



# Operation and Maintenance Manual for the HW 200 Rework System

(P/N 5050-0519, Rev A-PRM)

	<b>Voltage</b>	<b>Part Number</b>
HW 200 HEATWISE™ System	115 VAC	8007-0407
HW 200 HEATWISE™ System	230 VAC	8007-0408



(Shown with optional TD-100 and MT-100 Handpieces)

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**Introduction**

The HW 200 is a dual channel power supply that is capable of powering any combination of TD-100 Thermo-Drive Soldering Irons and MT-100 MiniTweezers (both sold separately). Each channel can be controlled separately and are active simultaneously. The system uses Power Modules to control the performance level of the attached handpieces and a wide range of Power Modules are available. Power Modules are clearly visible from a distance so you can tell what performance level operators are using for quick and easy process verification. The system also comes standard with Auto-Setback and Auto-Off functions to preserve tip life.

**Packing Contents**

<b>Description</b>	<b>Part Numbers</b>
HW 200 Power Supply	
AC Power Cord	
Power Module 7 (2)	1207-0362-05-P1
CD Manual	

**Specifications**

<b>Specification</b>	<b>HW 200</b>
Power Requirements	97-127 VAC 50/60 Hz, 150 W Max or 197-253 VAC 50/60 Hz, 150 W Max
Dimensions	184mm H x 107mm W x 122mm D (7.25" H x 4.2" W x 4.8" D)
Weight	3.8 Kgs (8.3 lbs)
Tip to Ground Resistance	< 2 Ohms
Temperature Stability	Within +/- 5 °C (9 °F), idle tip temperature
Absolute Temperature Accuracy	N/A
Performance Level Range	260 °C - 425 °C (500 °F – 800 °F) Available Power Module Performance Levels: 5, 5.5, 6, 6.5, 7, 7.5, & 8

**Environmental Requirements**

Ambient Operating Temperature: 0 °C to 50 °C (32 °F to 120 °F)  
 Storage Temperature: -20 °C to 75 °C (-4 °F to 170 °F)  
 95% Humidity, non-condensing max.

**Electrical Specification**

1.3 Amp 115 VAC, 60 Hz Max OR .7 Amp, 230 VAC, 50 Hz Max  
 Fuse: 2 Amp, SloBlo 115 V System  
 1 Amp TimeBlo, 230 V System



Figure 1: HW 200 System

**Safety Guidelines**

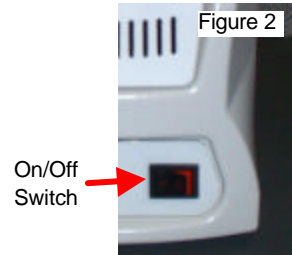
**English Language Safety Guidelines:** The following are safety precautions that personnel must understand and follow when using or servicing this product.

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. Handpiece heaters and installed tips are hot when the handpiece is powered on and for a period of time after power off. **DO NOT** touch either the heater or the tip. 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 200 system using the following steps and associated images.

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

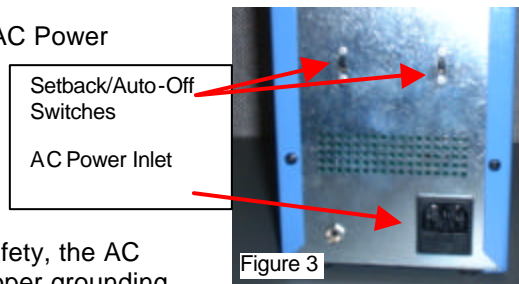


**Mounting Options**

1. The HW 200 can be placed directly on a work surface or can be placed inside the optional Tool Chest.

**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 when melting solder or heating flux or flux containing solders.

**Handpieces**

The HW 200 can be used with any combination of TD-100 ThermoDrive Soldering Irons and MT-100 MiniTweezers. These handpieces are purchased separately. The part number for the TD 100 with Tip & Tool stand is 6993-0242-P1 and the part number for the MT-100 with Tip & Tool stand is 6993-0243-P1.

**Handpiece Tip & Tool Stands**

The Tip & Tool Stand is usually placed on the workbench next to the power source.

