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Operation and Maintenance Manual for
ADS200 Soldering System w/TD-200 Handpiece

Manual 5050-0589
Rev. Date 2-25-2020

This manual applies to:

Model	Firmware Revision	Required Power	Part Number
ADS200 w/Standard Tool Stand	1-4	120 VAC	8007-0578
ADS200 w/ISB Tool Stand	1-4	120 VAC	8007-0579
ADS200 w/Standard Tool Stand	1-4	230 VAC	8007-0580
ADS200 w/ ISB Tool Stand	1-4	230 VAC	8007-0581

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General Information

Introduction

Thank you for purchasing the ADS200 Soldering System. This manual will provide you with the information necessary to properly set up, operate, and maintain your system. Please read this manual thoroughly before using the system.

The systems featured in this guide are available in either 115 VAC or 230 VAC versions. All of these models incorporate AccuDrive® technology. The 230 VAC version systems bear the CE Conformity Marking, which assures the user that it conforms to EMC 89/336/EEC. All models featured in this manual are lead free compatible and comply with RoHS and WEEE directives.

These systems all meet or exceed the ANSI requirements for Soldered Electrical and Electronic Assemblies, J-STD-001. Additionally, they meet or exceed the requirements for electrostatic discharge set forth by ANSI/ESD S20.20. Compliance with both of these standards is ensured by testing up to 50 MHz using the methodology described in ANSI/ESD S13.1 2015.

Specifications

Input Power Requirements	For 120V systems, 97-127 VAC at 50/60 Hz
	For 230V systems, 197-253 VAC at 50/60 Hz
Output Power	120 Watts Maximum Output
Dimensions	104 mm **H** x 130 mm **W** x 152 mm **D** 4.1" **H** x 5.1" **W** X 6" **D**
Weight	2.3 kg (5 lbs)
RoHS Compliant	Yes
Control Technology	AccuDrive®
Tip-to-Ground Resistance	2 Ohms or less
Temperature Accuracy	Meets or Exceeds ANSI/J-STD-001
Temperature Range	177-454°C (350-850°F)
Tips	AccuDrive® Blue Series Tip-Heater Cartridges
Soldering Iron	TD-200 AccuDrive®
Standard Tool Stand	Can hold up to 7 tips. Includes sponge in a stay-moist well and brass wool tip cleaner.
Instant SetBack Tool Stand	Included with 8007-0579 and 8007-0581. Available separately as item 6019-0089-P1

Refer to the Setup and Operation section page 5 for the feature settings set as default by the factory. There is not a factory reset option for feature settings, changes must be made manually.

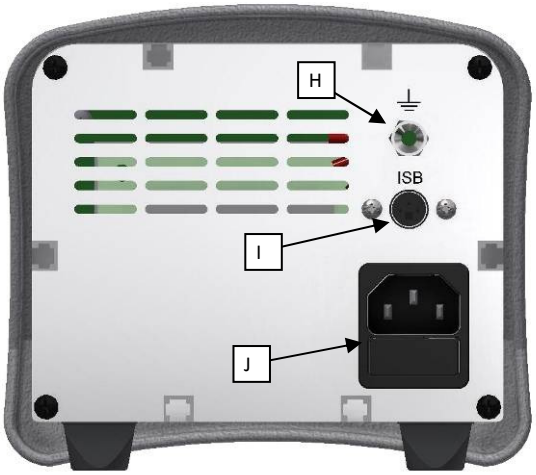
Temperature Specifications

AccuDrive® Blue Series Tip-Heater Cartridges connected to the ADS200 have a Tip Temperature Range of 177 to 454°C (350 to 850°F).
Digital Readout Resolution: ±1° (°C or °F)
Tip Temperature Stability: ±1.1°C (2°F) while at idle.
Temperature Accuracy: Meets or exceeds ANSI/J-STD-001

EOS/ESD Specifications

Tip-To-Ground Resistance: Less than 2 ohms.
AC Leakage: Less than 2 Millivolts RMS from 50 Hz to 100 MHz.
Transient Level: Less than 500 mV peak, out to 100 MHz.

Power Supply Features



	Feature	Description
A	Program button	For access to program menu, presets, and confirmation of settings.
B	Power switch	On/off control of power supply.
C	Up arrow button	Increase set temperature and scroll through program menu functions.
D	Down arrow button	Decrease set temperature and scroll through program menu functions.
E	Power Receptacle	Front panel connection of handpiece.
F	Digital control LED	Indicates status of power supply.
G	Digital display	Displays temperature setting and menu functions.
H	Ground jack	For ground system to static safe work area.
I	ISB connection	Connection for Instant SetBack tool stand.
J	Power inlet with fuse	Connection for IEC power cord and fuse replacement/storage.

