

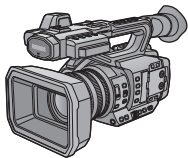


Operating Instructions <Quick Start Guide>

4K Video Camera

Model No.

HC-X2/HC-X20



Please read these instructions carefully before using this product, and save this manual for future use.

More detailed operating instructions are available in "Operating Instructions <Complete Guide>" (HTML format/PDF format). This can be viewed with a PC or smartphone.

<https://panasonic.jp/support/video/oi/X2/index.html>



Information for Your Safety

WARNING:

To reduce the risk of fire, electric shock or product damage,

- Do not expose this unit to rain, moisture, dripping or splashing.
- Do not place objects filled with liquids, such as vases, on this unit.
- Use the recommended accessories.
- Do not remove covers.
- Do not repair this unit by yourself. Refer servicing to qualified service personnel.

CAUTION!

To reduce the risk of fire, electric shock or product damage,

- Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure this unit is well ventilated.
- Do not obstruct this unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.
- Do not place sources of naked flames, such as lighted candles, on this unit.

The mains plug is the disconnecting device. Install this unit so that the mains plug can be unplugged from the socket outlet immediately.

This unit is intended for use in moderate and tropical climates.

■ Concerning the battery

Warning

Risk of fire, explosion and burns. Do not disassemble, heat above 60 °C or incinerate.

CAUTION

- Danger of explosion if battery is incorrectly replaced. Replace only with the type recommended by the manufacturer.
- When disposing of the batteries, please contact your local authorities or dealer and ask for the correct method of disposal.

■ Product identification marking

Product	Location
4K Video Camera	Bottom
AC adaptor	Bottom
Battery charger	Bottom

For Singapore only

Complies with IMDA Standards DB01017
--

For Thailand only

This telecommunication equipment conforms to NTC/NBTC technical requirement.
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AC Adaptor

Disconnect the AC mains plug from the AC mains socket when not in use.
--

Cautions for use

Keep this unit as far away as possible from electromagnetic equipment (such as microwave ovens, TVs, video games etc.).

- If you use this unit on top of or near a TV, the pictures and/or sound on this unit may be disrupted by electromagnetic wave radiation.
- Do not use this unit near cell phones because doing so may result in noise adversely affecting the pictures and/or sound.
- Recorded data may be damaged, or pictures may be distorted, by strong magnetic fields created by speakers or large motors.
- Electromagnetic wave radiation generated by microprocessors may adversely affect this unit, disturbing the pictures and/or sound.
- If this unit is adversely affected by electromagnetic equipment and stops functioning properly, turn this unit off and remove the battery or disconnect AC adaptor. Then reinsert the battery or reconnect AC adaptor and turn this unit on.

Do not use this unit near radio transmitters or high-voltage lines.

If you record near radio transmitters or high-voltage lines, the recorded pictures and/or sound may be adversely affected.

When this unit is turned on, do not use it in direct contact with the skin for a long period of time.

- When using this unit for a long period of time, use a support such as a tripod. Low temperature burns may result if any high temperature part of this unit or hot air from the ventilation openings on the front side of the hand strap of this unit is in direct contact with the skin for a long period of time.

Caution regarding the lens and the viewfinder

- Do not aim the lens or the viewfinder at the sun or strong light. Doing so may cause the unit to malfunction.

Before using the unit

The date and time have not been set at the time of purchase. Before use, make sure you set the clock and time zone so that date and time information is correctly recorded. (→ 17)

- When using this product during rain or snow or when at the beach, be careful that water, sand and/or dust do not get inside the camera.
- Clips recorded with devices other than this unit are not supported by this unit.
- Hold the handle or grip when carrying the camera, and handle it carefully.

- If you prepare to record important images, always shoot some advance test footage to verify that both pictures and sound are being recorded normally.

Battery

- Always remove the battery from the unit after use.

LCD monitor and viewfinder

- The LCD monitor and viewfinder are managed with high precision so that at least 99.99 % of the dots are effective pixels and 0.01 % or less are invalid pixels and always lit. This is not a malfunction and it has no effect whatsoever on the recorded images.

