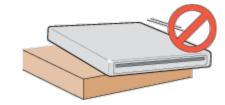
[!]	**Warning**	This symbol indicates explanations about extremely dangerous matters. If users ignore this symbol and handle the device the wrong way, this can cause serious injury or death.
[!]	**Caution**	This symbol indicates explanations about dangerous matters. If users ignore this symbol and handle the device the wrong way, this can cause damage to the product.
[i]	**Important**	Important to read and understand at all times.
[💡]	**Note**	Note

[i] **Important**
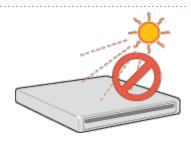
IF A SOFTWARE PROGRAM IS TO BE BUNDLED WITH THE Optical Smart Hub PROVIDED BY SAMSUNG, THEN YOU MUST HAVE A SEPARATE, VALID LICENSE FOR SUCH BUNDLED SOFTWARE WITH RESPECT TO THE MANUFACTURE, SALE OR DISTRIBUTION OF THE PRODUCT (SUCH AS A PERSONAL COMPUTER) CONTAINING THE OPTICAL DISC DRIVE AND THE BUNDLED SOFTWARE AS ITS COMPONENTS. OTHER THAN THOSE THIRD PARTY LICENSES EXPRESSLY STATED TO BE INCLUDED, SAMSUNG PROVIDES NO OTHER THIRD PARTY LICENSES, AND HEREBY DISCLAIMS ANY AND ALL LIABILITY WITH RESPECT THERETO.

During installation

[i] Do not install the Optical Smart Hub on the unstable surface.

Do not place the Optical Smart Hub in direct sunlight.

Avoid very low or high temperatures.

Avoid high humidity.

During operation

Handle the Optical Smart Hub carefully to prevent damage from an external shock.

Do not drop the Optical Smart Hub. Protect the Optical Smart Hub from severe shocks.

- If you do not protect it, this can cause damage to the Optical Smart Hub

Do not move the Optical Smart Hub while in operation. Do not attempt to open the disc tray by force.

Make sure that you close all open applications before you open the tray. Always use the Eject button to open and close the tray.

- Do not insert a pin into the emergency hole while the drive is in

  operation.

- Keep your hand away from the tray while the drive is in operation.

  This can result in damage to the product or human body.

⚠ Do not use cracked, distorted or damaged discs.

- A disc with a crack can break while you use it, especially when the crack is near the

  center of the disc.

- Before you use the disc, always make sure that it does not have a crack. If the disc has a

  crack, we recommend to make a copy of the disc and then use the copy. When you

  continue to use a cracked disc, the size of the crack will increase. This will cause irreparable damage to the disc.

- Do not use low-quality discs (illegal, scratched, damaged, etc.).

- **If you use such discs, Samsung is not responsible for the damage that this can cause.**

ℹ Do not put any heavy items on the Optical Smart Hub

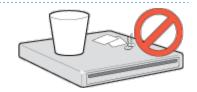
ℹ Be careful you do not hurt yourself with the sharp edge of the disc tray while you open or close

  it.
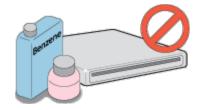
Others

ℹ Make sure that no foreign material enters the Optical Smart Hub casing.
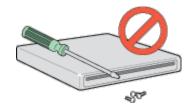
ℹ To protect against fire, do not use any flammable liquids such as alcohol or benzene on the

  Optical Smart Hub

ℹ Do not disassemble, repair or modify the device without our approval.

- To reduce the risk of damage, electric shock and fire.

Cautions when storing and cleaning discs

ℹ Important

This part of the manual gives information to prevent damage or data loss.

Read carefully and follow it correctly.

Storing discs

- Do not place it in direct sunlight.
- Store discs so that they are lying face down on a flat surface.
- Do not scratch the disc or put a label on it.
- Handle the disc carefully to prevent damage from an external shock.
- Do not expose it to large temperature changes.

  (Exposure to such environment can cause congealing.)

Cleaning discs

- Do not touch the surface of the disc.
- Put your fingers on the edge of the disc to hold it.

- Use a soft cotton cloth to clean the disc. Start from the center and move to the edge of the disc.
- Use only disc-cleaning liquids. Do not use benzene, paint thinner or other solvents.

ℹ Note

If the disc surface becomes dirty with fingerprints, foreign substances or dust, the disc will not function properly.

RoHS and WEEE

RoHS

Planet First logo

This logo shows consumers that Samsung develops eco-friendly products and demonstrates Samsung's continuous efforts to develop eco-friendly products.

RoHS (Restriction of the use of certain hazardous substances in electrical and electronic equipment)

The RoHS, the environmental regulation announced by European Union, restricts the use of lead, mercury, cadmium, hexavalent chromium, PBB, and PBDE in products put on the market in the European Union after July 1, 2006.

WEEE

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)
(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial waste for disposal.

SPECIFICATIONS

Exterior

Front

1. ODD LED

2. Eject button

3. Emergency hole

💡 **Note**

Design and specifications are subject to change without prior notice.

Back

1. EXTERNAL: for connecting the USB storage device

2. RESET: for restoring the factory setting

3. PC/AV: USB interface port for connecting PC/AV

4. WAN: 10/100 Mbps ethernet port for internet connection

5. POWER: for connecting the adapter

Components

- Optical Smart Hub
- Quick installation guide
- Application software & user manual CD
- USB Y-cable
- Adaptor
- Plug

💡 **Note**

The type of accessories varies depending on a product model. Some accessories are subject to change without notice.

Software for Macintosh not included.

LED status

ODD LED

Status	LED	
	General ODD mode	**AV system support mode**
Disc Lead-In	Blinks every 0.3 seconds.	
Writing	Blinks every 0.3 seconds.	
Reading	Blinks every 0.3 seconds.	
Standby	Off	On
No Disc	Off	On

LED

LED	Name	Status	Description
	POWER	On	Optical Smart Hub is turned on.
		Blinks	Optical Smart Hub is booting.
		Off	Optical Smart Hubis turned off.
	USB	On	USB storage device is connected.
		Blinks	Transferring data via USB is in progress.
		Off	USB storage device is not connected.

