

Panasonic[®]

Operating Instructions

Additional Digital Cordless Handset

Model No. **KX-HNH100**



Thank you for purchasing a Panasonic product.

Please read these operating instructions before using the unit and save them for future reference.

For assistance, visit our Web site: <http://www.panasonic.com/help> for customers in the U.S.A. or Puerto Rico.

Please register your product: <http://www.panasonic.com/prodreg>

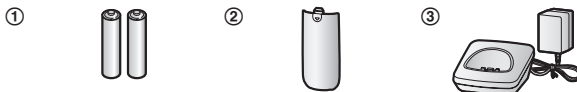
Introduction

Accessory information

Supplied accessories

No.	Accessory item/Order number	Quantity
①	Rechargeable batteries/HHR-4DPA	1
②	Handset cover*1	1
③	Charger/PNLC1055ZAW	1

*1 The handset cover comes attached to the handset.



Additional/replacement accessories

Please contact your nearest Panasonic dealer for sales information.

Accessory item	Order number
Rechargeable batteries	HHR-4DPA*1
	<ul style="list-style-type: none">To order, please call 1-800-332-5368 or visit http://www.panasonic.com/batterystore
	Battery type:
	<ul style="list-style-type: none">Nickel metal hydride (Ni-MH)2 x AAA (R03) size for each handset

*1 Replacement batteries may have a different capacity from that of the supplied batteries.


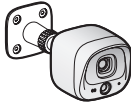




Other information

- Design and specifications are subject to change without notice.
- The illustrations in these instructions may vary slightly from the actual product.

Expanding your phone system

The Panasonic Home Network System lets you create a powerful wireless network of cameras, sensors, and smartplugs in your home, and control them all with an easy-to-use mobile app. A total of 50 devices can be registered to the base unit. The maximum number of devices for each device type is listed below.

Introduction

<p>Cordless handset (KX-HNH100: 6 max.)*1</p> <ul style="list-style-type: none"> ● Makes and receives calls using your home landline ● Can be used to change the system's security mode ● Displays system status 	
<p>Outdoor camera (KX-HNC600: 4 max.)*2</p> <ul style="list-style-type: none"> ● Full-color camera with night vision and built-in microphone for live monitoring and recording ● Built-in motion sensor ● Built-in microphone and speaker for two-way communication ● Splashproof design for permanent, outdoor installation 	
<p>Indoor camera (KX-HNC200: 4 max.)*2</p> <ul style="list-style-type: none"> ● Full-color camera with night vision and built-in microphone for live monitoring and recording ● Built-in motion sensor and temperature sensor ● Non-permanent installation for added flexibility 	
<p>Door/window sensor (KX-HNS101: 50 max.)</p> <ul style="list-style-type: none"> ● Detects when the corresponding door or window is opened ● Can be used to trigger other events (camera recording, turning on a light, etc.) 	
<p>Motion sensor (KX-HNS102: 50 max.)</p> <ul style="list-style-type: none"> ● Detects motion in the surrounding area ● Can be used to trigger other events (camera recording, turning on a light, etc.) ● Non-permanent installation for added 	
<p>Smartplug (KX-HNA101: 50 max.)</p> <ul style="list-style-type: none"> ● Can be turned on and off using the Smartphone app or when triggered by a sensor 	

*1 Optional handsets may be a different color from that of the supplied handsets.

*2 A total of 4 cameras can be registered includes outdoor camera (KX-HNC600) and indoor camera (KX-HNC200).

Introduction

Smartphone

Your smartphone: 4 max.

You can expand your phone system by installing the Smartphone app on your smartphone and registering your smartphone to the base unit.

- You must configure the base unit and download the app before you can use these features.



Important Information

For your safety

To prevent severe injury and loss of life/property, read this section carefully before using the product to ensure proper and safe operation of your product.