Memory cards

The SD cards can be used with the camera.

- Do not perform the following operations when accessing the memory card (the card 1 access lamp/card 2 access lamp is flashing in orange).
 - Removing the memory card
 - Disconnecting battery or the AC adaptor without turning off the main unit
 - Apply vibration or impact
- Keep the memory card out of reach of children to prevent swallowing.

❖ Speed Class during shooting

The memory card to use differs depending on the file format and the recording format.

Use memory cards compatible with the Speed Class or UHS Speed Class.

The recording may stop suddenly when a memory card not compatible with the required Speed Class is used.

Speed Class and UHS Speed Class are the speed specification regarding continuous writing. Check the display on the label and other information on the memory card.

File format	Recording bit rate or recording function	Supported memory cards and Speed Classes	Example of card display
MOV/MP4	200 Mbps, 150 Mbps, 100 Mbps, Super slow recording, VFR recording	SDXC memory card with UHS Speed Class 3	
	72 Mbps, 50 Mbps	- SDXC memory card with UHS Speed Class 1 or better - SDXC memory card with Speed Class 10	 CLASS10
AVCHD	All	SDHC/SDXC memory card with Speed Class 4 or better	 CLASS4

Using commercially-available products

- When using a commercially-available USB cable, use a USB Type-C cable that conforms with USB3.1 and that is a shielded product with a ferrite core. We recommend using a cable that is within 1.5 m where possible.
- Use a commercially-available Premium High Speed HDMI cable.
- Use a commercially-available 5C-FB or equivalent double-shielded cable for the BNC cable.
- For the cable that connects to the <LAN> terminal, use the one below.
 - LAN cable (STP (Shielded Twisted Pair), category 5e or above, maximum 100 m)
- You can remotely control some of the camera's functions by connecting a remote control unit (commercially-available) to the <REMOTE> terminal.

About using a headphone

- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Listening at full volume for long periods may damage the user's ears.

Exemption of liability

Panasonic is not liable in any way regarding following.

- 1 Incidental, special, or consequential damages caused directly or indirectly by the unit
- 2 Damages, breakage of the unit, etc., caused by misuse or carelessness of the customer
- 3 When disassembly, repair, or modification of the unit is performed by the customer
- 4 Inconveniences, damnification, or damages by not being able to record and/or display the video due to any reasons including failure or malfunction of the unit and recording media
- 5 Inconveniences, damnification, or damages resulting from malfunction of the system combining with any third party equipment
- 6 A liability claim or any claim for a privacy violation by an individual or a group that was the subject of the video that the customer has shot (including recording) that became public by any reason (including using with the network user authentication turned OFF)
- 7 The registered information is lost due to any reason (including initializing this unit because the authentication information such as user name or password is forgotten)

❖ Be careful with regard to copyrights

Under copyright law, you may not use the images and audio you have recorded for other than personal enjoyment without the permission of the copyright holder.

How to read this document

Models described in these operating instructions

- The illustrations of the products, menu screens, etc., may differ from the actual items. Unless specifically stated otherwise, screen depictions and illustrations of the unit are of HC-X2.
- Not all models may be available depending on the region of purchase.
- Model numbers are abbreviated as follows in these operating instructions:

Model number	Abbreviation used in these operating instructions	
HC-X2		[X2]
HC-X20		[X20]

Conventions used in this manual

- Words and phrases in [] brackets indicate content displayed in the LCD monitor.
- Words and phrases in < > brackets indicate design text used on this unit, such as button names.

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Preparations before recording

Accessories

Check the accessories before using this unit.

Product numbers correct as of August 2022. These may be subject to change.

Battery pack

AG-VBR59

(This is referred to as battery pack or battery in this document.)

