

## THE STRENGTHS OF HOTRONIC'S FOOTWARMER POWER PLUS!

### CONTENTS IN BOX

FootWarmer CUSTOM Power Plus e4 and Power Plus e3 both contain:

- 2 Battery Packs with Integrated Heat Regulator
- 1 Pair of Heating Elements with Self-Adhesive Fabric Covers and Strips
- 1 Recharger (global input 100-240VAC, 50/60Hz) with North American and European Plug Adapters
- Operating Instructions & Limited Warranty Card

### OVERVIEW

The Hotronic FootWarmer is dedicated to your foot wherever it goes and easily transfers from one type of footwear to another. Based on computer technology, Battery Pack's micro-controller permits four (4) temperature-duration settings. High quality, rechargeable NiMH batteries are selected for cold temperature performance. Heating Elements locate directly under toes. Recharger globally accepts input ranging from 100-240VAC, 50/60Hz. Following temperatures and durations are approximations only as ratings are affected by recharging process and various tolerances of batteries and electronics. Durations are determined when Battery Packs are used in ambient temperature of -4°F (-20°C).

TEMPERATURE & DURATION CHART				
Set.	Approx. Avg. Temp. Range		Duration Range	
	°C	°F	Power Plus e4	Power Plus e3
1	29°-35°	84°-95°	16.5-19.5 hrs	14.5-17.75 hrs
2	42°-48°	107°-118°	7-9.25 hrs	5.5-7 hrs
3	50°-56°	122°-132°	5-6.5 hrs	3.5-5.5 hrs
4	70°-76°	158°-168°	2.5-4 hrs	2-3.5 hrs
Based on Battery Pack in ambient temperatures of -22° to -15° C (-9° to +4° F) Based on Heating Element in ambient temperatures of 20° to 26° C (68° to 79° F)				

### OPERATING BATTERY PACK SETTINGS

1. To turn on or off, press-and-hold ON or OFF until LED light is ON or OFF (~2.0 seconds).
2. To change setting, press-and-hold ◀ or ▶ until setting LED light changes (~0.5 seconds).
3. Once selected, setting 4 auto-sets to setting 3 after 3 minutes ("timed setting 4"). ("Timed setting 4" LED lights are ON continuously and do NOT blink.)
4. To use "continuous setting 4", start at "timed setting 4", then press and hold ▶ until all LED lights blink (~5.0 seconds). ("Continuous setting 4" LED lights BLINK continuously until setting is changed.)
5. DO NOT USE "TIMED SETTING 4" or "CONTINUOUS SETTING 4" for more than three minutes at a time as it may become too hot and may result in burns. SEE CAUTIONS REGARDING BURNS.

### BATTERY PACK LED LIGHTS (LEDs)

1. Battery Pack LEDs indicate power is on or off and setting selected. LEDs do not indicate charge level.
2. LEDs will not light when batteries are fully discharged, are below minimum voltage cutoff level, or do not have enough power to heat Element.

### EXCESS HEAT ON ANY SETTING, INCLUDING OFF

1. WHEN BATTERY PACK LED stays ON and CANNOT BE TURNED OFF, water may be around electrical contacts, may cause Heating

Element to become hot at any setting, and MAY RESULT IN BURNS. See CAUTIONS REGARDING BURNS.

2. WHEN BATTERY PACK IS ON ANY SETTING, INCLUDING OFF, and you feel your foot getting hot, you think you might be getting a burn, or you experience any early warning sensations of a burn, IMMEDIATELY UNPLUG Heating Element from Battery Pack and IMMEDIATELY REMOVE your foot from FootWarmer. See CAUTIONS REGARDING BURNS.

### USING HEAT SETTINGS

1. Use FootWarmer to maintain comfort and warmth. (Note: Prevent feet from getting cold. Warming cold feet requires more energy, is less effective, and is not intended use of FootWarmer.)
2. Before going into cold, set at 1, 2, or 3 to maintain comfort and warmth.
3. For additional burst of heat, set to "timed setting 4". "Timed setting 4" auto-sets to setting 3 after 3 minutes.
4. DO NOT USE "TIMED SETTING 4" or "CONTINUOUS SETTING 4" for more than three minutes at a time as it may become too hot and may result in burns. SEE CAUTIONS REGARDING BURNS.
5. Heat does not thermostatically cycle on and off. Settings 1 and 2 maintain warmth AND save energy.

