



## Operation and Maintenance Manual for the HW 50 Soldering System

P/N 5050-0533

	<b>Voltage</b>	<b>Part Number</b>
HW 50 HEATWISE™ System	115 VAC	8007-0425
HW 50 HEATWISE™ System	230 VAC	8007-0426



TITLE	PAGE
General Information .....	3
Introduction.....	3
Specifications .....	3
Parts Identification.....	4
Safety .....	5
Safety Guidelines .....	5
System Set-Up .....	5
Mounting Options .....	5
Tip & Tool Stand.....	6
Adjusting the Angle of the Cubby .....	6
Handpiece Connection .....	6
System Power Up .....	6
Definitions.....	7
Operation.....	7
HW 50 Heat Wise System.....	7
Auto-Setback and Auto-Off Features .....	8
Optional Instant Setback Cubby.....	8
Corrective Maintenance .....	8
Handpieces.....	8
Power Source.....	8
Replacement Power Modules .....	9
Packing Contents .....	9
Service .....	9
“SODRTEK by PACE” LIMITED WARRANTY STATEMENT.....	10
Contact Information.....	11

## **General Information**

### **Introduction**

Thank you for purchasing the PACE model HW 50 Soldering System. This manual will provide you with the information necessary to properly set up, operate, and maintain the HW 50.

The HW 50 system is available in either 115 VAC or 230 VAC versions, which incorporate a highly responsive, closed loop control system providing up to 55 Watts of total output power. The 230 VAC version system bears the CE Conformity Marking, which assures the user that it conforms to EMC 89/336/EEC.

The 115 VAC version systems conform to FCC Emission Control Standard, Title 47, Subpart B, Class A. This standard is designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

### **Specifications**

<b>Specification</b>	<b>HW 50</b>
Power Requirements	97-127 VAC 50/60 Hz, 80 W Max or 197-253 VAC 50/60 Hz, 80 W Max
HW 50 Dimensions	184mm H x 107mm W x 122mm D (7.25" H x 4.2" W x 4.8" D)
Tip & Tool Stand Dimensions	71mm H x 88mm W x 195 mm D (2.8" H x 3.5" W x 7.7" D)
HW 50 Weight	1.6 Kgs (3.5 lbs)
TD-100 Handpiece Weight	88.2 g (3.1 oz)
Tip to Ground Resistance	< 2 Ohms
Temperature Stability	Within +/- 5 °C (9 °F), idle tip temperature
Absolute Temperature Accuracy	N/A
Heat Level/Temperature Range	260 °C - 454 °C (500 °F – 850 °F) Available Power Module Heat Levels: 5, 5.5, 6, 6.5, 7, 7.5, 8, & 8.5

## Parts Identification



## Safety

### Safety Guidelines

The following are safety precautions that personnel must understand and follow when using or servicing this product.

1. **POTENTIAL SHOCK HAZARD** - Repair procedures on PACE products should be performed by Qualified Service Personnel only. Line voltage parts may be exposed when the equipment is disassembled. Service personnel must avoid contact with these parts when troubleshooting the product.
2. To prevent personnel injury, adhere to safety guidelines in accordance with OSHA and other applicable safety standards.
3. Heater Cartridge Tips are hot when the handpiece is powered on and for a period of time after power off. **DO NOT** touch the cartridge. Severe burns may result.
4. PACE Tip & Tool Stands and handpiece cubbies are designed specifically for use with the associated handpiece and houses it in a manner that protects the user from accidental burns. Always store the handpiece in its holder. Be sure to place the handpiece in its holder after use and allow for cooling before storing.
5. Always use PACE systems in a well ventilated area. A fume extraction system such as those available from PACE are highly recommended to help protect personnel from solder flux fumes.
6. Exercise proper precautions when using chemicals (e.g., solder paste). Refer to the Material Safety Data Sheet (MSDS) supplied with each chemical and adhere to all safety precautions recommended by the manufacturer.

### System Set-Up

Set up the HW 50 system using the following steps and associated images.

1. Store the shipping container in a convenient location. Reuse of these containers will prevent damage if you store or ship your system(s).
2. Place the Power Switch in the "OFF" or "0" position.

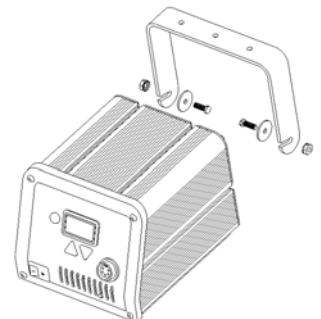
Power Switch



### Mounting Options

The HW 50 can be placed directly on a workbench or mounted under a workbench or shelf to conserve space (**optional mounting bracket, PN 1321-0609-P1 is sold separately**). Mount the system in this way (ST 45 shown):

1. Mount the bracket in the desired location (fasteners not supplied).
2. Insert the 2 Mounting Screws (head first) into the power source mounting slots.
3. Place the washers over the screws.
4. Fit the power source between the bracket's support arms and place the screws into the slots on the support arms.