		On	Wi-Fi connection is turned on.
	WLAN	Blinks	Transferring data via Wi-Fi is in progress.
		Off	Wi-Fi connection is turned off.
		On	Internet connection is turned on.
	WAN	Blinks	Transferring data via internet is in progress.
		Off	Internet connection is turned off.

System requirements

Basic system requirements

Item	Description
OS	Microsoft Windows 2000 (SP4) / XP(SP1.0 or above) / Vista / 7 MAC OS X (10.4.6 or above)
CPU	Pentium4 2.0 GHz or above / Atom 1.6 GHz or above
RAM	512 MB or more (Windows 2000 / XP), 1 GB or more (Windows Vista / 7)
Interface	USB 2.0 interface connector (For External ODD) 10/100 Base-T/TX Ethernet for wired networking 802.11 b/g for wireless networking

💡 **Note**

The Optical Smart Hub will not always be able to achieve its maximum performance. This depends on the PC system environment and user's network environment.

System requirements for using the AV connectivity function

Item	Description
OS	Linux, WinCE
Device function	Video, photo & music file playing function through a USB interface
USB port current	1.4 A or higher

💡 **Note**

Even if the above requirements are satisfied, the function may not work on some devices.

Using the function with a device to which an external USB storage device can be connected, is recommended

Product Specifications

Category		SE-208BW
		ODD
Disc	Usable discs	**DVD:** DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-ROM, DVD-Video, DVD+R DL, DVD-R DL, DVD-RAM **CD:** CD-ROM, CD-R, CD-RW, CD-DA, CD+E(G), CD-MIDI, CD-TEXT, CD-ROM XA, Mixed Mode CD, CD-I, CD-I Bridge (Photo-CD, Video-CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio)
	Disc diameter	3.15 inch or 4.72 inch (80 mm or 120 mm)
Interface support	Interface port	USB 2.0
Access time (random)	DVD-ROM	190 ms
	CD-ROM	190 ms
Data transfer speed (max)	Media type	Read	Write
	DVD-R	*CAV 8X*	*PCAV 8X*
	DVD-RW	*CAV 8X*	*ZCLV 6X*
	DVD-R DL	*CAV 8X*	*ZCLV 6X*
	DVD+R	*CAV 8X*	*PCAV 8X*
	DVD+RW	*CAV 8X*	*ZCLV 8X*
	DVD+R DL	*CAV 8X*	*ZCLV 8X*
	DVD-ROM	*CAV 8X*	-

	DVD-RAM	PCAV 5X	PCAV 5X
	CD-R	CAV 24X	PCAV 24X
	CD-RW	CAV 24X	ZCLV 24X
	CD-ROM	CAV 24X	-
Buffer memory		1 MB	
Drive installation		Horizontal	
Operating environment	Temperature	0 °F ~ 122 °F (0 °C ~ 50 °C)	
	Humidity	5% ~ 80% (RH)	
Dimensions (width x height x length)		140 mm X 15.5 mm X 190 mm	
Weight		450 g	

💡 Note

- Use the USB cable provided with the product for the best ODD performance.
- Cannot playback or record on both sides of a dual layer disc simultaneously.
- The read/write capacity of the supported discs depends on the condition of the disc and the recording format of the drive. Therefore, the read/write quality may not be perfect.
- Firmly install the product into the PC before use.
- Specifications are subject to change without notice.

ℹ️ Important

The product specifications above may be changed to improve device performance without prior notice.

Category		SE-208BW
		Optical Smart Hub
Wireless	Compliant Standard	IEEE802.11 b/g (802.11n can be supported)
	Frequency range	2.412~2.462 MHz (802.11 b/g/n), 2.422~2.452 (802.11n)
	Access method	CSMA / CA
	Data transfer method	DDSS, OFDM, Half Duplex
		• 802.11b − 11 Mbps

	Data transfer speed (max)	802.11g – 54 Mbps 802.11n – 150 Mbps(1Tx-1Rx-2CH bonding)
	WDS	Supported
	Encryption type	WEP, WPA-PSK, WPA2-PSK, MIXED
WAN	Compliant Standard	IEEE802.3 / 802.3u / 802.3ab (10base-T, 100base-Tx)
	Access method	CSMA / CD
	ISP protocols supported	1Static IP, DHCP Client, PPPoE
	Interface connector type	Auto MDI-X, RJ-45
DLNA	DMS	Supported (Samsung AllShare supported)
iSCSI		Supported
CDDA		Supported with the iOS/Android Optical Smart Hub app only
DVD Play back		Supported with the iOS/Android Optical Smart Hub app only
Smart Backup	USB	Supported with the iOS/Android Optical Smart Hub app only
	ODD	Supported with the iOS/Android Optical Smart Hub app only
FTP		Supported (Using the FTP client software is recommended.)
SAMBA		Supported

🔅 **Note**

- Transfer rate may vary based on the user's network environment. For the best performance, avoid interference with other equipment.
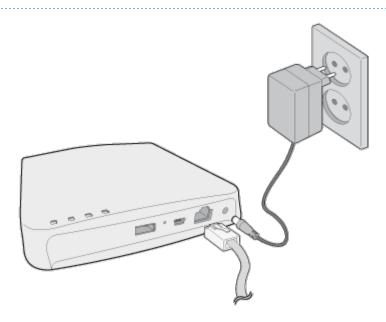- DLNA : NFLC2.1 (manufactured by ACCESS Korea Co. Ltd.) is used.

HOW TO SET UP

How to install your Optical Smart Hub

How to connect the cables

🔅 **Note**

If you want to use your Optical Smart Hub as the external ODD only, you do not need to connect the adapter and internet cable to

the Optical Smart Hub.

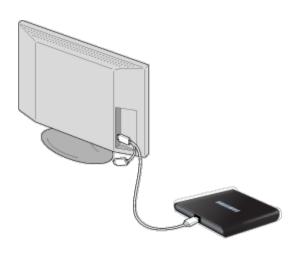1. Connect the adapter and internet cable to the Optical Smart Hub.

