

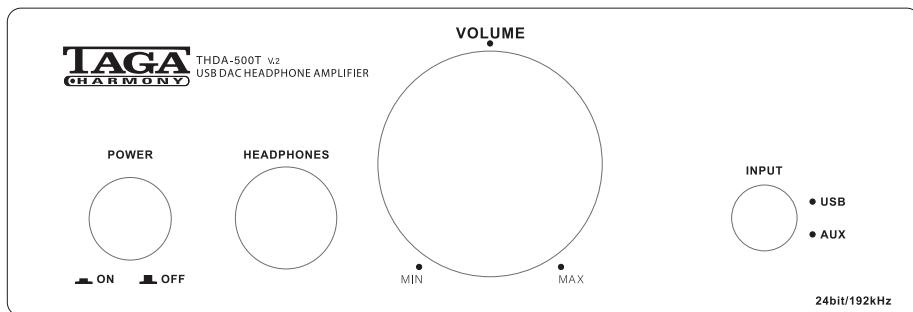
# TAGA<sup>®</sup>

## CHARMONY

To Achieve Glorious Acoustics

## THDA-500T v.2

### USB DAC HEADPHONE AMPLIFIER



## Instruction Manual

# Introduction

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Thank you for purchasing this TAGA Harmony headphone amplifier.

The THDA-500T v.2 is a hybrid vacuum tube/solid state headphone amplifier which utilizes discrete MOSFET outputs and a 12AX7 vacuum tube.

Pure Class A, single ended and robust design provides a high quality and power sound.

The THDA-500T v.2 uses only fully discrete circuits with audiophile-grade Wima coupling and Rubycon power supply capacitors.

You can connect the amp directly to your computer through a USB port and a premium high-resolution 24bit/192kHz USB-DAC will change your digital music to a thrilling music experience.

Thanks to a 3.5V stereo preamp output you can connect your THDA-500T v.2 directly to a power amplifier or powered speakers.

A precisely made, extremely quiet and stable, linear internal power supply supports high-end sound performance.

High-end solid machined brass RCA sockets ensure the best signal transfer.

The removable IEC power cable gives you an option to upgrade your system with a premium audiophile power cable in any time.

## **Cleaning**

Do not use strong or abrasive cleaners. Use a dry, soft cloth for cleaning.

## **Specifications**

Full technical specifications are available on the [www.TagHarmony.com](http://www.TagHarmony.com) website.

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# Safety Instructions

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## IMPORTANT

READ THIS SECTION CAREFULLY BEFORE PROCEEDING!



### CAUTION

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**



**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT REMOVE CHASSIS (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The triangle containing a lightning symbol is intended to alert the user to the presence of uninsulated dangerous voltages within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



An exclamation mark in a triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE, AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.

**CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

**CAUTION:** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE THE FUSE ONLY WITH THE SAME AMPERAGE AND VOLTAGE TYPE. REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL.

**WARNING:** UNIT MAY BECOME HOT. ALWAYS PROVIDE ADEQUATE VENTILATION TO ALLOW FOR COOLING. DO NOT PLACE NEAR A HEAT SOURCE, OR IN SPACES THAT CAN RESTRICT VENTILATION.

