



Operating Instructions

Amplified Cordless Telephone with Digital Answering Machine

Model No. **KX-TGM420**
KX-TGM450

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://shop.panasonic.com/support> for customers in the U.S.A.

Model composition

Series	Model No.	Base unit	Handset	
		Part No.	Part No.	Quantity
KX-TGM420 series	KX-TGM420	KX-TGM420	KX-TGMA44	1
KX-TGM450 series	KX-TGM450	KX-TGM450	KX-TGMA45	1

Accessory information

Supplied accessories

No.	Accessory item/Part number	Quantity
①	AC adaptor ^{*1, *2}	1
②	Telephone line cord ^{*2, *3}	1
③	Wall mounting adaptor/PNKL1001Z3	1
④	Rechargeable batteries ^{*4, *5}	4
⑤	Handset cover ^{*6} /PNYNTGMA44WR	1
⑥	Belt clip ^{*7} /PNKE2076Z1	1

*1 PNLV226X: KX-TGM420

PNLV236-0Y: KX-TGM450

*2 The AC adaptor and telephone line cord are connected to the base unit at the time of shipment.

*3 PQJA10075Y (Black cord), PQJA10075Z (Transparent cord)

*4 The supplied rechargeable batteries in the handset and base unit are installed with insulation sheets inserted between battery ends and the terminals at the time of shipment. Remove the insulation sheets before use.

*5 See page 3 for replacement battery information.

*6 The handset cover comes attached to the handset at the time of shipment.

*7 The belt clip comes attached to the handset at the time of shipment.

①



②



③



④



⑤



⑥



Additional/replacement accessories

Please contact your nearest Panasonic dealer for sales information.

Accessory item	Model number/Specifications
Rechargeable batteries	HHR-4DPA ^{*1}
	• To order, please visit http://shop.panasonic.com/support
	Battery type: – Nickel metal hydride (Ni-MH) – 2 x AAA (R03) size for each handset
Headset	KX-TCA60, KX-TCA400, KX-TCA430
Range extender	KX-TGA405 ^{*2}
Key detector	KX-TGA20 ^{*3}

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

*2 By installing this unit, you can extend the range of your phone system to include areas where reception was previously not available. This product can be purchased online. Please visit our Web site: <http://shop.panasonic.com/support>

*3 By registering the key detector (4 max.) to a Panasonic Digital Cordless Phone and attaching it to an easy-to-lose item in advance, you can locate and find the mislaid item to which the key detector is attached. Please visit our Web site: <http://www.panasonic.com/tga20>

Expanding your phone system

Handset (optional): KX-TGMA44^{*1}/KX-TGMA45^{*2}

You can expand your phone system by registering optional handsets (6 max.) to a single base unit.
• Optional handsets may be a different color from that of the supplied handsets.



*1 Receiver volume for outside calls is adjustable up to 40 dB (when the booster is on).

*2 Receiver volume for outside calls is adjustable up to 50 dB (when the booster is on).

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 us at <http://shop.panasonic.com/support>
- 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.
- To prevent hearing damage, make sure anyone who uses this product is aware that the product can produce very loud sounds, and make sure children use this product only under adult supervision.
- To prevent hearing damage, we recommend that you set this product to the lowest volume setting at which you can hear adequately. Note that when the **[BOOST]** indicator is lit in red, the volume booster feature is enabled and the product may emit sounds at very high volume.
- Avoid prolonged exposure to loud sounds produced by this product. Be aware that the louder a sound is, the less time is needed to cause hearing damage. In the event that you experience hearing discomfort, consult a medical professional.

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. (The product operates in the frequency range of 1.92 GHz to 1.93 GHz, and the RF transmission power is 115 mW (max.).)
- 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 telephone wiring during an electrical 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.
- This product is unable to make calls when:
 - the handset batteries need recharging or have failed.
 - there is a power failure.

Ni-MH rechargeable batteries (supplied)

- We recommend using the batteries noted on page 3. **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 base unit (or charger) to charge the batteries. Do not tamper with the base unit (or 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.

Note when using alkaline batteries for power backup

- The batteries should be used correctly, otherwise the unit may be damaged due to battery leakage.
- Do not charge, short-circuit, disassemble, or heat the batteries.
- Do not dispose of batteries in a fire.
- Remove all the batteries when replacing.
- Do not mix old, new or different types of batteries.
- It is recommended that batteries are replaced annually.
- It is recommended that batteries are replaced after a power outage.