   ⚠ Caution

   Use the adapter provided with the product. Failing to do so may result in damage to the Optical Smart Hub
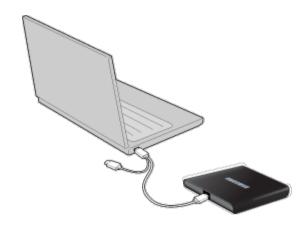
2. The POWER LED blinks while the Optical Smart Hub is booting.
   After the booting is completed, the POWER LED remains
   turned on.

   💡 For detailed information on LED indications, refer to the "Features – Product Information" page.

3. Connect the USB cable to the USB connector on the Optical Smart Hub.
4. Connect the other end of the USB cable to your PC, TV or other devices.

   ○ Connecting to the TV

   ○ Connecting to the PC

Caution

Normal operation is not guaranteed if you use a USB hub or unspecified cables.

Note

PCs, TVs and other devices with insufficient USB bus power will not work correctly if you use only one USB port. To avoid this, connect the Optical Smart Hubto 2 USB ports like the pictures of below.

Caution
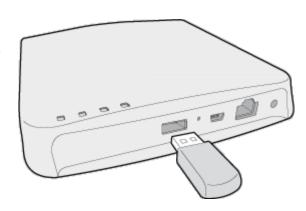
If your computer does not have a USB connector, install a USB interface card.

How to connect the USB storage device

You can use your external HDD or USB memory stick as the additional storage space by connecting it to the external port of the Optical Smart Hub.

How to connect the external HDD

1. Connect the USB cable to the USB connector on your external HDD.
2. Connect the other end of the USB cable to the external port at the back of the Optical Smart Hub.

How to connect the external HDD

1. Connect your USB memory stick to the
   external port at the back of the Optical Smart Hub.

How to confirm USB 2.0 and installing the USB driver
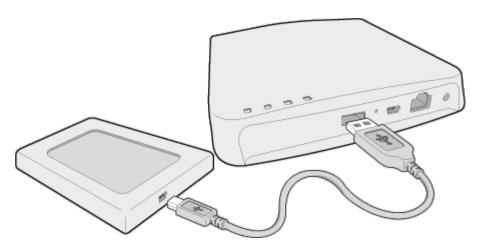
How to confirm USB 2.0

If your PC does not have a USB 2.0 port and you want to use the Optical Smart Hub at its highest speed, you must install a USB 2.0 adapter card. The Optical Smart Hub can also operate with USB 1.1, but at a lower speed. You can check the type of USB 2.0 adapter ca for your PC as follows.

How to install the USB driver

Windows

1. Right-click the **My Computer** icon on your desktop and select **Properties**.
2. Click on the **Hardware tab**. Click the **Device Manager** button.
3. Look at the **Universal Serial Bus Controller** entry. If a yellow exclamation point shows next to this entry, contact the manufacturer of the USB card or PC.

Macintosh

1. Click on **About This Mac**. Click on **More Info...**.
2. Look at the **Universal Serial Bus Controller** entry. If a yellow exclamation point shows next to this entry, contact the manufacturer of the USB card or PC.

How to confirm the installation of the device driver

Windows 7

1. Click **Start** - **Control Panel** - **System and Security** - **System Device Manager**.

2. Click the drive in the **_Device Manager_** window.

Windows Vista

1. Click **_Start_** - **_Control Panel_** - **_System_** - **_Device Manager_**.

2. Click the drive in the **_Device Manager_** window.

Windows XP

1. Click **_Start_** - **_Settings_** - **_Control Panel_** - **_Performance and Maintenance_**.

2. Click the **_Administrative Tools_** icon in the **_Performance and Maintenance_** window.

3. Click the **_Computer Management_** icon in the **_Administrative Tools_** window.

4. Click the **_Device Manager_** icon in the **_Administrative Tools_** window and then click the drive.

Windows 2000

1. Click **_Start_** - **_Settings_** - **_Control Panel_** - **_System_**.

2. Click on the **_Hardware_** tab in the **_System Properties_** window.

3. Click on the **_Device Manager_** tab.

4. Click the drive in the **_Device Manager_** window.

Macintosh

1. Click **_Macintosh_** - **_More Info..._**.

2. Click the **_Device Manager_** button.

How to remove the USB cable

⚠ **Warning**

Do not disconnect the USB cable while the drive is in operation or the computer starts.
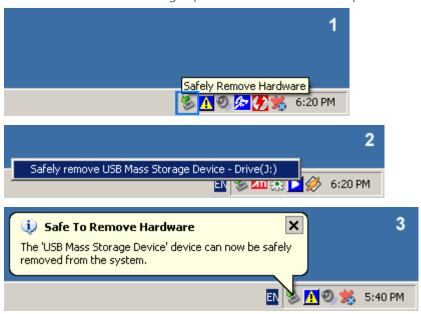
Windows

This device supports Windows Plug & Play.

To remove the USB cable:

1. Close all active software programs.

2. Click the icon in the lower right part of the screen. See the picture.

3. Disconnect the USB cable.

Macintosh
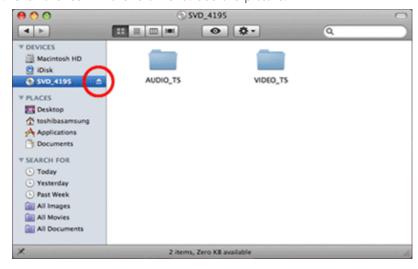
This device supports Macintosh Plug & Play.

To remove the USB cable:

1. Click the icon in the left menu. See the picture.
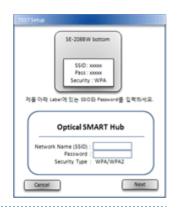

2. Disconnect the USB cable.

How to configure the basic setup of the Optical Smart Hub

How to configure the Wi-Fi connection

1. Insert the provided bundle CD into the CD drive on the PC equipped with a wireless LAN card.

2. A window as shown in the figure will be displayed. Then enter the SSID and password of the Optical Smart Hub and then click the **Next** button.

> 💡 **Note**
>
> For the factory default SSID and password, see the label attached to the bottom side of the Optical Smart Hub.