Battery charger

AG-BRD50^{*1}

AC adaptor

SAE0011D

AC cable

- For AC adaptor
- (A) K2CT3YY00034
- In Saudi Arabia, always use (A)
- (B) K2CQ2YY00082
- (C) K2CJ2YY00152

(A)



(B)



(C)



Lens hood^{*2}

X2 1YE19R12S1Z

X20 1YE4R12S0Z

Eye cup

DVYE1237Z

INPUT terminal cap

(x2)

VJF1468



1AC2HCX2500Y

Microphone holder



Microphone holder mounting screws^{*3}



1PP1HCX2500Y

- Length 12 mm (x2)

^{*1} The AG-BRD50 is available for purchase as an optional accessory package containing a battery charger, AC adaptor, and AC cable. Individual battery chargers are sold under the model number SAB0002A. Contact your dealer to purchase them.

^{*2} Pre-attached to the main unit.

^{*3} The microphone holder mounting screws are supplied with the microphone holder.

- Appropriately discard the AC cable cap (if attached) and packing materials after taking the product out.
- Keep the microphone holder mounting screws and INPUT terminal cap out of reach of children to prevent swallowing.

Description of parts

For "Description of parts", refer to "Operating Instructions <Complete Guide>".

https://panasonic.jp/support/av/cam/x2e_01.html



Attaching accessories

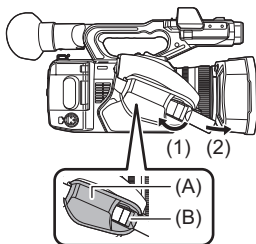
Adjusting the grip belt

- Adjust the grip belt so that it fits the size of your hand.
- If the buckle is difficult to tighten, move the pad forward and tighten the buckle again.

(A) Pad

(B) Buckle

- 1 Open the buckle.**
- 2 Pull the end of the belt.**



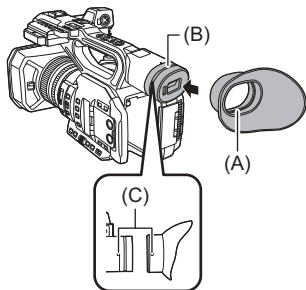
Attaching the eye cup

- 1 Align the mounting mark on the eye cup with the mounting mark on the eye cup mount.**

(A) Ridge

(B) Groove

(C) Mounting mark



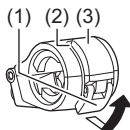
2 Attach the eye cup so that the ridge inside it is aligned with the groove on the eye cup mount.

Push the eye cup in until it reaches the mounting mark.

Attaching the external microphone

1 Open the microphone holder.

Open buckle (1), and detach fitting (2) from hook (3).

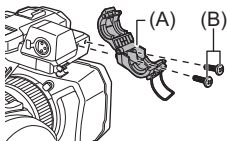


2 Attach the microphone holder to the microphone holder mounting section.

(A) Microphone holder

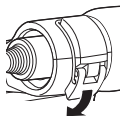
(B) Microphone holder mounting screws

- Attach using a commercially-available screwdriver.
- There will be some rubbing noises with the rubber when screwing in the microphone holder mounting screws, but please ensure they are done up tightly.



3 Attach the external microphone to the microphone holder, then close the buckle to secure the external microphone.

Attach the fitting to the hook and close the buckle in the direction indicated by the arrow.



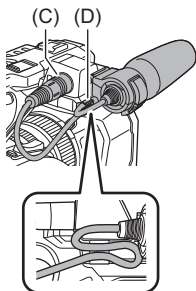
4 Connect the microphone cable to the <AUDIO INPUT1> terminal.

(C) <AUDIO INPUT1> terminal

(D) Microphone cable clamp

When wiring the microphone cable, use the microphone cable clamp of this unit.

- Remove the microphone cable from the <AUDIO INPUT1> terminal while pushing the lever.



Power supply

A battery or the supplied AC adaptor can be used as the power supply for the unit.

- The unit is compatible to following batteries. (As of August 2022)
 - AG-VBR59 (supplied/optional, supports quick charging)
 - AG-VBR89/AG-VBR118 (optional, supports quick charging)
- Use the supplied AC adaptor. Do not use the AC adaptor of another device.
- The supplied AC cable is dedicated for this unit. Do not use with any other device. Also, do not use AC cable from other device on this unit.

❖ Charging the battery

The battery is not charged at the time of purchase. Use only after charging sufficiently. It is recommended that you have one extra battery.