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. Line voltage parts may be exposed when the equipment is disassembled. Service personnel must avoid contact with these parts when troubleshooting the product.
2. Tip-Heater Cartridges are hot when the handpiece is powered on and will remain so for a period of time after power off. **DO NOT** touch the heater or the tip. Severe burns may result.
3. PACE Tip & Tool Stands 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 the Tip-Heater Cartridge to cool before storing.
4. Always use PACE systems in a well-ventilated area. Fume extraction systems, such as those available from PACE, are highly recommended to help protect personnel from solder flux fumes.
5. Exercise proper precautions when using chemicals (e.g., solder paste or flux). Refer to the Material Safety Data Sheet (MSDS) supplied with each chemical and adhere to all safety precautions recommended by the manufacturer.
6. **WARNING -** The handpiece must be placed into the stand when not in use.
7. This equipment is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the equipment by a person responsible for their safety.

System Set-Up

Set up the AccuDrive® system using the following steps.

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

Handpiece Connection

The ADS200 is designed to work with the AccuDrive® TD-200 Tip-Heater Cartridge Iron and the AccuDrive® specific Blue Series Tip-Heater Cartridges, which have a blue end-cap. **Caution:** Using other handpieces or Tip-Heater Cartridges may result in damage to your ADS200 system or the attached handpieces and accessories.

Connect the handpiece connector to the Power Receptacle in the following manner.

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

Instant SetBack Tool Stand Connection

If your system includes the Instant SetBack Tool Stand (ISB Tool Stand), follow the steps below.

1. Connect cable from tool stand to receptacle located on the rear panel of the ADS200 power supply.
2. Position the tool stand on workbench within operator reach.
3. Insert TD-200 with Tip-Heater Cartridge into the tool stand.
4. Turn ADS200 power switch to the on position.
5. When the TD-200 handpiece is inserted into the Instant SetBack tool stand, the ADS200 will activate Temperature Setback Mode after a delay of 0 to 240 seconds (set from factory for 30 seconds.) When the handpiece is removed from the tool stand, the system will resume normal operation.

System Power

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.

Setup and Operation

Operation

1. Ensure the Set-Up procedure has been performed. Check the following:
    - Handpiece connection to the power source.
    - Proper Tip-Heater Cartridge is installed in handpiece.
    - Power cord is connected to both an appropriate AC supply and the ADS200 unit.
2. Turn the Power Switch On ("I").
3. Press the Scroll Up (▲) Key. After a brief start-up sequence, the Set Temperature will be displayed.
4. Adjust the tip temperature by pressing and holding Scroll Up (▲) Key or Scroll Down (▼) key. Observe the display as the Set Temperature increases first in increments of 1° and then in increments of 10°. When the desired temperature is reached, release the key.
5. NOTE: The Set Temperature can only be adjusted within the defined temperature limits which will be 260°- 460°C (500°-800°F) as set at the factory. If the upper limit has been reached, the display will read “HiL”; if the Lo limit is reached, the display will read “OFF”. Temperature limits can be adjusted in the Set-Up menu.

Digital LED Display - Normal Operation

The Digital LED Display provides a 3-digit display of information. The LED Display will show different things about the unit such as:

1. "888" on initial power up to ensure that all sections of the display are working.
2. The software version of the installed microprocessor (e.g., "1-9") for 2 seconds on initial power up after the "888" is displayed.
3. Actual temperature of the connected handpiece, during normal operation.
4. The display will alternate between “Sbt” and the temperature when the system is in Temperature SetBack mode.
5. "OFF" with stable display when the Set Temperature has been set below the minimum lower temperature limit.
6. "OFF" with flashing display when the unit has entered AutoOff mode. Refer to page 8 for more information.

Error messages "CHP" or "OCE" will appear if a system fault is detected. Refer to the "Corrective Maintenance" portion of this manual.

Digital Control LED Indicator Light

The colored LED on the power source front panel indicates when the handpiece is heating, has reached the set temperature, or if a fault has occurred. In the factory default Temperature Match Mode of "OC0" the following LED conditions are observed;

LED Full On Red – A fault has occurred such as nothing is plugged into the Power Receptacle on the front of the unit or the Tip-Heater Cartridge is not fully inserted into the handle. Check the Tip-Heater Cartridge installation and the handpiece connection to the front panel.

LED Full On Green – The Tip-Heater Cartridge has reached the Set Temperature.

LED Full On Amber – The Tip-Heater Cartridge in the connected handpiece is currently heating up to the Set Temperature.

LED Off - Unit is not turned on or is in Temperature SetBack.