3. The PC finds and connects to the Optical Smart Hub via Wi-Fi.

4. When connected, the connected Optical Smart Hub is displayed as shown in the figure at right. If you want to change the SSID and password, enter a new SSID and password and then click the **Next** button.
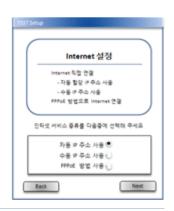
> 💡 **Note**
>
> If you don't want to change them, leave the input fields blank and click the **Next** button.

5. The Wi-Fi configuration has been completed. Click the **Next** button to move to the window where you can configure the local network connection.

How to configure the local network connection

1. Select the type of the internet service you are using and then click the **Next** button.

2. If the 'Automatic IP address' option is selected, the IP address allocated by the ISP is detected automatically and displayed. If the IP address has been detected successfully, click the **Next** button.
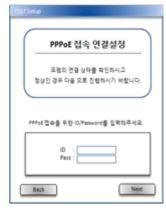
   💡 **Note**

   If the IP address failed to be detected, contact your ISP company.

3. If the 'Manual IP address' option is selected, manually enter the fixed IP address settings being used and then click the **Next** button.

4. If the PPPoE connection option is selected, enter the ID and password received from the ISP and then click the **Next** button.

5. The local network connection configuration has been completed. Click the **Next** button to move to the window where you can configure the iSCSI Initiator.

How to configure the iSCSI Initiator

Windows 7 / Vista

1. When you are moved to the iSCSI Initiator configuration window, a message window asking you to agree to start the iSCSI service will be displayed as shown in the figure right. You must agree to start the service to run the **Microsoft iSCSI Initiator**. If you agree, click the **Yes** button.

2. Then move to the iSCSI Initiator configuration window and click the **Next** button.
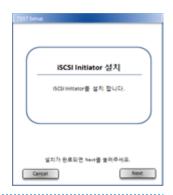
> 💡 **Note**
>
> In Windows Vista, when you click the **Next** button the message "Do you want to unblock the Microsoft iSCSI service so that it can communicate with an Internet storage name service through Windows Firewall?" is displayed. Since this is related to the firewall configuration, click the **Yes** button.

3. The iSCSI Initiator configuration has been completed.

Windows XP / 2000
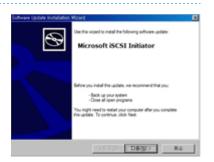
1. When you are moved to the iSCSI Initiator configuration window, the **Microsoft iSCSI Initiator** program provided by Microsoft starts to be installed automatically.

> 💡 **Note**
>
> Do not click the **Next** button in the iSCSI Initiator configuration window until the **Microsoft iSCSI Initiator** is installed completely.
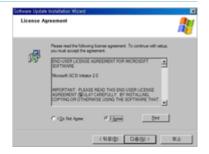
2. The **Software Update Installation Wizard** window is displayed to install the **Microsoft iSCSI Initiator**, as shown in the figure at right. Click the **Next** button.

3. Select the 'Initiator Service' and 'Software Initiator' checkboxes and then click the **Next** button.
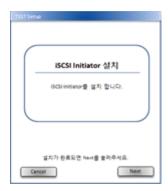
4. Select 'I Agree' and then click the **Next** button.

5. When the installation is completed, click the **Finish** button.

6. Click the **Next** button in the iSCSI Initiator configuration window.

7. The iSCSI Initiator configuration has been completed.

How to configure the settings of the Optical Smart Hub

How to log in the Optical Smart Hub

1. Run a web browser and enter http://Optical Smart Hub in the address box.
2. When the Optical Smart Hub log-in page is displayed, enter your password.
   - There is no password set in the factory default state. When you connect to the Optical Smart Hub for the first time, click the **Login** button without entering a password.
   - For security, set your password. For detailed information on how to set your password, refer to the "How to configure System - Admin" section.

How to configure System

To configure the system setting of the Optical Smart Hub, click 'System' from the menu at left. After changing any settings, you must click the **Save** button to save the changes.

Admin

- **Remote Management Port:** Set the port used for remote management.

  i **Important**
   - Be careful that the port is not duplicated with the ports of other network services. (e.g. FTP: port 21)
   - If the port you set is blocked by the firewall, the Optical Smart Hub may not operate normally. (For detailed information on the firewall, consult your ISP or network administrator.)

- **Password & Confirm password:** Set the password initially or change the existing password.
- **Language Preference:** Change the user interface language of the Optical Smart Hub administration page.

LAN Settings

Set the IP address and subnet mask that will be used by the Optical Smart Hub on the internal network.

WAN Settings

Set the internet environment related to the Optical Smart Hub.

> 💡 **Note**
>
> For detailed information on the WAN settings, contact your ISP company.

Wireless Settings

Set the wireless environment that will be used by the Optical Smart Hub. Set the SSID, Wi-Fi mode, and security mode, etc., in accordan with your environment.

Time Settings

Set the system date and time of the Optical Smart Hub.

Information

Shows the following information on the Optical Smart Hub.

- Product name, model name, firmware version and WAN IP Address
- Information on the device connected to the USB port of the Optical Smart Hub
- Information on the CD inserted into the drive of the Optical Smart Hub

How to configure Network Service

To configure the network service of the Optical Smart Hub, click 'Network Service' from the menu at left. After changing any settings, yo must click the Save button to save the changes.

DHCP Server

Set the IP address allocation method for the devices that connect to the Optical Smart Hub via Wi-Fi.

1. Select the checkbox of the 'Enable Server'.
2. Enter the desired IP address in the 'DHCP IP Address Start' and the 'DHCP IP Address End' to set the range of the IP addresses that the DHCP server can allocate.
3. Click the **Save** button.

DHCP Lease List

1. To view the information on the devices currently connected to the Optical Smart Hub, click the **DHCP lease list** button.

Static IP Settings

1. To allocate a fixed IP address to a device that connects to the Optical Smart Hub via Wi-Fi according its MAC address, instead of allocating an IP address automatically to it, click the **Static IP** button.
2. Enter the MAC address of the device to which you want to allocate a fixed IP address, and then enter the fixed IP address you want to allocate.
3. Click the **Save** button.

DDNS

Configure the settings to allow a user to connect to the Optical Smart Hub from the external through a registered domain.