- It is recommended to perform charging of the battery in a location with ambient temperature of 10 °C to 30 °C (same for the battery temperature).

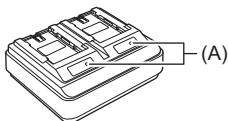
About the Battery Charger

This unit can charge two battery packs simultaneously and supports quick charging batteries.

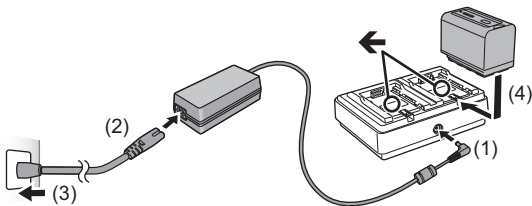
(A) CHARGE indicators <CHARGE1/CHARGE2>

Indicate the charge status as follows.

Indicator	Charge status
Lit green	Quick charging is in progress.
Lit orange	Normal charging is in progress.
Blinking orange	Charging has stopped due to an error.
Off	Charging is complete, or a battery pack is not inserted.



❖ Charging the battery



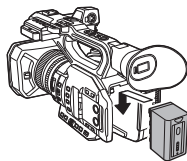
- 1 Connect the DC plug of the AC adaptor to the DC IN 12 V connector of battery charger.**
- 2 Connect the AC mains lead to the AC adaptor.**
 - Perform step (2) first, and then step (3). Insert the AC mains lead all the way in until it stops.
- 3 Insert the battery into the battery charger.**
 - Slide the battery horizontally into the battery charger along the "←" mark.
 - The corresponding CHARGE indicator lights and charging starts.
 - The CHARGE indicator turns off when charging is complete. Slide the battery to remove it.

- Do not use any other AC adaptors except the supplied one.
- We recommend using Panasonic batteries (→ 13).
- If you use other batteries, we cannot guarantee the quality of this product.
- Do not heat or expose to flame.
- Do not leave the battery(ies) in a car exposed to direct sunlight for a long period of time with doors and windows closed.
- Do not expose to low air pressure at high altitudes.
- Do not expose to extremely low air pressure, as this may result in explosions or leakage of flammable liquids and gases.
- The battery charger will determine the status of the battery after the battery is mounted. Therefore, it may take some time until the charging lamp is to illuminate. Mount the battery again if the charging lamp does not illuminate after ten seconds or longer has elapsed.
- Mount the battery to be charged prioritized on the <CHARGE1> side when charging.

Attaching and removing the battery

1 Install the battery by inserting it in the direction shown in the figure.

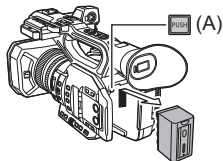
- Insert the battery until it clicks and locks.



❖ Removing the battery

Make sure that the power switch is set to <OFF> and the status indicator is turned off, and then remove by holding onto it taking care not to drop. (→ 16)

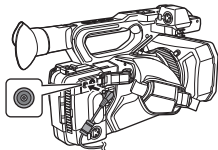
- While pressing the battery release button (A), remove the battery.



Connecting to the AC outlet

By connecting an AC adaptor to the <DC IN 12V> terminal on this unit and switching on the power of the unit, you can use it while it is being supplied with power from the power outlet.

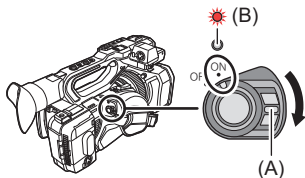
- Even when you use the AC adaptor for recording images, keep the battery connected. This allows you to continue the recording even if a power failure occurs or the AC adaptor is unplugged from the AC outlet by accident.
- The AC adaptor is in the standby condition when the mains plug is connected. The primary circuit is always “live” as long as the mains plug is connected to an electrical outlet.



Turning the unit on/off

- 1 Set the power switch to <ON> while pressing the lock release button (A) to turn on the unit.**

- The status indicator (B) lights on.



❖ To turn off the unit

Set the power switch to <OFF> while pressing the lock release button. The status indicator goes off.