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.
- 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。

Setting up

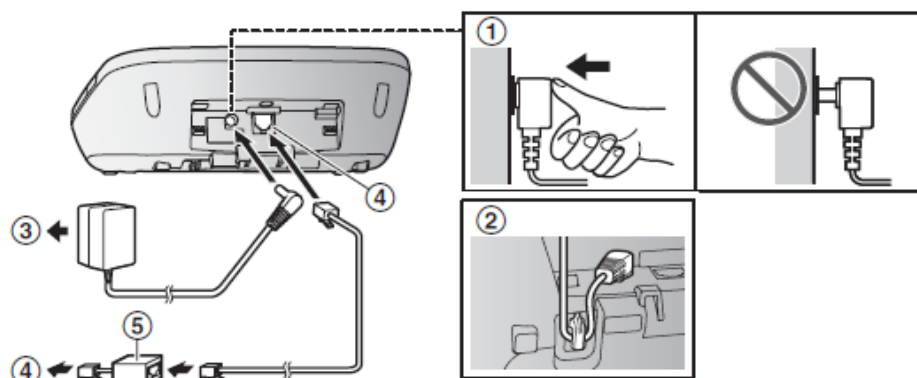
Connections

- ① Connect the AC adaptor to the unit by pressing the plug firmly.
- ② Fasten the cord by hooking it.
- ③ Connect the AC adaptor to the power outlet.
- ④ Connect the telephone line cord to the unit, then to the single-line telephone jack (RJ11C) until you hear a click.
- ⑤ A DSL/ADSL filter (not supplied) is required if you have a DSL/ADSL service.

Note:

- The AC adaptor and telephone line cord are connected to the base unit at the time of shipment.
- Use only the supplied Panasonic AC adaptor.*1

*1 PNLV226X: KX-TGM420
PNLV236-0Y: KX-TGM450



Handset battery charging

2 rechargeable Ni-MH batteries are installed in the handset at the time of shipment.

Before initial use: Remove the insulation sheet before using the handset.

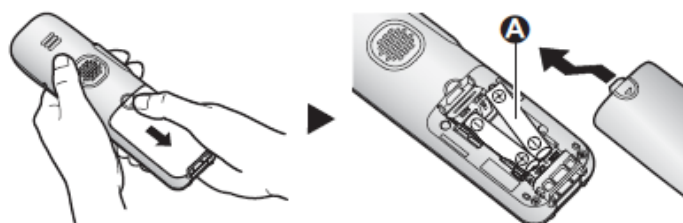
Charge for about 7 hours.

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



Handset battery installation (for replacement)

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



Base unit backup batteries

2 rechargeable Ni-MH batteries are installed in the base unit at the time of shipment. These batteries can be used to supply power to the base unit in the event of a power failure.

Before initial use: Remove the insulation sheet before using the base unit.

Base unit battery installation (for replacement)

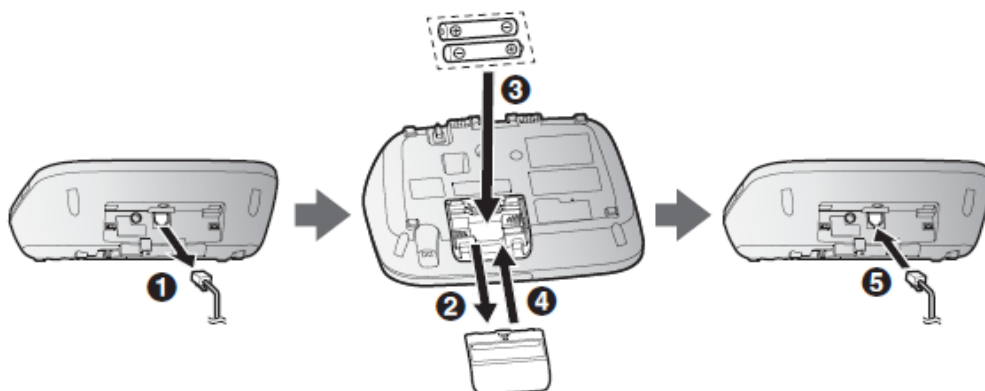
Important:

- The following AAA (R03) size batteries can be used with the base unit:
 - Rechargeable Ni-MH batteries*1
 - Standard (non-rechargeable) alkaline batteries*2
- Do NOT use manganese batteries.
- Confirm correct polarities (+, -).

*1 The base unit can fully charge Ni-MH batteries in about 15 hours.

*2 If the rechargeable batteries become depleted during a power failure, you can insert alkaline batteries into the base unit. Remove the alkaline batteries when power is restored.

- 1 Disconnect the telephone line cord (①).
- 2 Open the battery cover (②).
- 3 Install the batteries in the battery compartment (③).
- 4 Close the cover (④), then reconnect the telephone line cord (⑤).



Making calls

- 1 Lift the handset and then dial the phone number.
 - To correct a digit, press [CLEAR].
- 2 Press [📞] to make the call.
 - To make the call using the speakerphone, press [📞].
- 3 When you finish talking, press [OFF] or place the handset on the base unit or charger.