1. Connect to http://www.dyndns.com or http://dyn.com/dns/dyndns-free/ using a web browser.
2. Subscribe to the service with free or non-free membership, and then activate the DDNS you registered.
3. Of the 'DDNS Service' options, select 'Enable'.
4. Enter the username, password, and host name registered to Dyndns.com, and then click the **Save** button.
5. If the DDNS has been set correctly, 'Connecting' will be displayed in the 'Status'.

WDS Settings

Configure the settings to allow the system to connect wirelessly to an AP supporting a different WDS.

1. Of the 'WDS Service' options, select 'Enable'.
2. Click the **Search** button in the 'AP List' to find the AP you want the system to connect to or enter the MAC address of the AP manually.
3. Click the **Save** button.

FTP / SAMBA

Configure the FTP / SAMBA server to allow a user to access, from the external through the FTP / SAMBA port, the data on a disc inserted into the drive or a USB storage device connected to Optical Smart Hub.

1. Of the 'Enable FTP Server / Enable SAMBA Server', select the checkboxes of the items you want to enable.
2. Set the permission for the data that will be accessed.
3. For security, set the ID and password.
4. Click the **Save** button.

DLNA

Configure and enable the DLNA function to allow other devices equipped with the DLNA function to access the data on a disc inserted into the drive or a USB storage device connected to Optical Smart Hub.

1. Of the 'DNLA Service' options, select 'Enable'.
2. In the 'Server Name', enter the DNLA server name that the Optical Smart Hub will use.
3. Click the **Save** button.

iSCSI

Configure the settings to allow other devices connected to the IP network via iSCSI to access the data on a disc inserted into the drive or a USB storage device connected to Optical Smart Hub.

1. Of the 'iSCSI Service' options, select 'Enable'.
2. In the 'Target Name', enter the iSCSI target name that the Optical Smart Hub will use.
3. Click the **Save** button.

How to configure Maintenance

Firmware Upgrade

⚠ Firmware upgrade precautions

- Before upgrading the firmware, make sure to remove the USB storage device connected to the Optical Smart Hub. Failing to do so may result in damage to the data on the USB storage device during the firmware upgrade, and Samsung will not accept liability for this.
- Make sure to perform firmware upgrade from the PC which is wiredly connected to the Optical Smart Hub via a sharing device or hub. If you perform firmware upgrade from the PC connected to the Optical Smart Hub wirelessly, the Optical Sma may not operate due to loss of packets.

- Do not remove the adapter or internet cable from theOptical Smart Hub while firmware upgrade is in progress.

You can view the firmware version installed on the Optical Smart Hub and upgrade it to the latest version.

1. By referring to the "Firmware update" page, check whether there is a new firmware version.
2. Click the **Browse** button and then select the downloaded firmware setup file.
3. Click the **Upgrade** button.

Save Configuration

You can save the current configuration of the Optical Smart Hub as a file.

1. Click the **Save** button.
2. Specify the folder where the file will be saved and the file name, and then click the **Save** button.
3. If the message as shown in the figure above is displayed, click the **Save** button.

   Note

   This step cannot be displayed depending on the OS.

Restore Configuration

You can restore the system settings using the configuration file you saved previously.

1. Click the **Browse** button and then select the configuration file that will be used to restores the system settings.
2. Click the **Restore** button.
3. You must restart the Optical Smart Hub to apply the restored settings. For detailed information on how to restart the Optical Sma refer to the following "Turn Off Server" section.

Turn Off Server

You can restart or shut down the running Optical Smart Hub.

- Click the **Restart** button to restart the Optical Smart Hub.
- Click the **Turn Off** button to shut down the Optical Smart Hub.

HOW TO USE

How to use the ODD

How to use the discs

⚠ Caution

Do not switch off the PC while the ODD LED indicator blinks. Also do not disconnect the Optical Smart Hub.

This can cause damage to the ODD.

You can use 3.15 inch or 4.72 inch (80 mm or 120 mm) discs.

The drive can only read the disc correctly if the disc is placed inside the tray guiding line.

⚠ Caution

Do not use the drive vertically.

Buffer underrun free technology

ℹ What is "buffer underrun prevention technology"?

A technology to prevent "buffer underrun" errors in which the data transmission speed is not as fast as the data writing speed when you record data.

Recommended Discs

Recommended DVD disc types

Media type	Manufacturer
DVD-R Media	TAIYO-YUDEN, TDK, MKM(VERBATIM, MITSUBISHI), MAXELL, FUJIFILM, RITEK, CMC

DVD-RW Media	TDK, MKM(VERBATIM, MITSUBISHI), JVC, RITEK, CMC
DVD+R Media	RICOH, TAIYO-YUDEN, MKM(VERBATIM, MITSUBISHI), RITEK, CMC, PRODISC, OPTODISC
DVD+RW Media	RICOH, MKM(VERBATIM, MITSUBISHI), RITEK, CMC
DVD+R DL	MKM(VERBATIM, MITSUBISHI), RICOH
DVD-R DL	MKM(VERBATIM, MITSUBISHI), RICOH
DVD-RAM	MAXELL, MKM(VERBATIM, MITSUBISHI)

Recommended CD disc types

Media type	Manufacturer
CD-R Media	TAIYO-YUDEN, RICOH, MKM(VERBATIM, MITSUBISHI), MAXELL, FUJIFILM, RITEK(PHTHARO), CMC, PIONEER, PRINCO, TDK
CD-RW Media	RICOH, MKM(VERBATIM, MITSUBISHI), RITEK, CMC
HS CD-RW Media	RICOH, MKM(VERBATIM, MITSUBISHI), CMC
US CD-RW Media	MKM(VERBATIM, MITSUBISHI)

How to use DVD±R/RW and other discs

ℹ Important

The Optical Smart Hub lets you write DVD±RW discs with Nero Express and enables "Packet Writing (high-speed recording)" with InCD.

The Optical Smart Hub also lets you write DVD±R discs with Nero Express.

⚠ Caution

- It is illegal to make unauthorized copies of DVD or software titles. A person who makes illegal copies can be held responsible for copyright infringement.
- If you use low-quality discs, this can increase the recording time or make it impossible to use the disc.