- To turn on the power again after [ECO MODE] functions, first switch the power switch to <OFF>, then switch it back to <ON>.

When turning on the power for the first time

The time zone, date, and time are not set when the unit is shipped.

[TIME ZONE] is displayed in the LCD monitor when the power is turned on for the first time.

Follow the guidance and make the settings in the order of [TIME ZONE] and then [CLOCK SETTING].

❖ [TIME ZONE]

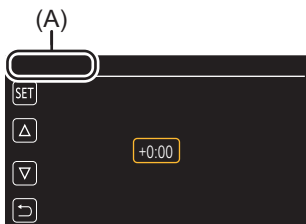
Set the time difference from the Greenwich Mean Time.

(A) [TIME ZONE]

1 Set the time difference.

2 Select [SET].

Once the setting for [TIME ZONE] is completed, the [CLOCK SETTING] screen is displayed.



- The setting for the date/time of the main unit changes together with the time zone settings.

❖ [CLOCK SETTING]

Set the year, month, date, and time.

(A) [CLOCK SETTING]

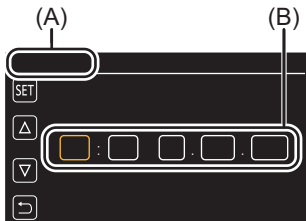
(B) 0 : 0 1. JAN. 2022

1 Set the year, month, date, and time.

The year can be set between 2021 and 2037.

2 Select [SET].

Once the setting is complete, the camera image screen is displayed.



Main specifications

Power	7.28 V === (when battery is used)
	12 V === (when the AC adaptor is used)
Power consumption	X2
	20.6 W (when the LCD monitor is used)
	X20 18.5 W (when the LCD monitor is used)
Ambient operating temperature	0 °C to 40 °C
Ambient operating humidity	10 % to 80 % (relative humidity, no condensation)
Mass	X2 Approx. 2040 g ^{*1} /Approx. 2490 g ^{*2}
	X20 Approx. 2000 g ^{*1} /Approx. 2430 g ^{*2} *1 Main unit only (including grip belt), excluding lens hood, battery, and supplied accessories *2 Including lens hood, supplied battery, eye cup, 2 SD cards, microphone holder and 2 INPUT terminal caps
External dimensions (W×H×D)	X2 173 mm×195 mm×344 mm
	X20 171 mm×195 mm×343 mm Including lens hood, excluding eye cup and microphone holder
Pickup device	1.0 type (1.0 ") MOS solid-state image sensing device for colors Total pixels: approx. 20,920,000 pixels
Number of effective pixels	Approx. 15,030,000 pixels
Lens	Optical image stabilizer lens, motorized 20× zoom F value: F2.8 to F4.5 Focal length: f=8.8 mm to 176 mm 35 mm conversion: f=24.5 mm to 490 mm
Filter diameter	67 mm

USB terminal	USB Type-C®×1, USB3.1 Gen1, Host/device combined (switched with menu) Device: USB mass storage functionality (read only) Host: Supports bus power (5 V, 0.9 A) X2 USB tethering functionality X20 USB ethernet adaptor functionality
LCD monitor	8.8 cm (3.5 ") LCD monitor: approx. 2,760,000 dots
Viewfinder	1.0 cm (0.39 ") OLED (organic EL display): approx. 2,360,000 dots Video display area: approx. 1,770,000 dots

Wi-Fi

Compliance standard	IEEE802.11b/g/n compliant
Frequency range used (central frequency)	2412 MHz to 2462 MHz [1 to 11ch]
Encryption method	Wi-Fi compliant WPA™ / WPA2™
Access method	Infrastructure mode

AC adaptor

Power source	100 V – 240 V $\sim$ 50 Hz/60 Hz, 1.2 A 79 VA (100 V $\sim$) – 99 VA (240 V $\sim$)
Power output	12 V $\equiv$ 3.0 A

Battery charger

Input voltage	12 V $\equiv$ 3.0 A
Output voltage	8.4 V $\equiv$ 4.0 A

Battery pack (AG-VBR59)

Voltage/capacity	7.28 V	===	5900 mAh	43 Wh
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The symbols on this product (including the accessories) represent the following:



AC



DC



Class II equipment (The construction of the product is double-insulated.)