### WHAT TO EXPECT OF HEAT SETTINGS

1. Expect imperceptible heat to maintain comfort and warmth.
2. Do not expect "fireplace toes".
3. Learn what personally works best over time.
4. Think of your FootWarmer as Thermo Active Insulation (TM). As cold penetrates through insole, it draws heat off Element rather than toes. Balanced heat is imperceptible yet maintains comfort and warmth. Too much heat and feet feel excess heat. Too little heat and feet feel cold penetrating through.
5. If feet are comfortable yet feel excess heat, turn to lower setting to minimize perspiration and maximize battery duration.
6. If feet begin to feel cool, turn setting up to maintain comfort and warmth.
7. If you think FootWarmer is not working, try turning left Battery Pack off. If left foot becomes colder, FootWarmer is working.
8. Ability to feel heat and maintain comfort and warmth depends upon: proper installation; type, fit, and dryness of footwear, sock, and insole; foot callus size; activity levels; weather conditions; and other factors.
9. Expect bottom of toes to feel heat less than fingers and hands.

### COMFORT AND WARMTH RANGES

When first learning use of FootWarmer, following chart may help in setting selection. Chart represents approximate ranges for comfort and warmth maintenance. First determine outside temperature then select setting based on personal sensitivity to cold. More sensitive select left of range. Less sensitive select right.

COMFORT AND WARMTH RANGES										
OUTSIDE TEMPERATURES										
°	C	>0	0	-4	-7	-10	-12	-15	-18	-21
Setting	F	>32	32	25	20	15	10	5	0	-5
1		•	•	•	•	•				
2			•	•	•	•	•			
3					•	•	•	•	•	•

## THE STRENGTHS OF HOTRONIC'S FOOTWARMER POWER PLUS!

### TIPS ON USING FOOTWARMER

1. Extremely poor circulation or extremely cold conditions may require setting 2 or 3 for comfort and warmth. Extra Battery Packs extend all day comfort and warmth.
2. Do not allow chair lift to hit you! Damage may result to you and your FootWarmer.
3. Be careful walking down stairs! Battery Packs may catch stair edge when mounted on back of boots.
4. Place heated insole (fabric surface up) directly underneath socked foot. Do not place another insole over heated insole.
5. Proper fitting boots help maintain comfort and warmth. Tight boots and improper fit restrict blood flow and compromise comfort and warmth.

### DRY BOOTS! DRY SOCKS!

1. If boots and socks are wet, expect cold feet.
2. Wet conductive heat loss is 23 times greater than dry heat loss. (W. L. Gore & Associates, 1994)
3. Feet perspire more than any other part of your body except your head and hands. Each foot perspires about 1/4 cup of water a day at rest and one full cup when active. (W. L. Gore & Associates, 1994)
4. Maintain dry boots! Dry after each use! Each additional day of moisture buildup makes warm feet more difficult. Consider boot dryer (i.e. Hotronic's Snapdry Boot & Glove Dryer).
5. Remove inner boots to dry between liner and boot shell.
6. Maintain dry, clean socks! Change midday for afternoon comfort and warmth.
7. Use single pair of medium weight socks. Select wool blend, polypropylene®, or thermax® type socks to wick moisture away and keep feet dry and warm.
8. Do not use thick socks, neoprene socks, or reflective sock liners as these keep heat from toes.
9. Do not use cotton or other moisture absorbing socks.

### RECHARGING BATTERY PACKS

- **CAUTION - WARRANTY:** Use Hotronic's White Plug Recharger ONLY for Power Plus e / m Series Battery Packs (e4, e3, m4, m3). Using other than Hotronic's White Plug Recharger voids Warranty.
- **CONDITIONING CHARGE:** When Battery Pack is new or has not been used for 2 months or more, it is recommended to charge Battery Pack for 24 to 72 hours uninterrupted. Conditioning Charge brings new, unused, or unconditioned Battery Pack to full duration and temperature potential.
- **RECOMMENDED OVERNIGHT RECHARGING PROMPTLY AFTER EACH USE:** Hotronic's Recommended Process of Overnight Recharging Promptly After Each Use helps maintain properly conditioned Battery Pack throughout season and during long periods of non-use. To further optimize charge levels after a week or more of non-use, repeat Overnight Recharging Process the night before next use.
- **FULLY CHARGED IN APPROXIMATELY 3 HOURS OR LESS:** Hotronic's White Plug Recharger detects when one or more batteries within Battery Pack are fully charged and automatically switches to trickle current recharging (Recharger LED is green) after approximately 3 hours or less of full current recharging. Fully charged, properly conditioned Battery Pack reaches full duration and temperature potential. Fully charged, unconditioned Battery Pack does NOT reach full duration and temperature potential. (See Conditioning Charge.)
- **SUMMER AND LONG TERM STORAGE:** Recharge Battery Pack as per instructions for Recommended Overnight Recharging Process,

turn Battery Pack off, and store without Recharger or Heating Element plugged in. **RECOMMENDED BEST STORAGE TEMPERATURES** range from 5°-25°C (40°-80°F).