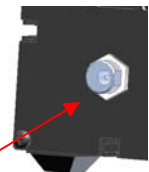
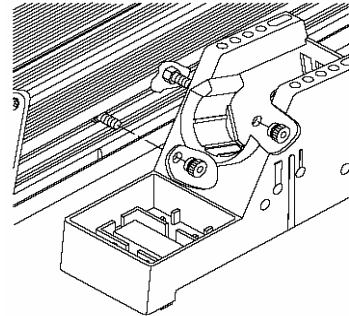


5. Place the nut on the screw and tighten by hand.
6. Angle the power source so the operator can see the front panel easily and tighten the nuts with a wrench or pliers.

### Tip & Tool Stand

The Tip & Tool Stand can be mounted to the power source. If the system will be placed on the workbench, this is recommended. If the HW 50 is to be mounted under the workbench or shelf, the Tip & Tool Stand should not be mounted to the power source.

1. To attach the stand to the power source:
  - a) Insert the 2 large hex head Mounting Screws (head first) into the lower "T" slot on the side of the power source case as shown.
  - b) Place the Tip & Tool Stand beside the power source. Insert ends of the 2 Mounting Screws into the 2 Tip & Tool Stand mounting holes as shown.
  - c) Install a Thumb Nut onto the end of each Mounting Screw and tighten Thumb Nuts.
  - d) If the Optional Instant Setback Cubby is purchased (Part Number 6019-0071-P1), connect the Cubby connector plug into the Instant Setback Cubby Receptacle in the following manner.



Instant Setback Cubby Receptacle

2. Place the handpiece into its Tip & Tool Stand.

### Adjusting the Angle of the Cubby

The angle of the Handpiece Cubby may be adjusted by loosening the angle thumb screw slightly, adjusting the cubby to the desired angle, and tightening the thumb screw.



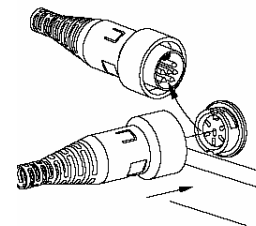
Thumb Screw

### Handpiece Connection

Connect the handpiece connector plug into the Power Receptacle in the following manner.

**NOTE:** Only connect the handpieces with the red connectors to the HW 50.

1. Align guide on the connector with slot on power receptacle.
2. Insert connector into power receptacle.
3. Turn the connector housing clockwise to lock in place.



### System Power Up

1. Insert the female end of the power cord into the AC Power Receptacle on the rear panel of the power source.

2. Plug the prong end (male end) of the power cord into an appropriate 3 wire grounded AC supply receptacle.

**CAUTION:** To insure operator and ESD/EOS safety, the AC power supply receptacle must be checked for proper grounding before initial operation.

**NOTE:** Ensure that the system is placed in a well-ventilated area. Fume extraction equipment is recommended

## Definitions

Please read and become familiar with the definitions of each of the following terms that are used repeatedly in the following operational procedures.

**Temperature Setback:** System feature that will independently set back the Set Tip Temperature to 177°C (350°F) after a 30 minute period of handpiece inactivity.

**Auto-Off:** Safety feature that turns power off (30 minutes after the system has entered Temperature Setback).

## Operation

### **HW 50 Heat Wise System**

The HW 50 requires the use of a Power Module. The Power Module selects the desired heat level for operation. The HW 50 comes standard with three Power Modules, Heat Levels 6.5, 7, & 7.5. Additional Power Modules are available in heat levels of 5, 5.5, 6, 8, and 8.5. Please refer to the Accessory Section for Power Module part numbers. A heat level of 5 corresponds to a nominal temperature of 500 °F; a heat level of 6.5 corresponds to a temperature of 650 °F, etc. Actual temperatures may vary due to tip geometry.

Verify the following:

- a) Handpiece connection to the power source.
- b) Power cord connection between an appropriate AC supply receptacle and the power source.

If the power is turned on while a Power Module is not installed, or if the Power Module is removed during operation, the system will turn itself off and the LED indicator light on the front panel will turn red. To operate the unit, please make sure the set-up procedure has been followed, then follow the procedure below.

1. Install the desired Tip Cartridge.
2. Install the desired Power Module into the Power Port on the front of the unit.
3. The LED indicator will turn amber while the tip is heating to the desired performance level.
4. Once the tip has reached the desired heat level, the LED indicator will turn green and the system is ready to use.

Front Panel LED



Power Module Receptacle

**Auto-Setback and Auto-Off Features**

The HW 50 system comes standard with Auto-Setback and Auto-Off Features. These are pre-programmed for 30 minute Setback and 30 minute Auto Off, which can be turned off by the switch on the back of the unit. When Setback mode has been entered, the heat level will be adjusted to 3.5.

The following chart explains the function of the LED Indicator Light.