# Important Safety Instructions

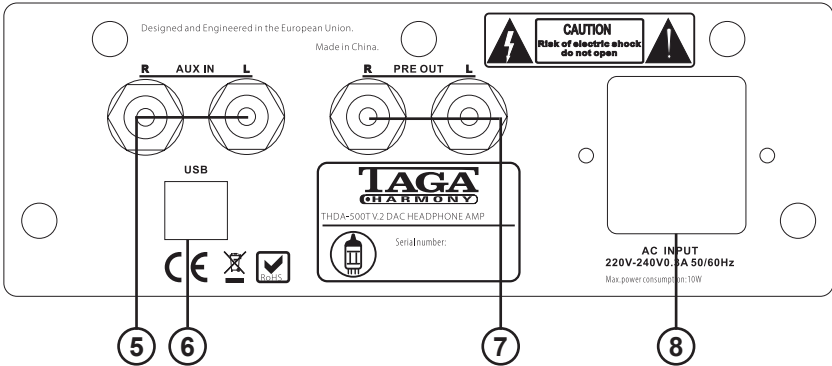
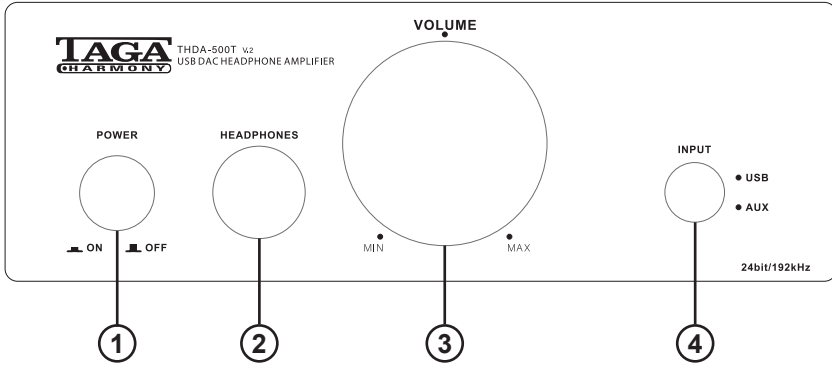
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1. Read Instructions – All the safety and operating instructions should be read before the product is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the product and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Cleaning - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp, soft cloth for cleaning.
6. Water and Moisture - Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink or laundry tub; in a wet basement; or near a swimming pool; and the like.
7. Accessories - Do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.
8. Ventilation - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
9. Power Sources - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
10. Grounding and Polarization - This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
11. Power-Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
12. Lightning - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable systems. This will prevent damage to the product due to lightning and power-line surges.
13. Overloading - Do not overload wall outlets, extensions cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
14. Object and Liquid Entry - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Do not expose this apparatus to dripping or splashing, and ensure that no objects filled with water, such as vases, are placed on the apparatus.
15. Servicing - Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. Damage Requiring Service - Unplug this product from wall outlet and refer servicing to qualified personnel under the following conditions:
  - When power supply cord or plug is damaged;
  - If liquid has been spilled, or objects have fallen into product;
  - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will require extensive work by a qualified technician to restore the product to its normal operation;
  - If the product has been dropped or damaged in any way;
  - If the product exhibits a distinct change in performance - this indicates a need for service.
17. Replacement Parts - When replacement parts are required, be sure the technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
18. Safety Check - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
19. Wall or Ceiling Mounting - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
20. Heat - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.
21. [Refers to products equipped with vacuum tubes] Tube Cage - For your safety and to protect the vacuum tubes this product may be equipped with the factory installed vacuum tube cage.

It is not recommended to remove the cage unless it is required to change the vacuum tubes.

When the cage is removed - do not touch the vacuum tubes - they may be hot and burn the skin!

# Controls and Displays



## Front Panel:

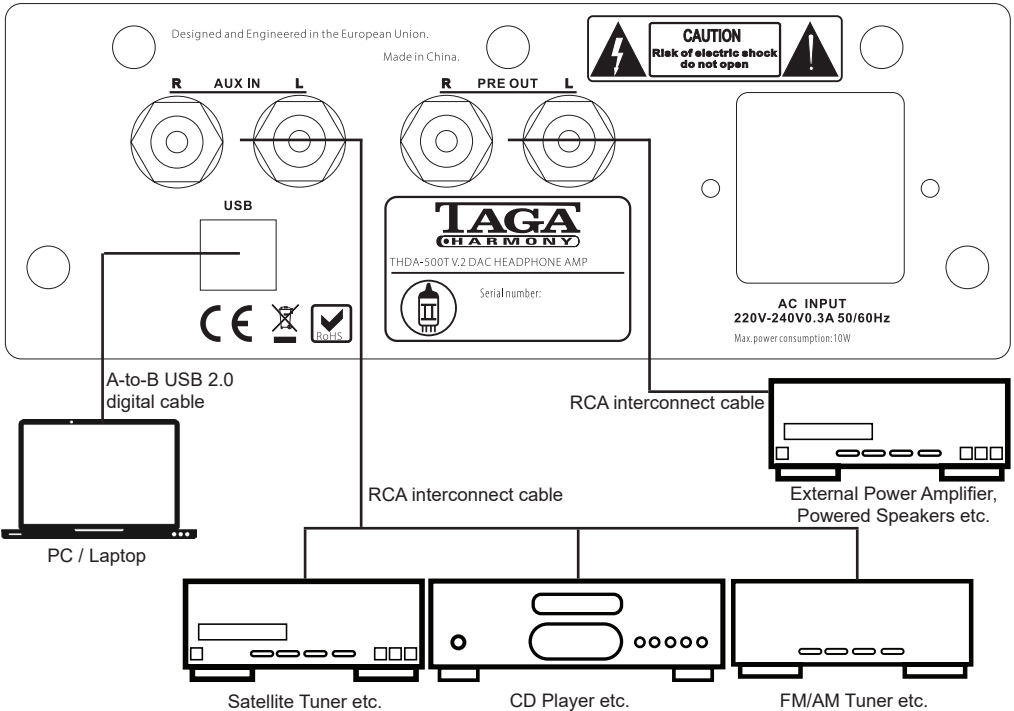
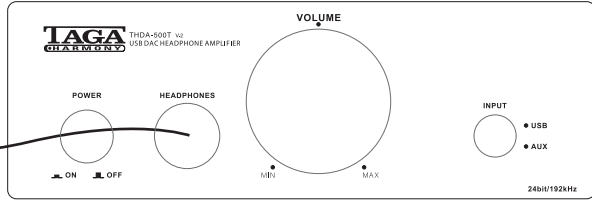
1. Power Button (ON and OFF)
2. Headphones Output
3. Volume Regulator
4. Input Selector