How to use DVD±R/RW and other discs

You can use the drive to play Audio CD, CD-ROM, CD-R/RW and DVD-ROM discs. If your computer recognizes the [CD-ROM] icon designated to the drive as the 'E:' drive, insert a CD-ROM or a DVD-ROM disc and access the 'E:' drive. (The assigned drive letter

can be different in your specific system environment.)

You can use the drive to play commercial DVD titles:

Most DVD titles in the market use the Dolby sound system.

It is necessary to install software that supports Dolby decoding on your PC before you can play a DVD title with this drive.

How to get commercial software that supports Dolby decoding:

Go to the website of Nero: http://www.nero.com

(You can also use other compliant software)

DVD Region Protection Coding (RPC)

The RPC feature is supported on DVD players and is used with DVD-video discs (such as movies). The motion picture industry has divided the world into different regions that correspond to the regional markets into which the motion picture industry releases movies. Movies worldwide have RPC codes, based on the region of the world in which they are being sold. These RPC codes help to control and prevent pirating of new movies into other motion picture regions before their release within those markets.

This drive supports RPC phase II. In the RPC-2 mode, users can change the local code. RPC-2 is selected by default for this drive. You can change the region code up to five times via an MPEG application.

Please contact your dealer or local SAMSUNG representative if you need to change the local code more than five times.

How to use the AV Connectivity function

What does the "AV Connectivity" mean?

Although a normal ODD cannot be connected to a TV directly, the Optical Smart Hub can be connected to devices (such as TV) that support USB interfaces and can then be used as an USB memory device. "AV Connectivity" refers to this functionality.

💡 **Note**

It may not work with some TVs depend on data format on the disc.

How to use the AV Connectivity function

1. Hold down the **Eject** button on the Optical Smart Hub for 1.5 seconds while the disc tray is open to switch the Optical Smart Hub system support mode. At this time, the LED is lit.
2. If you hold down the button again, Optical Smart Hub mode is toggled between AV system support mode and general ODD mod

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💡 **Note**

This product is set to general ODD mode by default. When the power is turned off and on, the mode returns to the default mode.

Technical information

Item	Description
Supported formats	File formats and codecs supported by the connected device.
Supported number of photos	No limit (up to 4 GB for the size of a file.)
Device recognition time [1]	4.3 GB Full Media: Approximately 2 minutes 30 seconds (approximately 30 seconds is required for 1 GB.)
Supported media	CD/DVD(except DVD-RAM)
Supported disc formats	ISO-9660/Joliet UDF 1.02 ~ 2.5

💡 **Note**

[1] The time to recognize the device may differ depending on the number of files and the capacity of the media device.

Supported media types

CD/DVD types of media written in UDF or ISO are supported. (except for DVD-RAM)

The ISO and UDF formats

To understand the ISO and UDF formats, you have to understand the concept of file systems on storage devices.

Since ODDs only support the ISO and UDF file systems, the data needs to be converted to a file system that the AV system can recognize for the data on the disc to be used.

💡 **Note**

- **AV System:** Supports the FAT32 file system.
- **File System:** When an HDD, DVD/CD media or flash memory device is connected to a computer, Windows Explorer shows the file name, the size and the creation date for the files saved on the storage device, by using the information saved on the file system. In addition, the file system stores the locations of the data that make up the files on the media.

- **ISO:** This file system is the most widely used file system for ODDs. This file system is used when users save data onto a media in the ODD by using a disc burning program such as NERO or ROXIO.
- **UDF:** This is a file system for ODD media that enables reading and writing data onto the media such as when using an HDD or USB memory device.

For your reference, you can format a RW media in the UDF file system by right-clicking over the media in Windows Explorer in Windows VISTA or later.

Frequently asked questions

Q **Is there a limit to the number or size of the files?**

A Up to 3000 files are supported and the files from root directory up to 5 levels can be recognized. The maximum size of a file is just under 4 GB. There is no limit to the size of data saved onto a single disc.

Q **In AV system support mode, it takes longer to recognize a disc.**

A It takes longer to recognize the discs as data on the ISO/UDF file system is converted to the FAT32 file system for AV systems to recognize and transmit the data.
In addition, the time delay due to the conversion is determined by the number and size of the files saved on the disc. (Approximately 30 seconds is required for 1 GB of data.)

Q **I have connected the Optical Smart Hub but there is no response.**

A Because the file system conversion takes longer, if you connect a high-capacity disc, the connected device (such as TV) will require some time to recognize the ODD of the Optical Smart Hub(1G = approximately 30 seconds).

> **Note**
>
> When recognizing the Optical Smart Hub the LED of the ODD blinks continuously. PCs, TVs, and other devices with insufficient USB bus power will not work correctly if you use only one USB port.

Q **I know my TV supports playing images but I cannot display my images on the TV.**

A The resolution of the images may not be supported by the TV or the codec (JPG, GIF, BMP, and etc.) may not be supported by the TV. In addition, if the actual image is in a format other than JPG such as in the BMP format, the image will not be displayed even though the image file extension is "JPG".

Q **Does the AV connectivity function allow me to connect to a device such as a TV that only has video, photo and music playing functions?**

A The AV connectivity function basically enables connecting an AV device to any device to which a USB memory device can be connected. However, the AV connectivity device may be unable to connect to a device due to a power or compatibility

problem.

PLEASE NOTE when writing to a device (such as a USB memory device or external HDD that is connected through the USB interface) is required for some reason, the AV connectivity function does not work.

> 💡 **Note**
>
> Since some AV systems have a timeout scheme for recognizing USB devices, if recognizing a device is delayed, the process may time out and the device may not be recognized. This may occur when the disc contains a big file or a number of files.

Q **My TV works as a Personal Video Recorder when an external HDD is connected. Can I record data by connecting an Optical Smart Hub to the TV?**

A Since, at present, the AV connectivity function supports reading data only, you cannot write data to the AV connectivity device.

Q **I cannot play a video file on my TV.**

A First check if the connected TV supports playing video through a USB interface.

If the TV supports this function, check if the video format is supported by the TV.

The AV connectivity technology is only for recognizing the connected portable ODD, not for automatically detecting the file format and playing the files on the ODD. The function for detecting and playing files needs to be supported by the TV or digital frame.