Trademark

- SDXC logo is a trademark of SD-3C, LLC.
- “AVCHD”, “AVCHD Progressive” and the “AVCHD Progressive” logo are trademarks of Panasonic Holdings Corporation and Sony Corporation.
- Manufactured under license from Dolby Laboratories. Dolby, Dolby Audio, and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries.
- USB Type-C® and USB-C® are registered trademarks of USB Implementers Forum.
- The Wi-Fi CERTIFIED™ Logo is a registered trademark of Wi-Fi Alliance®.
- The Wi-Fi Protected Setup™ Logo is a registered trademark of Wi-Fi Alliance®.
- “Wi-Fi®” is a registered trademark of Wi-Fi Alliance®.
- “Wi-Fi Protected Setup™”, “WPA™”, and “WPA2™” are trademarks of Wi-Fi Alliance®.
- QR Code is a registered trademark of DENSO WAVE INCORPORATED.
- All other names, company names, product names, etc., contained in this instruction manual are trademarks or registered trademarks of their respective owners.



This product incorporates the following software:

- (1) the software developed independently by or for Panasonic,
- (2) the software owned by third party and licensed to Panasonic,
- (3) the software licensed under the GNU General Public License, Version 2.0 (GPL V2.0),
- (4) the software licensed under the GNU LESSER General Public License, Version 2.1 (LGPL V2.1), and/or
- (5) open source software other than the software licensed under the GPL V2.0 and/or LGPL V2.1.

The software categorized as (3) - (5) are distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY, without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

For details, refer to the terms of license that are displayed using the following method:

1. Select the [NETWORK] menu ➡ [DEVICE SEL] ➡ [LAN]*, [WLAN] or [OFF].
 2. Select the [OTHERS] menu ➡ [USB DEVICE] ➡ [SERVICE MODE] ➡ [YES].
Select "LICENSE.TXT" in the external drive recognized by the computer.
- * Available for setting when using **X2**.

At least three (3) years from delivery of this product, Panasonic will give to any third party who contacts us at the contact information provided below, for a charge no more than our cost of physically performing source code distribution, a complete machine-readable copy of the corresponding source code covered under GPL V2.0 or LGPL V2.1, as well as the respective copyright notice thereof.

Contact Information: oss-cd-request@gg.jp.panasonic.com

The source code and the copyright notice are also available for free in our website below.

<https://panasonic.net/cns/oss/index.html>

This product is licensed under the AVC Patent Portfolio License for the personal use of a consumer or other uses in which it does not receive remuneration to (i) encode video in compliance with the AVC Standard ("AVC Video") and/or (ii) decode AVC Video that was encoded by a consumer engaged in a personal activity and/or was obtained from a video provider licensed to provide AVC Video. No license is granted or shall be implied for any other use. Additional information may be obtained from MPEG LA, L.L.C.

See <http://www.mpegla.com>

- Separate license contract with MPEG-LA is required to record in a memory card with this product and to distribute that card to end users for a profit. The end user mentioned here indicates a person or organization that handles contents for a personal use.