WARNING

Power connection

- Use only the power source marked on the product.
- Do not overload power outlets and extension cords. This can result in the risk of fire or electric shock.
- Completely insert the AC adaptor/power plug into the power outlet. Failure to do so may cause electric shock and/or excessive heat resulting in a fire.
- Regularly remove any dust, etc. from the AC adaptor/power plug by pulling it from the power outlet, then wiping with a dry cloth. Accumulated dust may cause an insulation defect from moisture, etc. resulting in a fire.
- Unplug the product from power outlets if it emits smoke, an abnormal smell, or makes an unusual noise. These conditions can cause fire or electric shock. Confirm that smoke has stopped emitting and contact the Panasonic Call Center at 1-800-211-PANA (1-800-211-7262).
- Unplug from power outlets and never touch the inside of the product if its casing has been broken open.
- Never touch the plug with wet hands. Danger of electric shock exists.

Installation

- To prevent the risk of fire or electrical shock, do not expose the product to rain or any type of moisture.
- Do not place or use this product near automatically controlled devices such as automatic doors and fire alarms. Radio waves emitted from this product may cause such devices to malfunction resulting in an accident.

- Do not allow the AC adaptor or telephone line cord to be excessively pulled, bent or placed under heavy objects.

Operating safeguards

- Unplug the product from power outlets before cleaning. Do not use liquid or aerosol cleaners.
- Do not disassemble the product.
- Do not spill liquids (detergents, cleansers, etc.) onto the telephone line cord plug, or allow it to become wet at all. This may cause a fire. If the telephone line cord plug becomes wet, immediately pull it from the telephone wall jack, and do not use.

Medical

- Consult the manufacturer of any personal medical devices, such as pacemakers or hearing aids, to determine if they are adequately shielded from external RF (radio frequency) energy. DECT features operate between 1.92 GHz and 1.93 GHz with a peak transmission power of 115 mW. Wi-Fi features operate between 2.412 GHz and 2.462 GHz with a peak transmission power of 100 mW.
- Do not use the product in health care facilities if any regulations posted in the area instruct you not to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

CAUTION

Installation and location

- Never install wiring during a lightning storm.
- Never install telephone line jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- The AC adaptor is used as the main disconnect device. Ensure that the AC outlet is installed near the product and is easily accessible.

Important Information

- This product is unable to make calls when:
 - the handset batteries need recharging or have failed.
 - there is a power failure.

Battery

- We recommend using the batteries noted on page 2. **USE ONLY rechargeable Ni-MH batteries AAA (R03) size.**
- Do not mix old and new batteries.
- Do not open or mutilate the batteries. Released electrolyte from the batteries is corrosive and may cause burns or injury to the eyes or skin. The electrolyte is toxic and may be harmful if swallowed.
- Exercise care when handling the batteries. Do not allow conductive materials such as rings, bracelets, or keys to touch the batteries, otherwise a short circuit may cause the batteries and/or the conductive material to overheat and cause burns.
- Charge the batteries provided with or identified for use with this product only, in accordance with the instructions and limitations specified in this manual.
- Only use a compatible charger to charge the batteries. Do not tamper with the charger. Failure to follow these instructions may cause the batteries to swell or explode.

Attention:



A nickel metal hydride battery that is recyclable powers the product you have purchased.

Please call 1-800-8-BATTERY (1-800-822-8837) for information on how to recycle this battery.

Important safety instructions

When using your product, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

1. Do not use this product near water for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.

SAVE THESE INSTRUCTIONS

For best performance

Base unit location/avoiding noise

The base unit and other compatible Panasonic units use radio waves to communicate with each other.

- For maximum coverage and noise-free communications, place your base unit:
 - at a convenient, high, and central location with no obstructions between the handset and base unit in an indoor environment.
 - away from electronic appliances such as TVs, radios, personal computers, wireless devices, or other phones.
 - facing away from radio frequency transmitters, such as external antennas of mobile phone cell stations. (Avoid putting the base unit on a bay window or near a window.)
- Coverage and voice quality depends on the local environmental conditions.