**Adjusting the Angle of the Cubby**

The angle of the TD-100 Cubby may be adjusted by loosening the angle adjustment screw slightly, adjusting the cubby to the desired angle, and tightening the adjustment screw. See Figure 4.



Figure 4

The MT-100 Cubby is not adjustable.

**Handpiece Connection**

Notice that the handpiece connectors on the HW 200 are red. Only plug in handpieces that have the red connector. See Figure 5.

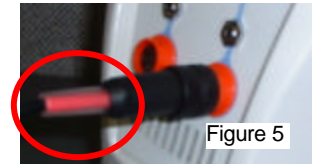


Figure 5

To connect the handpiece to the power supply, refer to figure 6. Connect the handpiece connector plug into the Power Receptacle in the following manner.

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.

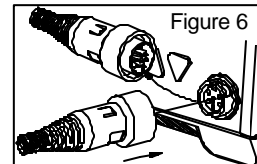


Figure 6

**Tip Cartridge Installation for the TD-100 and MT-100**

Both TD-100 and MT-100 tip cartridges are fitted with a key lock device. This feature ensures that tip cartridges are held firmly in position and will maintain their orientation. MT-100 tip cartridges CANNOT be fully inserted into the TD-100 and TD-100 tip cartridges CANNOT be fully inserted into the MT-100. To install a tip cartridge, please follow the procedure below.

1. Line up the key lock feature on the tip cartridge with the notch on the front of the handpiece. See Figure 7.
2. Push the tip cartridge all the way into the handpiece.

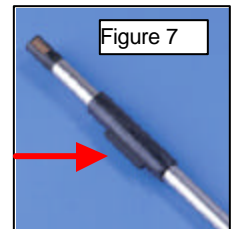


Figure 7

To remove a tip cartridge, use the hot grip removal pad that is included with each handpiece to grasp the tip cartridge and pull the tip cartridge out of the handpiece. Be careful when completing this procedure as the tip cartridge may be hot and direct contact can cause injury.



***Tips cartridges can be changed at any time and without turning off the power to the unit.***

**Operation of the HW 200 HeatWise System**

The HW 200 requires the use of a Power Module. The Power Module selects the desired heat/performance level for operation. The HW 200 comes standard with two #7 Power Modules. Additional Power Modules are available in performance levels of 5, 5.5, 6, 6.5, 7.5, and 8. 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 nominal temperature of 650 °F, etc. Actual temperatures may vary slightly due to tip geometry.

Verify the following:

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

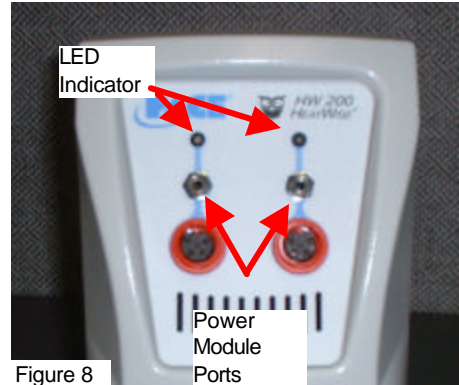


Figure 8

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. See Figure 8.

To operate the unit, please make sure the set-up procedure has been followed. Then follow the procedure below.

1. If using the TD-100 handpiece, make sure the desired Tip Cartridge is installed. If using the MT-100, make sure the desired pair of tips are installed.
2. Install the desired Power Module into the Power Port on the front of the unit that corresponds to the appropriate handpiece channel.
3. The LED indicator will turn amber while the tip(s) is(are) heating to the desired performance level.
4. Once the tip has reached the desired level, the LED indicator will turn green and the system is ready to use.

To preserve tip life and save energy, the HW 200 system comes standard with Auto-Setback and Auto-Off Features. These are pre-programmed for 30 minute Auto-Setback and 30 minute Auto-Off, which can be turned off by the switch on the back of the unit. If the handpiece has not been used for 30 minutes, the channel will enter setback mode, the performance level will be adjusted to 3.5 and the LED will blink amber. To exit Setback mode, place the tip in the sponge to load it thermally or turn the Power Switch OFF ("0") and then back ON ("1"). After another 30 minute period of inactivity the channel will turn off and the LED will turn off. To exit Auto-Off mode, cycle the system power. The Setback/Auto-Off feature can be turned off for each channel individually. Refer to Figure 9 for the location of each switch. As received from the factory, this feature is enabled.