Note:

- To switch to the speaker, press [📞]. To switch back to the receiver, press [📞]/[📞].
- In step 1, you can store the dialed phone number to the phonebook by pressing [SAVE].

Adjusting the receiver or speaker volume

Press [+] or [-] on the side repeatedly while talking.

Answering calls

Using the handset

When a call is being received, the message indicator flashes rapidly if the handset message indicator's "Incoming call" setting is enabled.

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

Using the base unit

When a call is being received, the SP-PHONE indicator (📞) flashes rapidly.

The message indicator flashes rapidly if the base unit message indicator's "Incoming call" setting is enabled.

- 1 Press [📞] when the unit rings.
- 2 Speak into the microphone.
- 3 When you finish talking, press [📞].

Volume booster

This feature allows you to drastically increase the volume of the other party's voice when talking on a call. This feature can be set for each unit.

WARNING

- This feature is designed for users who are hard of hearing. If other users use the phone, be sure to turn this feature off.
- Do not use this feature unnecessarily. High volume emitted from the product may cause hearing damage.
- Pressing the **[BOOST]** key activates the volume booster feature. Use this key with care. At its loudest setting (volume and volume booster features set to their highest settings), the product can output sound at up to 40 dB (KX-TGM420) or 50 dB (KX-TGM450). To prevent hearing damage, we recommend that you set this product to the lowest volume setting at which you can hear adequately.

Turning on the volume booster

- 1 Press **[BOOST]** while on a call.
 - **[BOOST]** lights in red.
- 2 Press **[+]** or **[-]** on the side repeatedly to select the desired volume.
 - The selected volume setting is shown on the handset display while talking.
 - The selected volume setting is used for future calls when the booster is turned on.

Using Caller ID service

Important:

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

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.

Missed calls

If a call is not answered, the unit treats it as a missed call. The display shows **"Missed call"**.

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 units:
 - A handset is replaced on the base unit or charger.
 - Pressing **[OFF]** on a handset.

Caller list

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 **[▲]** to search from the oldest call.
- 3 To call back, press **[↶]**.
To exit, press **[OFF]**.

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

Base unit

Press **[ANSWER ON/OFF]** to turn on/off the answering system.

Handset

- 1 To turn on:
[MENU][#][3][2][7]
To turn off:
[MENU][#][3][2][8]
- 2 **[OFF]**

Registering a unit

Operating additional units

Additional handsets

Up to 6 handsets can be registered to the base unit.

Registering a handset to the base unit

The supplied handset and base unit are pre-registered. If for some reason the handset is not registered to the base unit, re-register the handset.

- 1 **Handset:**
[MENU][#][1][3][0]
- 2 **Base unit:**
Press and hold **[LOCATOR/INTERCOM]** for about 5 seconds.
 - If all registered handsets start ringing, press **[LOCATOR/INTERCOM]** 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]** → **[OFF]**

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

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.
- The handset may be carried and operated with only the specific provided belt-clip. Other non-tested belt-clips or similar body-worn accessories may not comply and must be avoided.

Notice:

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

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.



Charge only mode

The charge only mode is the dedicated mode to charge the backup batteries of the base unit. Do not use this mode if it is unnecessary because all functions except the base unit's battery charge is disabled with this feature on. Leave all the registered handsets on the chargers during use of the charge only mode.

■ **To activate the charge only mode:**

- 1** Press **[ANSWER ON/OFF]** to turn on the answering system.
 - Make sure the message counter turns on.
- 2** Disconnect the telephone line cord, the AC adaptor plug, and remove the batteries from the base unit.
- 3** Press and hold **[▶▶]**, **[⏏]**, and **[ERASE]** at the same time, then insert the AC adaptor plug to the base unit. Keep on pressing these keys until a beep tone sounds.
- 4** Release these keys.
 - The message counter turns off.
- 5** Insert batteries.
 - The batteries are started to be charged.

Note:

- If the message counter is still on when you release the keys, the base unit is not in the charging only mode. Repeat from step 1.

■ **To deactivate the charge only mode:**

- Press any key.
- 24 hours passed after activating the charge only mode.

Customer services

Shop
Accessories!

for all your Panasonic gear

Go to

<http://shop.panasonic.com/support>

Get everything you need to get the most out of
your Panasonic products

Accessories & Parts for your Camera, Phone, A/V
products, TV, Computers & Networking, Personal
Care, Home Appliances, Headphones, Batteries,
Backup Chargers & more...

Customer Services Directory

For Product Information, Operating Assistance,
Parts, Owner's Manuals, Dealer and Service info
go to <http://shop.panasonic.com/support>

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

As of June 2015

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://shop.panasonic.com/support>

- FAQ and troubleshooting hints are available.

Panasonic Corporation of North America
Two Riverfront Plaza, Newark, NJ 07102-5490

© Panasonic System Networks Co., Ltd. 2015

Printed in Malaysia