## Rear Panel:

5. AUX Input
6. USB Port (for computer)
7. PRE Output (preamplifier output)
8. Power Cable Input and Fuse Box

**Note!** A blown fuse should be only exchanged for exactly the same type as indicated on the rear amplifier panel. The Power Cable should be disconnected!


# Hooking Up the Amplifier



1. Make sure the amplifier is turned off (the Power Switch is in the top position OFF  and the Power Cable is removed).
2. Turn the Volume Regulator to MIN (max counter clockwise).
3. Connect the headphones to the Headphones output (check "Headphones connection" for more details).
4. If you want to play music from an analog audio device (CD player, FM tuner etc.): using RCA interconnect cables (not supplied with this product) connect it to the analog input (AUX IN).
5. If you want to play music from a computer: using a A-to-B USB 2.0 digital cable connect the computer to the USB input port (check "USB connection" for more details).
6. Pre-amplifier Output (PRE OUT): this amplifier is equipped with a pre-amplifier output. Using an RCA interconnect cable (not supplied with this product) you can connect it to external audio equipment (Power Amplifier, Powered Speakers, Active Subwoofer etc.). The PRE OUT level is variable controlled according to the Volume Regulator.

# Operation

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1. Plug the Power Cable to the amplifier and into the electrical outlet.
2. Turn on the amplifier – press the Power Switch (the Power Switch should be in the down ON  position).
3. Select input you want to play by switching the Input Selector. Make sure the audio source (analog device or computer) is properly connected to the rear panel inputs.
4. Switch on your audio source and start playback.
5. Regulate volume on the amplifier to adjust the level of sound.

**Note!** Check “Additional Information” for other useful operating instructions.

## Headphones connection:

The volume of the headphones is regulated by the Volume Regulator.

**Note!** Listening at high volume can cause hearing damage.

## Volume Regulator:

Using the Volume Regulator you can adjust the sound volume from minimum (the knob – max counterclockwise) to maximum (the knob – max clockwise).

**Note!** Distortion and sound quality worsening may occur when the knob is in the maximum position. It may damage the amplifier, external equipment connected to the PRE OUT or headphones. This may void your warranty.

## USB CONNECTION

Computers with Windows®

1. Install the BRAVO-HD Audio driver – applies only for the Windows® operating system.

**Note!** At the time of writing this manual the driver is not required for MAC® computers.

- The driver package as a compressed zip file is available for download on [www.Tagaharmony.com](http://www.Tagaharmony.com) on the page of this product.
- After downloading extract the files from the zip file.
- Run the Setup file located in the unzipped folder and follow the installation instructions on the screen.
- When the installation finishes a shortcut icon “BRAVO-HD Audio CPL” will be created on the desktop and the restart wizard will appear.  
Make sure to restart the computer after the installation is completed.