Important Information

- If the reception for a base unit location is not satisfactory, move the base unit to another location for better reception.

Environment

- Keep the product away from electrical noise generating devices, such as fluorescent lamps and motors.
- The product should be kept free from excessive smoke, dust, high temperature, and vibration.
- The product should not be exposed to direct sunlight.
- Do not place heavy objects on top of the product.
- When you leave the product unused for a long period of time, unplug the product from the power outlet.
- The product should be kept away from heat sources such as heaters, kitchen stoves, etc. It should not be placed in rooms where the temperature is less than 0 °C (32 °F) or greater than 40 °C (104 °F). Damp basements should also be avoided.
- The maximum calling distance may be shortened when the product is used in the following places: Near obstacles such as hills, tunnels, underground, near metal objects such as wire fences, etc.
- Operating the product near electrical appliances may cause interference. Move away from the electrical appliances.

Routine care

- **Wipe the outer surface of the product with a soft moist cloth.**
- Do not use benzine, thinner, or any abrasive powder.

Other information

CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Notice for product disposal, transfer, or return

- This product can store your private/confidential information. To protect your privacy/confidentiality, we recommend that you erase information such as phonebook or caller list entries from the memory before you dispose of, transfer, or return the product.

Notice

- This product is designed for use in the United States of America. Sale or use of this product in other countries may violate local laws.
- Cet appareil est conçu pour être utilisé aux États-Unis d'Amérique. La vente ou l'emploi de cet appareil dans certains autres pays peut constituer une infraction à la législation locale.
- Este producto está diseñado para usarse en los Estados Unidos de América. La venta o el empleo de este producto en ciertos países puede constituir violación de la legislación local.
- 本產品專為美國使用而設。若在其他國家銷售或使用，可能會違反當地法例。
- この製品は、日本国外での使用を目的として設計されており、日本国内での使用は法律違反となります。従って、当社では日本国内においては原則として修理などのサービスは致しかねます。

Specifications

- **Communication standards**
DECT 6.0 (Digital Enhanced Cordless Telecommunications 6.0)
Wi-Fi (IEEE 802.11 b/g/n)
- **Frequency range**
DECT:
1.92 GHz to 1.93 GHz
Wi-Fi:
2.412 GHz to 2.462 GHz (channels 1 to 11)
- **RF transmission power**
DECT:
115 mW (max.)
Wi-Fi:



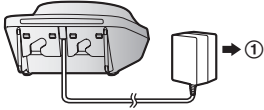
Important Information

- 100 mW (peak transmission power)
- **Encryption**
WPA2-PSK (TKIP/AES), WPA-PSK (TKIP/AES), WEP (128/64 bit)
- **Simplified configuration**
WPS (PBC)
- **Power source**
Charger:
120 V AC, 60 Hz
Handset:
AAA (R03) Ni-MH battery (2 × 1.2 V, 550 mAh)
- **Operating conditions**
0 °C – 40 °C (32 °F – 104 °F), 20 % – 80 % relative air humidity (dry)

Setting up

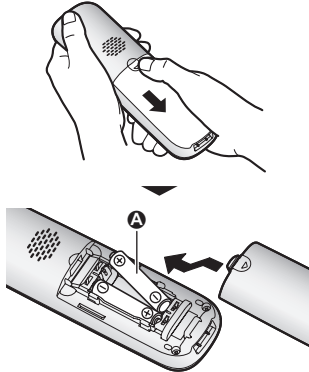
Connections

- 1 Connect the AC adaptor to the power outlet.



Battery installation

- USE ONLY rechargeable Ni-MH batteries AAA (R03) size (A).
- Do NOT use Alkaline/Manganese/Ni-Cd batteries.
- Confirm correct polarities (+, -).



- Follow the directions on the display to set up the unit.

Battery charging

Charge for about 7 hours.