Panasonic Warranty

1. Subject to the conditions of this warranty Panasonic or its Authorised Service Centre will perform necessary service on the product, without charge for parts or labour, if in the opinion of Panasonic the product is found to have a manufacturing defect within one (1) year or (12 months) (the "warranty period") from the date of purchase appearing on your purchase receipt.
2. This warranty only applies to Panasonic products purchased in Australia and sold by Panasonic Australia, its Authorised Distributors, or Dealers, and only where the products are used and serviced within Australia or its territories. Warranty cover only applies to the services that are carried out by a Panasonic Authorised Service Centre and only if valid proof of purchase is presented when the warranty service is requested.
3. This warranty only applies if the product has been installed and/or used in accordance with the manufacturer's recommendations (as noted in the operating instructions) under normal use and reasonable care (in the opinion of Panasonic). The warranty does not cover damage, malfunction or failure resulting from use of incorrect voltages, incorrect installation, accident, misuse, neglect, build-up of dirt or dust, abuse, maladjustment of customer controls, mains supply problems, thunderstorm activity, infestation by insects or vermin, tampering or repair by unauthorised persons (including unauthorised alterations), exposure to abnormally corrosive conditions, or any foreign object or matter having entered the product.
4. This warranty does not cover the following items unless the fault or defect existed at the time of purchase:
 - (a) Consumable parts
 - (b) Cosmetic parts
 - (c) Worn or damaged parts
 - (d) Information stored on Hard Disk Drives, Optical Discs, USB Devices, SD Cards, Tapes
 - (e) DTV reception issues caused by TV Aerial / Cabling / Wall socket(s)
5. Some products may be supplied with Ethernet connection hardware. The warranty is limited on such products and will not cover:
 - (a) Internet and or DLNA connection / setup related problems
 - (b) Access fees and or charges incurred for internet connection
 - (c) Incompatible software or software not specifically stipulated in the product operations manual; and
 - (d) Any indirect or consequential costs associated with the incorrect use or misuse of the hardware, its connection to the internet or any other device.
6. To claim warranty service, when required, you should:
 - Contact Panasonic's Customer Care Centre on 132 600 for Service Centre information.
 - Confirm the opening and acceptance times with the Authorised Service centre that you choose.
 - Then send or take the product to a Panasonic Authorised Service Centre together with your proof of purchase receipt.
 - Any freight and insurance costs associated with the transport of the product to and/or from your nearest Authorised Service Centre must be arranged and paid for by you.

7. The warranties hereby conferred do not extend to, and exclude, any costs associated with the installation, de-installation or re-installation of a product, including costs related to the mounting, de-mounting or remounting of any screen, (and any other ancillary activities), delivery, handling, freight, transportation or insurance of the product or any part thereof or replacement of and do not extend to, and exclude, any damage or loss occurring by reason of, during, associated with, or related to such installation, de-installation, re-installation or transit.

Panasonic Authorised Service Centres are located in major metropolitan areas and most regional centres of Australia, however, coverage will vary dependant on product. For advice on exact Authorised Service Centre locations for your product, please telephone our Customer Care Centre on 132600 or visit our website and use the Service Centre Locator.

In addition to your rights under this warranty, Panasonic products come with consumer guarantees that cannot be excluded under the Australian Consumer Law. If there is a major failure with the product, you can reject the product and elect to have a refund or to have the product replaced or if you wish you may elect to keep the goods and be compensated for the drop in value of the goods. You are also entitled to have the product repaired or replaced if the product fails to be of acceptable quality and the failure does not amount to a major failure.

If there is a major failure in regard to the product which cannot be remedied then you must notify us within a reasonable period by contacting the Panasonic Customer Care Centre. If the failure in the product is not a major failure then Panasonic may choose to repair or replace the product and will do so in a reasonable period of time from receiving notice from you.

**THIS WARRANTY CARD AND THE PURCHASE DOCKET (OR SIMILAR PROOF OF PURCHASE)
SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES**

If you require assistance regarding warranty conditions or any other enquiries, please visit the Panasonic Australia website **www.panasonic.com.au** or contact by phone on **132 600**
If phoning in, please ensure you have your operating instructions available.

Panasonic Australia Pty. Limited

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1 Innovation Road, Macquarie Park NSW 2113
www.panasonic.com.au

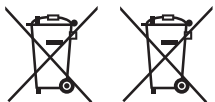
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This image shows a single page from a notebook or ledger. It features a series of evenly spaced, light blue horizontal lines running across the width of the page. The lines are thin and consistent in color. There are no vertical margin lines, text, or other markings present on the page.

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**Disposal of Old Equipment and Batteries
Only for European Union and countries with
recycle systems**

These symbols are only valid in the European Union
and countries with recycle systems.

If you wish to discard this product, please contact
your local authorities or dealer and ask for the
correct method of disposal.

**Panasonic Entertainment
& Communication Co., Ltd.**

Web site: <http://www.panasonic.com>

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