2. After the computer is restarted connect it with the amplifier via the USB cable.

3. The computer will recognize the amplifier as „TAGA Harmony THDA-500T” and automatically apply it as the audio output device.

You can check the setting through the Control Panel→Hardware and Sound→Sound→Manage Audio Devices (Figure 1)

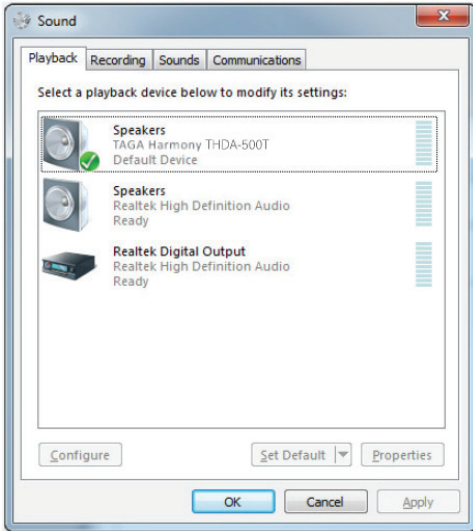
If the „TAGA Harmony THDA-500T” is not selected then locate and highlight it and click “Set Default”.

To enjoy the best sound quality, we suggest to change a default format (bit and sample rate) of your audio device to the highest available – right-click on the „TAGA Harmony THDA-500T” device, choose Properties and then Advanced tab and change Default Format.



# Operation

/Figure 1/



/Figure 2/

4. You can now listen to the playback from the computer and the amplifier.
5. You can also control playback settings through the USB BRAVO-HD Audio Device Control Panel.
  - Start "BRAVO-HD Audio CPL" from the desktop or program menu. The BRAVOHD Control Panel will appear (Figure 2).
  - If the amplifier is switched on and connected to the computer the panel will display:
    - The current default format (sample and bit rate) as selected in the Windows® system. This change will affect a default format of your audio device in the Windows® system.
    - The current setting of playback via ASIO (preferred bit rate and buffer size).  
Click to change.
      - In the playback mode the current format (PCM).

## Note!

- The bit rate setting should be the same as or higher than the playback file. Otherwise the bit rate or output is lower than the original.
- Setting the smaller buffer size for a higher resolution music file may cause noises or interruption. Set the buffer size to bigger and restart the playback.



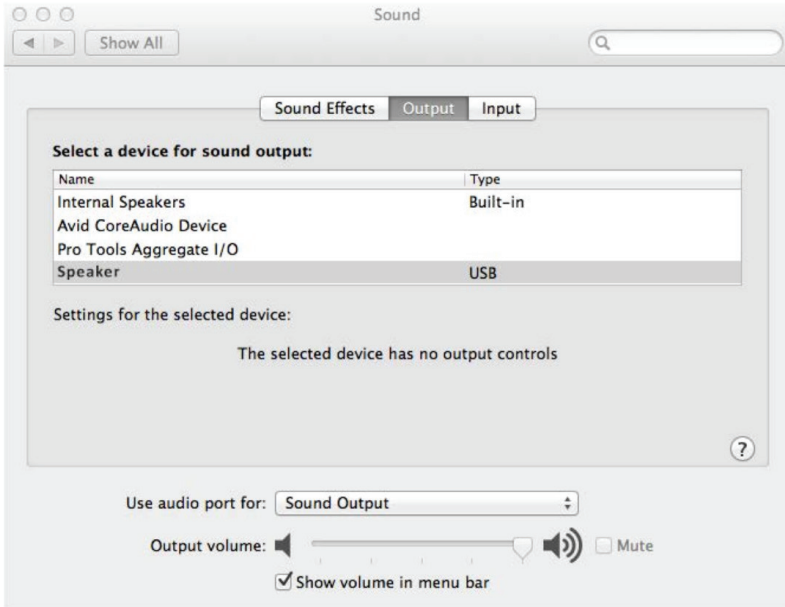
# Operation

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## MAC® computers (no driver required)

1. Go to System Preferences, click on Sound and set Speaker to USB. Set the volume control to Maximum.

**Note!** You may also need to adjust the volume in your music player software.



/Figure 3/

## Trademark notice:

Windows® is a registered trademark of Microsoft Corporation in the United States and/or other countries.