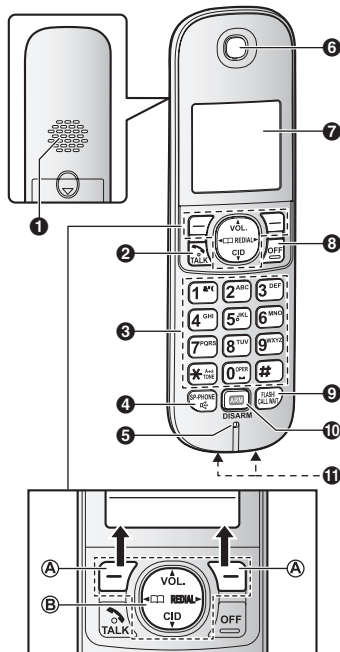
- Confirm "Charging" is displayed (A).
- When the batteries are fully charged, "Fully charged" is displayed.



Getting Started

Controls

Handset



- 1 Speaker
 - 2 **[TALK]**
 - 3 Dial keypad (**[*]**: TONE)
 - 4 **[SP-PHONE]**: Speakerphone
 - 5 Microphone
 - 6 Receiver
 - 7 Display
 - 8 **[OFF]**
 - 9 **[FLASH]**/**[CALL WAIT]**
 - 10 **[ARM]**/**[DISARM]**
 - 11 Charge contacts
- Control type
 - Ⓐ Soft keys

By pressing a soft key, you can select the feature shown directly above it on the display.

Ⓑ Navigator key

- **[▲]**, **[▼]**, **[◀]**, or **[▶]**: Scroll through various lists and items.
- VOL. (Volume): **[▲]** or **[▼]**: Adjust the receiver or speaker volume while talking.
- **[▼]** CID (Caller ID): View the caller list.
- **[◀]** **[▶]**: View the phonebook entry.
- **[▶]** REDIAL: View the redial list.

Registering a unit

Registering a handset to the base unit

If for some reason the handset is not registered to the base unit (for example, **☹** is displayed even when the handset is near the base unit), re-register the handset.

- 1 **Handset:**
[MENU]**#****[1]****[3]****[0]**
- 2 **Base unit:**
Press and hold **[☎]** for about 5 seconds.
 - If all registered handsets start ringing, press **[☎]** again to stop, then repeat this step.
- 3 **Handset:**
Press **[OK]**, then wait until a long beep sounds.

Deregistering a handset

A handset can cancel its own registration to the base unit, or other handsets registered to the same base unit. This allows the handset to end its wireless connection with the system.

- 1 **[MENU]****#****[1]****[3]****[1]**
 - All handsets registered to the base unit are displayed.
- 2 **[↕]**: Select the handset you want to cancel. → **[SELECT]**
- 3 **[↕]**: "Yes" → **[SELECT]**
- 4 **[OFF]**

Network settings

Before you begin

Confirm the following before you configure the base unit to connect wirelessly to your home network.

- Make sure your wireless router is turned on and functioning.
- Make sure that you know your wireless router's Wi-Fi settings, including its SSID (wireless network name), security password, etc. In some situations, you may also need to know the IP-related settings required in order for the base unit to connect to your wireless router, including your wireless router's IP address, subnet mask, etc.
- Make sure you have the operating instructions included with your wireless router handy.

Typical configuration (DHCP)

- 1 **[MENU]** **[#]** **[5]** **[2]** **[3]**
- 2 **[↕]**: "Wi-Fi setting" → **[SELECT]**
 - The base unit searches for available wireless networks and "Searching..." is displayed.
 - When searching is complete, a list of available wireless networks is displayed, including the SSID, security setting, and signal strength.
 - The base unit cannot find your wireless router if the wireless router does not broadcast its SSID. If there is a "stealth mode" setting, turn it off; if there is a "SSID broadcast" setting, turn it on. Change the appropriate setting before performing this procedure, and then change it back when finished.
- 3 **[↕]**: Select your wireless router's SSID. → **[SELECT]**
- 4 Confirm the SSID and then press **[OK]**.
- 5 Enter the password required to access the wireless network. → **[OK]**
 - After the base unit connects to the wireless router, "Connected to" and

your wireless router's SSID is displayed.