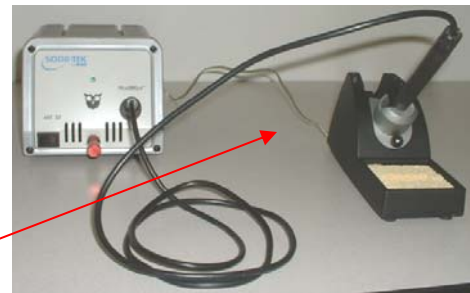
	<b>LED Indicator Activity</b>
Power On	Amber → Green
Normal Operation	Green
Tip Cartridge Removed	Red
Heater Open Sensor	Red
System In SetBack	Amber or Green*
System in Auto-Off	
System reactivated after Auto-Off	Amber → Green*

\*The LED will be Amber or Green depending on the color when it entered Setback, or Auto Off.

**Optional Instant Setback Cubby**  
(Part Number 6019-0071-P1)

The HW 50 can also be used with the Instant Setback Cubby. When the TD-100 handpiece is inserted into the Cubby, the system will automatically go into the Setback Mode. Once the Handpiece is removed from the Cubby, the HW 50 will return to normal operation.

Instant Setback Cable



**Corrective Maintenance**

**Handpieces**

Please refer to the TD-100/MT-100 Handpiece Manual for the maintenance procedures.

**Power Source**


Refer to the table below. Most malfunctions are simple and easy to correct.

<b>Symptom</b>	<b>Probable Cause</b>	<b>Solution</b>
No power to system	Blown Fuse	Replace the fuse (located in the AC Receptacle Fuse Holder) with one of the same rated value.
	No Supply Voltage	Verify that the AC outlet is active.
Handpiece will not heat	Defective Heater	Change Tip Cartridge. Refer to the TD-100/MT-100 Handpiece manual for the maintenance procedures.
	Power Source Malfunction	Contact PACE

Power Source Corrective Maintenance



**Replacement Power Modules**

	<b>Description</b>	<b>PACE Part Number</b>
	Power Modules	
	5/Green	1207-0362-01-P1
	5.5/Blue	1207-0362-02-P1
	6/Orange	1207-0362-03-P-1
	6.5/Gold	1207-0362-04-P1
	7/Red	1207-0362-05-P1
	7.5/Purple	1207-0362-06-P1
	8/Black	1207-0362-07-P1
	8.5/Silver	1207-0362-08-P1

**Packing Contents**

<b><u>Description</u></b>	<b><u>HW 50 System</u></b>	<b><u>HW 50 E System</u></b>
Power Supply	8007-0425	8007-0426
Power Cord	1332-0094	1332-0093
Handpiece	TD-100 (6010-0132-P1)	TD-100 (6010-0132-P1)
Tip & Tool Stand	1257-0258-P1	1257-0258-P1
Power Module Kit Contains 6.5, 7, & 7.5 Modules	1207-0365-P3	1207-0365-P3
Hot Grip Removal Pad	1100-0307-P1	1100-0307-P1

**Service**

Please contact PACE or your local distributor for service and repair.

**“SODRTEK by PACE” LIMITED WARRANTY STATEMENT**

**Limited Warranty**

Seller warrants to the first user that products manufactured by it and supplied hereunder are free of defects in materials and workmanship for a period of one (1) year from the date of receipt by such user. Monitors, computers and other brand equipment supplied but not manufactured by PACE are covered under their respective manufacturer's warranty in lieu of this Warranty.

This warranty does not cover wear and tear under normal use, repair or replacement required as a result of misuse, improper application, mishandling or improper storage. Consumable items such as tips, heaters, filters, etc. which wear out under normal use are excluded. Failure to perform recommended routine maintenance, alterations or repairs made other than in accordance with Seller's directions, or removal or alteration of identification markings in any way will void this warranty. This warranty is available only to the first user, but the exclusions and limitations herein apply to all persons and entities.

**SELLER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

Seller will, at its option, repair or replace any defective products at its facility or other location approved by it at no charge to user, or provide parts without charge for installation by the user in the field at user's expense and risk. User will be responsible for all costs of shipping equipment to Seller or other location for warranty service.

**EXCEPT FOR THE REMEDY ABOVE DESCRIBED, UNLESS OTHERWISE REQUIRED BY APPLICABLE LAW, SELLER WILL HAVE NO OTHER OBLIGATION WITH REGARD TO ANY BREACH OF WARRANTY OR OTHER CLAIM WITH RESPECT TO THE PRODUCTS, OR LIABILITY FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, OR INCIDENTAL LOSS OR DAMAGE CAUSED BY OR OCCURRING IN CONNECTION WITH ANY OF THE PRODUCTS.**

Warranty service may be obtained by contacting the appropriate PACE Company or local Authorized PACE distributor as set forth below to determine if return of any item is required, or if repairs can be made by the user in the field. Any warranty or other claim with respect to the products must be made with sufficient evidence of purchase and date of receipt, otherwise user's rights under this warranty shall be deemed waived.

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Annapolis Junction, Maryland 20701  
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FAX. 301-498-3252

For PACE EUROPE Customers:

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Tilbrook, Milton Keynes  
MK7 8HX  
United Kingdom  
Tel. (44) 1908 277666  
WARRANTY SERVICE FAX: (44) 1908 277 777

All other Customers:

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