For supported video, photo and music file formats, refer to the user manual of the device to be connected (e.g. the TV manual).

Q **Can I watch commercial DVD titles on the TV by using the AV connectivity function?**

A To play DVD titles, you need a recorder that can decrypt the encoded DVD title. However, since most TVs do not support this function, you cannot watch DVD titles by using the AV connectivity function.

To watch DVD titles, you have to use a DVD player or DVD playing software that runs on a computer.

How to access the Optical Smart Hub

How to access from mobile device

You can connect to your Optical Smart Hub via Wi-Fi from a mobile device, such as a smart phone or tablet PC, and access the data on the devices connected to your Optical Smart Hub.

The Optical Smart Hub app is required to connect to your Optical Smart Hub from a mobile device.

How to install the Optical Smart Hub app

iPhone&iPad user

1. Visit the "Apple App Store" and search for "Optical Smart Hub".
2. Download and install the Optical Smart Hub app.

Android device user

1. Visit the "Android Market" and search for "Optical Smart Hub".
2. Download and install the Optical Smart Hub app.

💡 **Note**

You cannot purchase the Optical Smart Hub app from an online app store operated by a country or local communication company

How to activate the Optical Smart Hub app

You can download the Optical Smart Hub app without the Optical Smart Hub. However, in this case, you cannot use most functions, suc
multimedia, DVD and audio CD playback functions, etc.

To use all of the functions in the installed Optical Smart Hub app, activation is required. The serial number of the purchased Optical Sma
required to activate those functions. You have only to perform this process only once in the setup process of the Optical Smart Hub app

ℹ️ **Important**

To connect to your Optical Smart Hub via the Optical Smart Hub app, the wireless network of the Optical Smart Hub must be config
information on how to configure a wireless network, refer to the "How to configure System - Wireless Settings" section.

1. Enable the Wi-Fi function in your mobile device.
2. Run the Optical Smart Hub app.
3. Touch 'Setting'.
4. Touch 'Activation' in the 'Setting' screen.
5. Enter the serial number of the Optical Smart Hub you purchased. (For the serial number, see the label at the bottom side of theO
)
6. The activation has been completed. When the activation is completed successfully, the icons of DVD Player, Video Player,
    Music Player, and Audio Player appear in the main screen.

How to use the Optical Smart Hub app

You can see eight functions on the main page of Optical Smart Hub application.

Each function guides you to the feature you want to experience.

File Manager

File Manager provides file browsing and general file processing services such as executing, copying, deleting, renaming the files and so on.

Smart Backup

Smart Backup provides file storing between storages connected via Optical Smart Hub.

Photo Backup

Photo Backup allows you to move your photos stored in the mobile device to a disc inserted into the drive or a USB storage device connected to Optical Smart Hub.

Setting

You can move to the configuration pages of Optical Smart Hub app via this button.

Video Player

Video Player provides playback of a video file. Various types of video files are supported. These video files may be stored in the mobile device, in a disc inserted into the ODD of Optical Smart Hubor a USB storage device connected to the Optical Smart Hub.

DVD Player

Optical Smart Hub app provides awesome feature together with Optical Smart Hub. That is DVD playback over Wi-Fi. Optical Smart Hub DVD title in the Optical Smart Hub and gives functionality of playback control for the title. Naturally, it also can play DVD folder in the mobile device.

Music Player

User can select and play music using Music Play feature. Various types of audio files are supported. These audio files may be stored in your mobile device, in a disc inserted into the ODD of Optical Smart Hub or a USB storage device connected to the Optical Smart Hu

Audio CD Player

Audio CD Player provides audio streaming service from the Audio CD inserted into the ODD of the Optical Smart Hub.

How to access via internet

You can access, via wired or wireless connection, the data on a disc inserted into the ODD of Optical Smart Hub or USB storage device connected to the Optical Smart Hub.

ℹ️ **Important**

To connect to your Optical Smart Hub from the external via the internet, the followings are required:

- Your Optical Smart Hub must be connected to the internet.
- Your Optical Smart Hub must be turned on.
- The FTP service must be enabled in your Optical Smart Hub.

For information on how to configure the DDNS and FTP service, refer to the "How to configure - Network Service" section.

To ensure stable connection, we recommend you use FTP client software.

- **FTP Host:** Enter the IP address of the Optical Smart Hub or the domain name registered in the DDNS.
- **ID & Password:** Enter the ID and password registered in the FTP service.

💡 **Note**

For detailed information how to use FTP client software, refer to its user guide or visit the website of its manufacturer.

TROUBLESHOOTING

FAQ (Frequently Asked Questions)

Problem	Meaning / Solution
The Eject button is not working correctly.	Make sure that the drive is on. If the disc still does not eject with the power on, remove the USB cable and insert a pin into the emergency eject hole to open.
No sound from an audio disc.	Make sure that the sound card is operational.
	Examine the disc and wipe the surface of the disc clean before use.
The computer does not recognize the drive.	Make sure that the USB cable is connected correctly between the computer USB port and the drive.
	Make sure that the two connectors of the USB cable are correctly connected to the USB ports on the computer and the drive.
	This can be a problem with your operating system software. Try to reinstall the operating system.
The system does not read the disc.	Make sure that the system detects the drive.
	Make sure that you use a disc type that is supported by the drive.
	Make sure that the LED indicator blinks.
	Make sure that you inserted the disc with the label facing up.
	Make sure that you use the correct program to play the disc.
	Make sure that the disc is clean.
	Examine the drive for congealing.
	Make sure that the region code of the drive matches the region code of the disc.

See Help on our website and the User Manual provided by NERO with regard to the use of recording software.

Address: www.samsung-ODD.com

- See **SUPPORT** - **Download Center** - **User Manual**.
- See **INFORMATION** - **Flash Manual** - **Recording Software**.

Cautions for the possible errors

The drive uses laser light to write data onto the surface of the disc. Writing errors can occur if you use a damaged disc. Make sure to prevent the conditions below before you start to write a disc.

> 💡 **Note**
>
> These settings are recommended for all drives.

Q Do not use multitasking. Disable the screen saver.

A A buffer under-run can occur if the system uses multitasking while the drive writes data.