6 **[OFF]**

Making/Answering Calls

Making calls

- 1 Lift the handset and dial the phone number.
 - To correct a digit, press **[CLEAR]**.
- 2 Press **[END]**.
- 3 When you finish talking, press **[OFF]** or place the handset on the charger.

Using the speakerphone

- 1 Dial the phone number and press **[SPK]**.
- 2 When you finish talking, press **[OFF]**.

Note:

- To switch back to the receiver, press **[SPK]/[END]**.

Adjusting the receiver or speaker volume

Press **[▲]** or **[▼]** repeatedly while talking.

Answering calls

- 1 Lift the handset and press **[END]** or **[SPK]** when the unit rings.
- 2 When you finish talking, press **[OFF]** or place the handset on the charger.

Any key answer: You can answer the call by pressing any dial key.

Auto talk: You can answer calls simply by lifting the handset.

Temporary ringer off: You can turn the ringer off temporarily by pressing **[R]**.

Adjusting the handset ringer volume

Press **[▲]** or **[▼]** repeatedly to select the desired volume while ringing.

Caller ID features

When an outside call is being received, the caller information is displayed.

Caller information for the last 50 callers is logged in the caller list from the most recent call to the oldest.

Important:

- This unit is Caller ID compatible. To use Caller ID features, you must subscribe to a Caller ID service. Contact your service provider/telephone company for details.

Missed calls

If a call is not answered, the unit treats it as a missed call and **"Missed call"** is displayed.

This lets you know if you should view the caller list to see who called while you were away.

Even if only one missed call in the caller list is viewed, **"Missed call"** disappears from the display. When you receive another new call, **"Missed call"** is displayed again.

Note:

- Even when there are unviewed missed calls, **"Missed call"** disappears from the standby display if the following operation is performed by one of the registered handsets:
 - Being replaced on the charger.
 - Pressing **[OFF]**.

Call logs

Important:

- Make sure the unit's date and time setting is correct.

Viewing the caller list and calling back

- 1 [▼] CID
- 2 Press [▼] to search from the most recent call, or press [▲] to search from the oldest call.
- 3 To call back, press [↶].
To exit, press [OFF].

Note:

- If the entry has already been viewed or answered, "✓" is displayed.

Answering System

Answering system

The answering system can answer and record calls for you when you are unavailable to answer the phone.

You can also set the unit to play a greeting message but not to record caller messages by selecting “**Greeting only**” as the recording time setting.

Important:

- Make sure the unit’s date and time setting is correct.

Turning the answering system on/off

The answering system is preset to on.

1 To turn on:
[MENU]#327

To turn off:
[MENU]#328

2 [OFF]

Note:

- When the answering system is turned on, **00** is displayed.

Security features

Security features overview

You can use motion sensors, door/window sensors, and even the sensor features built in to indoor and outdoor cameras to receive sensor trigger alerts on the handset.

- The compatible Panasonic sensor devices are listed on page 2.

Arming and disarming the system

You can select the 3 types of security modes.

- “**Home arm**”: Door/window sensors are activated.
- “**Out arm**”: All the sensor devices are activated.
- “**Disarm**”: All the sensor devices are deactivated.

■ To arm the system:

- 1 **[ARM]**
- 2 **[↕]**: “**Home arm**” or “**Out arm**” → **[SELECT]**
- 3 Enter the password when prompted.
 - When you select “**Out arm**”, you need to press **[OK]** to activate the mode. All the security devices are activated after 300 seconds.

■ To disarm the system:

- 1 **[ARM]**
- 2 **[↕]**: “**Disarm**” → **[SELECT]**
- 3 Enter the password. → **[OK]**

Useful Information

FCC and other information

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the bottom of this equipment is a label that contains, among other information, a product identifier in the format US:ACJ-----.