For description of LED behavior in other Temperature Match Offset Control Modes, refer to the chart below.

<table>
<tr><th>Temperature Match Mode</th><th>LED during heating without a Temperature Match value</th><th>LED at temperature without a Temperature Match value</th><th>LED during heating with Temperature Match value</th><th>LED at temperature with a Temperature Match value</th><th>LED after removing /changing tip when power is on</th><th>LED after removing handpiece when power is on</th><th></th></tr>
<tr><td>OCO</td><td>Solid amber</td><td>Green</td><td>Solid amber</td><td rowspan="6">Green</td><td>no change</td><td>no change</td><td rowspan="2">While in this mode, removing the Tip-Heater Cartridge or handpiece while the unit is on will clear any existing Temperature Match value.</td></tr>
<tr><td>OC1</td><td colspan="2" rowspan="4">Blinking amber</td><td rowspan="4">Green</td><td colspan="2">Blinking amber</td></tr>
<tr><td>OC2-L0</td><td rowspan="2">Solid amber</td><td rowspan="3">Blinking amber</td><td>If the LED is solid amber, the existing Temperature Match value is still in use.</td></tr>
<tr><td>OC2-L1</td><td>If the LED is solid amber, the existing Temperature Match value is still in use. To return the LED to green, hold down the Program key for 5 seconds.</td></tr>
<tr><td>OC3</td><td>Green</td><td>If the LED is blinking amber, there is no value for Temperature Match in the system.</td></tr>
</table>

Digital Display - Temperature Adjust Mode

The LED Display will show the following when adjusting the desired Set Tip Temperature.

1. The Set Tip Temperature.
2. "HiL" (High Temperature Limit) when adjusting the set tip temperature and the maximum allowable temperature is exceeded. Refer to the "Set-Up Mode" portion of this manual.
3. "OFF" (Low Temperature Limit) when adjusting the set tip temperature and the minimum allowable temperature is exceeded. Refer to the "Set-Up Mode" portion of this manual.

Tip-Heater Cartridge Temperature Match Offset

To enter a Temperature Match Offset value into the ADS200, perform the following steps.

1. Clear any/all existing offset from the system by disconnecting the handpiece from the system. Re-connect the handpiece and proceed to step 2.
2. Select your desired temperature.
3. Measure the actual temperature of the tip with your temperature verification device. Note results.
4. Turn the system off.
5. To enter the Temperature Match Offset value: Press and hold the Program Key (●) and the Scroll Up Key (▲) while turning the system on. Release both keys when the software version appears.
6. The display will now read “tIP”. Press the Scroll Up Key (▲) or Scroll Down Key (▼) to enter the measured temperature from step 4. For example, if your temperature verification device reading was 695 ºF, scroll through until the display reads 695.
7. Press the Program Key (●) to save calibration. Upon exiting, LED will illuminate green and the display will return to normal operation mode.

Default Factory Settings

The ADS200 system comes equipped with a number of features, which may be adjusted by the user. Listed below are the default settings of each. To change and/or learn about any of these features, refer to the applicable part of the “Customizing Your System” section of this manual.

Feature	Factory Setting
Password	None Entered
Default Temperature Scale (ºC/ºF)	ºF for 115 VAC Systems
	ºC for 230 VAC Systems
“HI” Temperature Limit	427 ºC (800 ºF)
“LO” Temperature Limit	260 ºC (500 ºF)
SetBack Timer	Enabled, 30 minutes
Auto Off	Enabled, 60 minutes
Instant SetBack Timer	Enabled, 30 seconds

Feature	Factory Setting
Preset 1	343 ºC (650 ºF)
Preset 2	371 ºC (700 ºF)
Preset 3	399 ºC (750 ºF)
SetBack Temperature	177 ºC (350 ºF)
Temperature Match Mode	“0C0”
Set Temperature	371 ºC (700 ºF)
Temperature Match Value	“0”

Customizing Your System

The menu driven LED Display of the systems allows you to easily customize your system. In Set-Up Mode, you can:

- Enter, remove or change a Password.
- Set the Default Temperature scale to ℉ or ℃.
- Change the Upper and Lower Temperature limits.
- Enable or disable the Temperature Setback feature and adjust the time-out period (if enabled).
- Enable or disable the Auto Off feature and adjust the time-out period (if enabled).
- Adjust the time-out period for the Instant SetBack tool stand, if one is being used.
- Set any of the 3 available Temperature Preset points.
- Adjust the temperature that the system goes to during Temperature SetBack.
- Change how the Temperature Match is stored or cleared.

Entering Set-Up Mode

The following instructions should be performed to familiarize the operator with the system.