Q Do not let any outside computer access the host PC while the drive writes data.

A An error can occur if another user accesses a network printer while the drive writes data.

Q Disable the CD auto-run feature of all drives.

A If you insert an auto-run CD into another drive within the same system while the drive writes data, this can cause an error.

Q It is recommended that you use the image file format when you write a large number of small-sized files.

A When there are many small files to write, the transfer rate decreases and the Buffer under run protection feature works at a more frequent rate. This causes a lower writing quality.
If you are doing a CD-to-CD copy, it is not necessary to verify if you have available space on your hard disc.

However, in the case of image files, we recommend that you make sure you to have at least two times the amount of space needed for the data on your hard disc. This is because image files are copied to the hard disc before they are copied to the media.

Q Do not use more than one type of writing software.

A Before you install a writing program, make sure to first uninstall existing versions of the program or other writing programs. After you uninstall any software, restart the PC.
(The Windows operating system can be damaged if you install different language versions)

The write speed for a disc can be restricted if:

1. The disc has bad properties, or there are other discs with bad properties under the same ID.
   The drive examines the disc properties to determine the best write conditions for the type of disc. Because the two types of disc have the same property data but different properties, it is often not possible to use the same settings. It is necessary to decrease the writing speed to make the writing more stable.

If discs from two different disc makers have the same writing speed according to the labels, but actually have different writing speeds, it is necessary to reduce the writing speed.

2. Samsung standards to decrease writing speed

    o **Standard 1:** If there are high-speed discs in the market that have very bad property data, the writing speed is decreased. This also happens if there are low-speed discs with the same ID.

    o **Standard 2:** Discs for which the speed was reduced, will be examined again. If low-speed discs are no longer available in the market under the same ID as a high-speed disc, the decreased writing speed will no longer apply to the high-speed disc.

Note

It is possible that you do not get good writing quality with discs from manufacturers that are not registered in the drive's firmware.

We thus recommend that you only use discs from recommended companies. Always make sure that the writing was successful before you put the disc in storage. This is very important when you want to store important data. (Samsung is not responsible for any loss caused by a backup failure)

Note

We update the list of supported media on a regular basis and make them available in our firmware upgrades.

APPENDIX

Glossary

Q UPnP

A Universal Plug and Play (UPnP) devices are "plug-and-play" in that when connected to a network they automatically establish working network configurations with other devices. (Source: Wikipedia)

Q DLNA

A DLNA stands for Digital Living Network Alliance. Once connected, DLNA certified devices can communicate with each other to find/share/play files such as movies, photos, and music.

Q DNS

A The Domain Name System (DNS) serves as the phone book for the Internet by translating human-friendly computer hostnames into IP addresses. For example, the domain name www.example.com translates to the addresses 192.0.32.10. (Source: Wikipedia)

Q DDNS

A Dynamic DNS (DDNS) provides a residential user's Internet gateway that has a variable, often changing, IP address with a well known hostname resolvable through standard DNS queries. (Source: Wikipedia)

Q SMB(Samba)

A Samba runs on most Unix and Unix-like systems, and allows file and print sharing between computers running Windows and computers running Unix. (Source: Wikipedia)

Q iSCSI

A iSCSI is an abbreviation of Internet Small Computer System Interface. It can be used to transmit data over local area networks (LANs), wide area networks (WANs), or the Internet and can enable location-independent data storage and retrieval.

Q DAO

A Disc-At-Once (DAO) is a mode that masters the disc contents in one pass.

Q WAN

A A wide area network (WAN) is a telecommunication network that connects different local networks. In short, it is a gateway to internet.

Q Firmware

A A firmware is an infrastructure program for a device to activate. It is like an operating system to PC. It provides programs and commands for basic functionalities of a device. Newer versions of firmware are often provided to enhance the performance of a device.

Q PPPoE

A The Point-to-Point Protocol over Ethernet (PPPoE) is a network protocol for encapsulating Point-to-Point Protocol (PPP) frames inside Ethernet frames. It is used mainly with DSL services where individual users connect to the DSL modem over Ethernet and in plain Metro Ethernet networks. (Source: Wikipedia)

Q SSID

A A service set identifier (SSID) is a name that identifies a particular 802.11 wireless LAN. A client device receives beacon messages from all access points within range advertising their SSIDs. The client device can then either manually or automatically (based on configuration) select the network with which to associate. The SSID can be up to 32 characters long. (Source: Wikipedia)

Q WPA

A Wi-Fi Protected Access (WPA) is security protocol/certification program developed by the Wi-Fi Alliance to secure wireless computer networks, in response to serious weaknesses researchers had found in the previous system, WEP (Wired Equivalent Privacy). (Source: Wikipedia)

Q	DHCP

A	Dynamic Host Configuration Protocol (DHCP) is a network configuration protocol for hosts on Internet Protocol (IP) networks. Networked computers need to have an IP address, a default route and routing prefix to communicate with other hosts. DHCP automatically provides this information through a network administrator. (Source: Wikipedia)

Q	WDS

A	A wireless distribution system (WDS) is a system enabling the wireless interconnection of access points in an IEEE 802.11 network. It allows a wireless network to be expanded using multiple access points without the traditional requirement for a wired backbone to link them. The notable advantage of WDS over other solutions is it preserves the MAC addresses of client frames across links between access points

Compliance notice

For U.S

FCC Part 15.19

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

FCC Part 15.21

Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

FCC Part 15.105(B)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

⚠ **Caution**

Change or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

For Canada

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

⚠ **Caution**

Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.

For EU

Laser Standard

EN 60825-1:2007

For Thailand

This telecommunication equipment conforms to NTC technical requirement.

For Mexico

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) Este dispositivo no puede causar interferencia perjudicial, (2) este dispositivo debe aceptar cualquier interferencia recibida, incluyendo interferencia que puede ser causada por la operación no deseada del equipo (que puede causar un funcionamiento no deseado)

For Korea

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할수 없음. 이 기기는 가정용(B급) 전자파 적합 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용 할 수 있습니다.

For China

CMIIT ID:XXXXXXXXXX

For Brazil

For Malaysia

RAVG/20N/1110/S(10-2043)