If requested, this number must be provided to the telephone company.

- Registration No.....(found on the bottom of the unit)
- Ringer Equivalence No. (REN).....0.1B

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with the product. It is designed to be connected to a compatible modular jack that is also compliant.

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For products approved after July 23, 2001, the REN for the product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., 03 is a REN of 0.3).

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be

advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please contact a Factory Service Center or other Authorized Servicer. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this equipment does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

This equipment is hearing aid compatible as defined by the FCC in 47 CFR Section 68.316.

When you hold the phone to your ear, noise might be heard in your Hearing Aid. Some Hearing Aids are not adequately shielded from external RF (radio frequency) energy. If noise occurs, use an optional headset accessory or the speakerphone option (if applicable) when using this phone. Consult with your audiologist or Hearing Aid

Useful Information

manufacturer about the availability of Hearing Aids which provide adequate shielding to RF energy commonly emitted by digital devices.

WHEN PROGRAMMING EMERGENCY NUMBERS AND/OR MAKING TEST CALLS TO EMERGENCY NUMBERS:

- 1) Remain on the line and briefly explain to the dispatcher the reason for the call.
- 2) Perform such activities in the off-peak hours, such as early morning or late evenings.

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.

Privacy of communications may not be ensured when using this phone.

CAUTION:

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

NOTE:

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.

Some cordless telephones operate at frequencies that may cause interference to nearby TVs and VCRs. To minimize or prevent such interference, the base of the cordless telephone should not be placed near or on top of a TV or VCR. If interference is experienced, move the cordless telephone further away from the TV or VCR. This will often reduce or eliminate interference.

FCC RF Exposure Warning:

- This product complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- To comply with FCC RF exposure requirements, the base unit must be installed and operated 20 cm (8 inches) or more between the product and all person's body.
- This product may not be collocated or operated in conjunction with any other antenna or transmitter.
- For body-worn operation, the handset must be used only with a non-metallic accessory. Use of other accessories may not ensure compliance with FCC RF exposure requirements.

Notice:

- FCC ID can be found inside the battery compartment or on the bottom of the units.

Useful Information

Compliance with TIA-1083 standard:
Telephone handsets identified with this logo have reduced noise and interference when used with T-Coil equipped hearing aids and cochlear implants.



Customer services

Customer Services Directory (United States and Puerto Rico)

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Service Center; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:

<http://www.panasonic.com/help>

or, contact us via the web at:

<http://www.panasonic.com/contactinfo>

You may also contact us directly at: 1-800-211-PANA (1-800-211-7262),
Monday - Friday 9 am to 9 pm; Saturday - Sunday 10 am to 7 pm, EST.

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

Accessory Purchases (United States and Puerto Rico)

Purchase Parts, Accessories and Owner's Manual online for all Panasonic Products by visiting our Web Site at:

<http://www.pstc.panasonic.com>

or, send your request by E-mail to:

npcparts@us.panasonic.com

You may also contact us directly at:
1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only)
(Monday - Friday 9 am to 9 pm, EST.)

Panasonic National Parts Center
20421 84th Avenue S., Kent, WA 98032
(We accept Visa, MasterCard, Discover Card, American Express.)

For hearing or speech impaired TTY users, TTY: 1-866-605-1277

IMPORTANT!

If your product is not working properly. . .

- ① **Reconnect AC adaptor to the base unit.**
- ② **Check if telephone line cord is connected.**
- ③ **Use rechargeable Ni-MH batteries.**
(Alkaline/Manganese/Ni-Cd batteries CANNOT be used.)
- ④ Read **troubleshooting** page in the **Operating Instructions**.



Visit our Web site: <http://www.panasonic.com/help>

- **FAQ and troubleshooting hints are available.**

Panasonic Corporation of North America

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