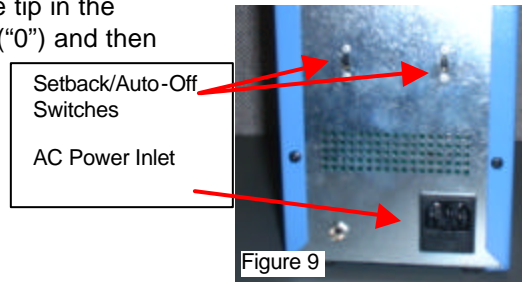
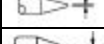
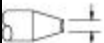



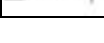


Figure 9





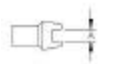


**Available Tips/Accessories**

A wide variety of tip cartridges are available for use with either the TD-100 Soldering Iron. Please refer to the table below for available tip cartridge styles.

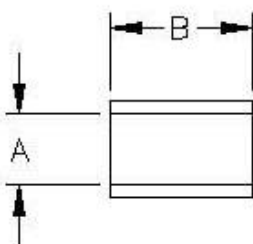
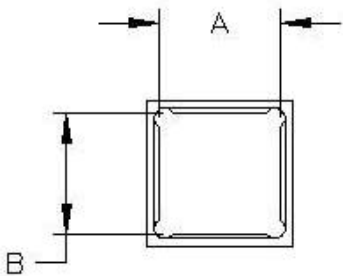
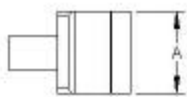
	<b>PACE P/N</b>	<b>Description</b>
	1124-0001-P 1	1/32" Conical Sharp Extended
	1124-0002-P 1	1/64" Conical Sharp
	1124-0003-P 1	1/64" Conical Sharp Bent 30 Degrees
	1124-0004-P 1	1/64" Conical Sharp Extended
	1124-0005-P 1	1/32" Conical
	1124-0006-P 1	3/128" Conical
	1124-0007-P 1	1/16" 90 Degree Chisel
	1124-0008-P 1	3/64" 30 Degree Chisel
	1124-0009-P 1	3/64" 30 Degree Bevel
	1124-0010-P 1	13/64" Chisel
	1124-0011-P 1	1/64" 60 Degree Bevel
	1124-0012-P 1	1/32" 30 Degree Chisel
	1124-0013-P 1	3/32" 30 Degree Chisel
	1124-0014-P 1	5/64" 60 Degree Bevel
	1124-0015-P 1	1/64" Conical, Sharp, Bent 30 Degrees, Extended
	1124-0016-P 1	3/64" Chisel Bent 30 Degrees
	1124-0017-P 1	1/16" 60 Degree Chisel
	1124-0018-P 1	1/32" Conical Sharp Extended
	1124-0019-P 1	1/16" 30 Degree Chisel
	1124-0020-P 1	1/8" 90 Degree Chisel
	1124-0021-P 1	3/128" Conical Sharp Bent 30 Degrees
	1124-0022-P 1	1/16" Conical Sharp
	1124-0023-P 1	1/8" 90 Degree Chisel Extended
	1124-0024-P 1	1/16" 30 Degree Bevel
	1124-0025-P 1	1/16" Conical Sharp Extended
	1124-0026-P 1	1/16" Chisel Bent 30 Degrees
	1124-0027-P 1	3/128" Conical Sharp, Extended
	1124-0028-P 1	3/64" Chisel, Bent 30 Degrees, Extended
	1124-0029-P 1	1/32" 30 Degree Bevel
	1124-0030-P 1	1/32" Conical Sharp