- **ELECTRIC INPUT:** Recharger accepts electric input ranging from 100-240VAC, 50-60Hz.
- **OCCASIONAL FULL DISCHARGE:** While not required of NiMH batteries, Hotronic recommends an occasional full discharge before fully recharging to help maintain optimal strength. Plug Heating Element into Battery Pack and use "continuous setting 4" for quickest discharge. Battery Pack is fully discharged when Heating Element is no longer warm and all LEDs are off.

**RECHARGE WHEN BATTERY PACK IS OFF:** Hotronic recommends recharging when Battery Pack is off. (Battery Pack is off when all LEDs are off.) However, Battery Pack MAY be recharged at any setting. If recharging while on setting 1, 2, 3, or 4, **DO NOT CHANGE SETTING DURING RECHARGING** as this may cause recharging process to stop.

1. Plug Recharger into wall outlet using correct plug adapter (North American, European, or other).
  - a. Recharger performs short self-test with brief red LED followed by brief green LED and then LED off.
2. Attach each Battery Pack to Recharger.
3. Recharger LED is continuous red when detecting Battery Pack status and during initial current and full current recharging.
  - a. If Battery Pack status is not okay or is not compatible, Recharger LED will blink red within 20 minutes of continuous red.
  - b. Maximum duration for continuous red is approximately 3 hours at which time Recharger LED becomes green.
4. Recharger LED is green once one or more batteries within Battery Pack are fully charged and indicates trickle current recharging. (See Conditioning Charge.)
  - a. One Battery Pack may reach full charge before other.
5. Battery Pack may be removed at any time during recharging process and may be re-attached to Recharger at any time.
6. Once Recharging Process is complete:
  - a. Unplug Battery Pack from Recharger.
  - b. Unplug Recharger from wall outlet.
7. To maintain maximum charge after recharging, turn Battery Pack off and store without Recharger or Heating Element plugged in.

### WHAT TO EXPECT OF BATTERY PACKS

1. Expect all battery types to lose strength over time.
2. Expect optimal performance of newer Battery Packs.
3. Expect optimal performance with use shortly after recharging.
4. Expect less than optimal performance after recharging as each week or month passes before use.
5. Expect shorter durations and lower temperatures of unconditioned Battery Packs. Unconditioned Battery Packs are the result of being new or unused for 2 months or more. (See Conditioning Charge.)
6. Unconditioned Battery Packs can be used without harm to batteries.
7. Battery self-discharge rates may range from 2 to 5 percent per month when stored at ambient temperature of ~20°C (~68°F).
8. When Battery Packs are unplugged and left on settings 1, 2, 3, or 4, a significant increase in discharge results.
9. When unplugging Recharger from wall outlet, also unplug Battery Packs from Recharger. When not unplugged, damage may occur to Recharger and a significant increase in Battery Pack discharge may occur regardless of setting.

## THE STRENGTHS OF HOTRONIC'S FOOTWARMER POWER PLUS!

### TIPS ON RECHARGING

1. When Recharger green LED is on (trickle current recharging), Battery Pack may remain on Recharger indefinitely.
2. However, as further protection against possible battery damage, Hotronic DOES NOT recommend leaving Battery Pack on Recharger for extended periods of time such as 24 hours or more (except during Conditioning Charge). Damage may result from power outage, surge, or brownout.
3. To confirm wall outlet is NOT controlled by switch, plug in Recharger, attach Battery Pack, and confirm continuous red LED status. Recharger's red LED is on continuously when outlet current is active and goes off within seconds when outlet is turned off by switch.
4. One or two Battery Packs may be recharged on one Recharger per above instructions.
5. Any combination of Power Plus e / m Series Battery Packs (e4, e3, m4, m3) may be recharged simultaneously on same Recharger.
6. Hotel room razor outlets (and other Ground Fault Current Interrupter outlets) are not recommended.