MAC® is a trademark of Apple Inc., registered in the U.S. and other countries.

# Additional information

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## Break-In

Your TAGA Harmony amplifier sounds great immediately after it is taken out of the carton but as all tube/hybrid amplifiers, this amplifier requires a “break-in” period to reach its full sonic capabilities.

During the “break-in” period it is recommended to operate the amplifier at moderate volume levels.

The first level of the “break-in” is reached after approximately 10 hours of play.

The optimal level of the “break-in” is reached after approximately 40 to 60 hours of play. It is recommended to avoid one-time short periods of operation unless the amplifier reaches the first “break-in” level.

When the amplifier is turned on, it should operate for around 4-6 hours.

## Turn off procedure

Make sure to turn off the amplifier first when powering down your system.

**Note!** If the amplifier was turned off even for a short period of time, you should wait at least 2 minutes before turning it back on. Do not turn it ON then OFF and then ON again in quick succession.

Follow this procedure each time you turn your amplifier OFF / ON. This precaution will minimize the stress (high voltages) on internal components.

## Tube Cage

For your safety and to protect the vacuum tube this amplifier is equipped with the vacuum tube cage which is factory installed.

It is not recommended to remove the cage unless it is required to change the vacuum tube. When the cage is removed - do not touch the vacuum tube - it may be hot and burn the skin!

To remove the cage:

1. Turn off the amplifier.
2. Unplug the Power Cable from the electrical outlet.
3. Wait for approximately 30 minutes to cool down vacuum tube.
4. Remove the cage by pulling it in upward.

## Vacuum Tube Replacement

The lifetime of vacuum tubes may vary and depends on their operation time and ambient temperature, playback volume levels and the number of on and off cycles.

**Note!** The warranty time for vacuum tubes is shorter than for other components of this device - for more details check your warranty terms or contact a local dealer. Replacement vacuum tubes are not supplied with this product.

### To replace the vacuum tube:

1. Remove the tube cage – check “Tube Cage” for more details.
2. Make sure that the vacuum tube is cool.
3. The vacuum tube is installed in a socket. Remove it by gently pulling it up out of the tube socket.
4. Make sure to replace the vacuum tube with the same type or with another type which is a direct equivalent of the factory installed one. Gently but firmly place the new vacuum tube in the socket.
5. Make sure to reinstall the cage for the regular operation.

# Specifications

<b>Power Output</b>	2 x 500mW @ 100 Ohm load
<b>DAC Resolution</b>	Asynchronous 24bit / 192kHz
<b>Vacuum Tubes</b>	1 x 12AX7
<b>THD</b>	Less or equal 0.1% @ 100 Ohm (1kHz, 300mW)
<b>Signal/Noise ratio</b>	88dB
<b>Input Sensitivity</b>	750mV
<b>Inputs</b>	RCA stereo AUX, USB (for computer)
<b>Outputs</b>	RCA Pre-Out
<b>Headphone Impedance</b>	30 to 300 Ohm (1/4")
<b>AC Power, Power Consumption</b>	220V-240V 50/60Hz, 10W
<b>Dimensions (H x W x D)</b>	12 x 17 x 23.5 cm
<b>Weight (net)</b>	2.5 kg / pc



We reserve the right to change the technical data and the design of the product without notice as a result of further development.

**We strongly advise to contact a professional installer or dealer in order to install TAGA Harmony products.**

**We recommend using high quality TAGA Harmony cables and other installation accessories.**

## Kit Content:

Amplifier	1EA
Power Cable	1EA
A-to-B USB 2.0 Digital Cable	1EA
Instruction Manual	1EA

	Your product is marked with the symbol as showed on the left. For EU (European Union) member users: This product has been tested and found in compliance with requirements of the European Community 2014/30/EU (EMC) & 2014/35/EU (LVD) directives.
	<b>IMPORTANT!</b> Your product is marked with the symbol as showed on the left. For EU (European Union) member users:  According to the WEEE (Waste electrical and electronic equipment) Directive, do not dispose of this product as household waste or commercial waste. Waste electrical and electronic equipment should be appropriately collected and recycled as required by practices established for your country. For information on recycling of this product, please contact your local authorities, your household waste disposal service or the shop where you purchased the product.

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