	1124-0031-P1	Heat Staking
	1124-0032-P1	MiniWave
	1124-0033-P1	Angled MiniWave, 3.3 mm
	1124-0034-P1	Single Sided Chisel
	1124-0035-P1	Angled MiniWave, 2.4mm
	1124-0036-P1	1/128" Conical
	1124-0037-P1	1/4 Flat Blade
	1124-0038-P1	Single Sided Chisel, Fine Pitch
	1124-0039-P1	Angled MiniWave, Fine Pitch
	1124-0040-P1	MicroFine Single Sided Chisel, 0.9mm (.035")
	1124-0041-P1	MicroFine Single Sided Chisel, 1.1mm (.045")
	1124-0042-P1	MicroFine Conical, 0.25mm (.01")
	1124-0043-P1	MicroFine Bent Conical, 0.75mm (.03")
	1124-0044-P1	MicroFine Bent Conical, 0.5mm (.02")
	1124-0045-P1	Angled Micro-Wave Tip
	1124-0046-P1	Micro-Wave Tip

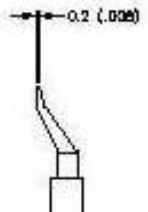
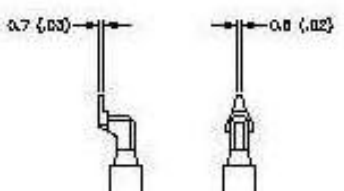
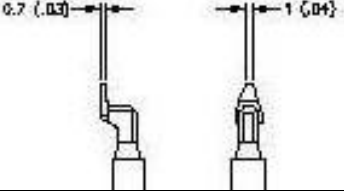
**Surface Mount Removal Tips for TD-100 Soldering Iron**

	<b>Component Type</b>	<b>Dimension A</b>	<b>Dimension B</b>	<b>Part Number</b>
	Chip 402 Angle	2.2mm (.085")		1124-0518-P1
	Chip 1808	5mm (.195")		1124-0520-P1
	Chip 402	1mm (.04")		1124-0521-P1
	SOT 23	1.8mm (.07")		1124-0522-P1
	SOT 89	2.8mm (.11")		1124-0523-P1
	Chip 1206	3.6mm (.142")		1124-0524-P1
	Chip 0805	2.4mm (.095")		1124-0525-P1



	SOIC 14/16	5.2mm (.205")	10.5mm (.415")	1124-0504-P1
	SOIC 20	9.6mm (.377")	13.6mm (.535")	1124-0505-P1
	SOP 28	10.8mm (.426")	18.6mm (.734")	1124-0506-P1
	SOP 40	11.9mm (.467")	25.7mm (1.01")	1124-0507-P1
	SOP 44	13.1mm (.516")	28.4mm (1.12")	1124-0508-P1
	TSOP 56	18.8mm (.739")	14.1mm (.557")	1124-0509-P1
	TSOP 28	12mm (.471")	8.5mm (.333")	1124-0510-P1
	SOIC 8	5.1mm (.202")	4.65mm (.183")	1124-0519-P1
	TSOP 40	18.8mm (.74")	10.4mm (.410")	1124-0526-P1
		PLCC 28 Socket	9.3mm (.365")	9.3mm (.365")
PLCC 32		14.2mm (.561")	11.7mm (.459")	1124-0512-P1
PLCC 44		16.8mm (.662")	16.8mm (.662")	1124-0513-P1
QFP 144		20.6mm (.81")	20.6mm (.810")	1124-0514-P1
PLCC 28		11.8mm (.465")	11.8mm (.465")	1124-0515-P1
QFP 100/128		22mm (.865")	16mm (.628")	1124-0516-P1
PLCC 20		9.3mm (.365")	9.3mm (.365")	1124-0527-P1
PLCC 18		7.6mm (.3")	12.8mm (.505")	1124-0528-P1
TQFP 80		12.5mm (.491")	12.5mm (.491")	1124-0529-P1
PLCC 52		19.4mm (.762")	19.4mm (.762")	1124-0530-P1
	Blade	10.8mm (.425")		1124-0501-P1
	Blade	16mm (.630")		1124-0502-P1
	Blade	21.2mm (.835")		1124-0503-P1
	Blade	25MM (.984")		1124-0532-P1

A wide variety of tip cartridges are available for use with either the MT-100 MiniTweezer. Please refer to the table below for available tip cartridge styles.