### TIPS ON SUMMER & LONG TERM STORAGE

1. For summer and long term storage, recharge Battery Pack as per Recommended Overnight Recharging Process instructions, turn Battery Pack off, and store without Recharger or Heating Element plugged in.
2. Prior to use after summer and long term storage, perform Battery Pack Conditioning Charge for 24 to 72 hours uninterrupted.
3. Do not store (or keep overnight) Battery Pack at temperatures above 105°F (40°C) as this will harm batteries.
4. Do not store (or keep overnight) Battery Pack at temperatures at or below freezing (32°F) (0°C) as it may harm batteries.
5. Do not store (or keep overnight) Recharger at temperatures below -4°F (-20°C) or above 149°F (65°C) as this may harm Recharger.

### OTHER MISCELLANEOUS TIPS

1. All Hotronic FootWarmers within a given model essentially have same total energy output. Tolerances in micro-controllers, micro-processors, micro-chips, and batteries result in any setting being slightly warmer while not lasting as long and vice versa.
2. Battery Packs are water resistant. Should water get inside, hold, shake, and place upside down until dry. See CAUTIONS REGARDING BURNS.
3. Heating Elements and Insoles are water resistant. If wet, drying completely prolongs life.
4. Replacement parts and accessories are available at your Hotronic Dealer.
5. Sending in Warranty Card helps insure proper coverage.

### CAUTIONS REGARDING BURNS

Use of Hotronic FootWarmer may result in burns. The higher the temperature setting, the higher the risk of burns.

- IT IS USER'S RESPONSIBILITY TO:
  - Properly use Hotronic FootWarmer according to Instructions.
  - Understand his or her own individual sensitivity to heat and susceptibility to burns.
  - Understand his or her own individual early warning sensations of a burn.
  - Remove his or her feet from source of heat before a burn may occur.
- SOME EARLY WARNING SENSATIONS OF A BURN are:
  - When any area of your feet becomes hot.

- When any area of your feet feels like you are standing on a small pebble or pointed object and may or may not feel hot.
- The colder one's feet are, the sharper the sensation may feel.
- Early warning sensations of a burn may differ from person to person.
- IMMEDIATELY UNPLUG Heating Element from Battery Pack and IMMEDIATELY REMOVE your foot from FootWarmer if you feel your foot getting hot, if you think you might be getting a burn, or if you experience any early warning sensations of a burn. Do not reuse FootWarmer until you are certain your foot is no longer at risk of being burned. SEE A PHYSICIAN IMMEDIATELY if you think you have a burn.
- DO NOT USE heat setting 4 for more than three minutes at a time. It may become too hot for continuous use and may result in burns.
- CONSULT WITH YOUR PHYSICIAN prior to using FootWarmer if you might have any physiological condition or are using any medication or drug which increases skin sensitivity or reduces skin sensation to heat. Such physiological condition or medication increases risk of burns. Some physiological conditions or medications which increase skin sensitivity or reduce skin sensation to heat are calluses on feet, diabetes, cardiovascular problems, nervous system disorders, Raynaud's syndrome, and tetracycline. Other physiological conditions or medications which increase skin sensitivity or reduce skin sensation to heat may exist.
- DO NOT WAIT until your feet are cold to turn temperature setting up because cold feet reduce skin's sensation to heat and increase risk of burns.
- DO NOT USE damp or wet socks because presence of moisture increases heat transfer and may increase risk of burns.
- DO NOT USE Hotronic Heating Element (1) without fabric covering Heating Element or (2) with Heating Element directly exposed on surface of insole.
- NOT RECOMMENDED FOR USE by infants, toddlers, children, or individuals incapable of knowing, understanding, or acting upon early warning sensations of a burn.
- DO NOT USE while consuming drugs or alcohol because these may increase skin sensitivity, reduce skin sensation to heat, or reduce one's ability to detect early warning sensations of a burn. Such drugs or alcohol may increase risk of burns.
- DO NOT USE while sleeping.
- WATER AROUND ELECTRICAL CONTACTS may cause Heating Element to become hot at any setting and MAY RESULT IN BURNS.
- WHEN BATTERY PACK LED stays ON and CANNOT BE TURNED OFF, water may be around electrical contacts, may cause Heating Element to become hot at any setting, and MAY RESULT IN BURNS. If you feel your foot getting hot, think you might be getting a burn, or experience any early warning sensations of a burn, IMMEDIATELY UNPLUG Heating Element from Battery Pack and IMMEDIATELY REMOVE your foot from FootWarmer. Dry out Battery Pack, plug area, and Heating Element plug. Do not use again until Battery Pack LED CAN BE TURNED OFF. Consider Battery Pack LED a water presence indicator. MAINTAIN CAUTION REGARDING BURNS at all times.