	<b>PACE P/N</b>	<b>Description</b>
	.1124-1001-P1	Chip 0.2mm (.008")
	1124-1002-P1	Chip 0.5mm (.03")
	1124-1003-P1	Chip 1mm (.04")

	<p>1124-1004-P1</p>	<p>Chip 2mm (.08")</p>
	<p>1124-1005-P1</p>	<p>SOP 6 6mm (.24")</p>
	<p>1124-1006-P1</p>	<p>SOP 8 8mm (.31")</p>
	<p>1124-1007-P1</p>	<p>SOP 10 10 mm (.39")</p>
	<p>1124-1008-P1</p>	<p>SOP 13 13mm (.51")</p>

Accessory and replacement parts for the HW 100 and TW 100 are listed below.

	Description	PACE Part Number
	<p>Tip Case – Holds 10 Tips (Tips not included)</p>	<p>1310-0034-P1</p>
	<p>Tip Stand – Allows for an additional 10 tips to be stored on the tool stand. (Shown with TC 100 Tool Stand, tips not included)</p>	<p>1321-0639-P1</p>

	TD-100 Handpiece (Tip cartridge not included)	6010-0132-P1
	Replacement TD-100 cord assembly	3008-0131-P1
	Replacement O-rings for TD-100. Package of 5.	1213-0090-P5
	TD-100 Tool Stand (TD 100 Handpiece and tips not included)	1257-0258-P1
	MT-100 Handpiece (Tips not included)	6010-0140-P1
	TD-100 Tool Stand	6010-0069-P1
	Power Modules	1213-0090-P5
	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
	Hot Grip Removal Pad	1100-0307-P1

**Corrective Maintenance**

**Handpieces**

The TD-100 handpiece features replaceable O-rings that protects the contact area from flux fume and other contamination. The O-ring may need to be replaced over time.

To replace the O-ring in the TD-100 follow the procedure below:

1. Disconnect the TD-100 from the power source
2. Remove the tip cartridge
3. Unscrew the cap from the back of the TD-100
4. Slide the connector assembly out of the handle
5. Remove and replace the old O-ring from the connector assembly (Old "O" ring may remain in handle)
6. Reinstall the connector assembly. Be sure to line up the keyways on the handle and connector assembly. Do not force the connector assembly into the handle.
7. Reinstall the cap and make sure it is fully seated against the handle
8. Install a tip cartridge

The O-rings on the MT-100 do not need to be replaced.

**Power Source**

Most malfunctions are simple and easy to correct. Refer to Table 3.

Symptom	Probable Cause	Solution
No power to system	Blown Fuse	Replace the fuse (located in the AC Receptacle Fuse Holder) with one of the same rated value.
Handpiece will not heat	Defective Heater	Change Tip Cartridge
	Power Source Malfunction	Contact PACE

Table 3: Power Source Corrective Maintenance

**Applicable Regulations**

The HW 200 system is available in either 115 VAC or 230 VAC versions, which incorporate a highly responsive, closed loop control system providing up to 150 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.

**Service & Warranty**

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

**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 three (3) years from the date of receipt by such user. Blowers and motor pumps (which wear out during normal use) are warranted for a period of one (1) year.

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 plates 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.

Defective products may not be returned to PACE without a Service Authorization ("SA") Number.

Any warranty or other claim with respect to the products must be made in writing delivered to PACE (or local Authorized PACE distributor for Buyers outside the USA and the United Kingdom) within a reasonable time of the expiration date of this warranty with sufficient evidence of purchase and date of receipt, otherwise user's rights under this warranty shall be deemed waived.

PACE Incorporated retains the right to make changes to specifications contained herein at any time, without notice. Contact your local authorized PACE Distributor or PACE Incorporated to obtain the latest specifications.

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PACE products meet or exceed all applicable military and civilian EOS/ESD, temperature stability and other specifications including MIL STD 2000, ANSI/JSTD 001, IPC7711, and IPC A-610.



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