### CAUTION: USE HOTRONIC BRAND COMPONENTS ONLY

- DO NOT USE any non-Hotronic branded, look-alike components with the Hotronic FootWarmer as it MAY BE UNSAFE and MAY RESULT IN BURNS.
- Connecting any Hotronic battery pack or heating element with a non-Hotronic battery pack or heating element MAY RESULT IN BURNS at any setting including "0" (off).

## THE STRENGTHS OF HOTRONIC'S FOOTWARMER POWER PLUS!

- Connecting any Hotronic battery pack or recharger with a non-Hotronic battery pack or recharger MAY BE UNSAFE.
- Contact Hotronic directly if you have any questions regarding this.

### CAUTIONS REGARDING RECHARGING

- Recharger is FOR INDOOR USE ONLY.
- Recharger is INTENDED FOR CORRECT ORIENTATION AND CONNECTION to power outlet at all times.
- Recharger is intended FOR USE ONLY WITH Hotronic's rechargeable Nickel-metal-hydride (NiMH) e/m Series Battery Packs (e4, e3, m4, m3) as specified in Operating Instructions.
- DO NOT ATTEMPT TO RECHARGE other types of rechargeable or non-rechargeable batteries with this Recharger (other than NiMH as specified in Operating Instructions) as this may cause personal injury and damage to Recharger.
- KEEP DRY. TO PREVENT FIRE OR ELECTRICAL SHOCK, do not expose this unit to rain or moisture.
- DO NOT OPERATE THIS RECHARGER with damaged plug.
- DO NOT REPAIR OR ATTEMPT TO REPAIR Recharger, Battery Pack, or any other Hotronic branded electrical unit, component part, or accessory in any situation.
- NOT INTENDED FOR USE by young children or infirm persons without supervision.
- SUPERVISE YOUNG CHILDREN to ensure they do not play with Recharger and / or any component part or accessory of FootWarmer.
- WHEN THERE IS AN EMERGENCY CASE, immediately unplug all Battery Packs from Recharger and unplug Recharger from power outlet. Contact Hotronic distributor or dealer.
- SOME EMERGENCY CASES are smoke coming from Recharger, shape change, liquid or material leakage, and unit dropped and broken. Other emergency cases may exist.

### CAUTIONS

- ATTACH BATTERY PACK SECURELY at all times as loss of Battery Pack is NOT covered under Manufacturer's Limited Warranty.
- SETTING 4 HAS INCREASED IN TEMPERATURE (as of 7/95) and MAY RESULT IN BURNS.
- USE OF FOOTWARMER DOES NOT ASSURE that freezing or frostbite of foot will not occur. As always, use caution and good judgment when you are in cold temperatures.
- DO NOT CAUSE ELECTRICAL LEADS in plug area of Battery Pack to touch as there is DANGER OF A SHORT CIRCUIT.
- DO NOT USE FOOTWARMER IF ANY BATTERY PACK ELECTRICAL LEADS ARE BENT such that any two leads may contact upon further use. Such contact may cause an increase in temperature output of Heating Element and MAY RESULT IN BURNS or such contact may result in a SHORT CIRCUIT.
- DO NOT DAMAGE Battery Pack by use of undue external force.
- DO NOT DISPOSE of Battery Pack by throwing in a fire as there is DANGER OF EXPLOSION.
- DO NOT PUT ANY METAL OBJECTS into plug area of Battery Pack as there is DANGER OF A SHORT CIRCUIT.
- DO NOT CAUSE UNDUE OR EXCESSIVE WEAR, TEAR, OR ABRASION to Power Cord as there is DANGER OF A SHORT CIRCUIT.
- INSPECT ALL RECHARGER AND HEATING ELEMENT POWER CORDS for exposed wires prior to plugging into Battery Packs or electrical outlet as exposed wires may result in a SHORT CIRCUIT.
- DO NOT WRAP RECHARGER OR HEATING ELEMENT POWER CORDS AROUND BATTERY PACKS while plugged into Battery Packs as this may result in a SHORT CIRCUIT.

- DO NOT PLUG RECHARGER PLUG INTO BATTERY PACK BACKWARDS as there is DANGER OF A SHORT CIRCUIT.
- DO NOT CUT Power Cord or Heating Element.
- DO NOT KINK Power Cord or Heating Element.
- BATTERY PACK MAY CONTAIN HAZARDOUS MATERIALS and may require specific disposal. Contact Hotronic distributor or dealer or local recycling agency for proper disposal method.