1. Place Power Switch in the “OFF” (“0”) position.
2. Press and hold the Program Key (●) while turning the Power Switch on (“I” position). Release all keys when the software version is displayed.

Password

3. The LED Display will show the version of the microprocessor and change to read “P--”or "EP".
   - If the display reads "EP", a Password has been stored in system memory. The password must be entered to access the menu. If the wrong password is entered, "no" will appear on the display and the system will return to normal operation. If this occurs, repeat steps 1 & 2 and enter the correct Password.
   - Once the LED Display reads "P--". Choose one of the following options:

   - Press the Program Key (●) to keep the currently stored password (even if there is no password) and move on to the next setting or
   - Set a password by selecting a 3 digit number using the keypad (▲▼). (1 to 999). Make a note of the entered password for future reference. Selecting 000 and saving the changes will erase the password and allow access to the menu without entering one the next time. Press the Program Key (●) to advance to the next setting.

Temperature Scale

4. The Digital Display now shows the stored default Temperature Scale, either ℃ or ℉. Choose one of the following:
   - Press the Program Key (●) to keep the stored default Temperature Scale.
   - Use the Scroll Up Key (▲) to change the default Temperature Scale.
   - Press and release the Program Key (●) to proceed to the next step

Temperature Limits

5. The Digital Display will show the stored default High ("Hi") Temperature Limit by alternating to show "Hi" and the stored limit. Choose one of the following:

- Press and release the Program Key (●) to keep the stored High Temperature Limit.
- Adjust the stored High Temperature Limit using the keypad. (▲▼) Cannot be adjusted below the Low Temperature Limit.
- Press and release the Program Key (●) to proceed to the next step.

6. The Digital Display now shows the stored default Low ("Lo") Temperature Limit with the display alternating to show "Lo" and the stored limit. Choose one of the following:

   - Press and release the Program Key (●) to keep the stored Low Temperature Limit.
   - Adjust the stored Lo Temperature Limit using the keypad. (▲▼)
   - Press and release the Program Key (●) to proceed to the next step.

The allowable temperature range of the ADS200 is between 177°C (350°F) and 454°C (850°F). The Low Temperature Limit cannot be adjusted higher than the High Temperature Limit. These limits control how high or low the Set Temperature can be adjusted to during normal operation.

Automatic Setback Timer

What is Temperature Setback? To preserve tip life and save energy, the system can be programmed to automatically set its Tip Temperature to a lower set point (adjustable during step 11) after a selectable period of inactivity (factory setting of 30 minutes). As received from the factory, this feature is enabled at 30 minutes and a temperature of 177°C (350°F). There are 3 ways to exit Temperature Setback; pressing the Scroll Up or Scroll Down keys (▲▼), flipping the power switch off then on again, or holding the tip against a damp sponge. Upon exit of the Temperature Setback, the unit will resume normal operations and the handpiece heat back up to the Set Temperature.

7. The Digital Display now shows the stored Automatic Setback time as "S-X" (x=0 thru 9). Time is shown as tens of minutes (e.g., "S-3" equals 30 minutes). A display of "S-0" indicates that Setback is disabled. Choose one of the following:

   - Press and release the Program Key (●) to keep the currently stored Temperature Setback time.
   - Adjust the stored Temperature Setback value using keypad. (▲▼)
   - Press and release the Program Key (●) to proceed to the next step.

AutoOff

What is AutoOff? When enabled, the AutoOff safety feature turns off the power to the handpiece after a pre-selected time (between 10- 90 minutes) from the system entering Temperature Setback. When the system has entered Temperature Setback, a timer within the system circuitry will start running.

If any key is pressed during the selected time out period, the AutoOff and Setback timers are reset. The system will return to normal operation. At the end of the time out period, the system will enter Auto Off. Power is turned off to the heater and the Digital Display will show a flashing “OFF”. Exiting Auto Off: Auto Off can be exited; returning to normal operation by pressing and releasing a Key (any of the 3 keys), or by turning the Power Switch OFF (“0”) and then back ON (“1”).

8. The Digital Display now shows the stored Auto Off time as "AOx" (x=0 thru 9). Time is shown as tens of minutes (e.g., "AO8" equals 80 minutes). A display of "AO0" indicates that Auto Off is disabled. Choose one of the following:

- Press and release the Program Key (●) to keep the currently stored Auto Off time.
- Adjust the Auto Off value using the keypad.
- Press and release the Program Key (●) to proceed to the next step.

Instant SetBack Timer

9. The Digital Display will alternately show “ISb” and a value between 000 and 240 representing seconds. This indicates how long of a delay before the system goes into SetBack mode when the handpiece is placed into the Instant SetBack Tool Stand, if one is attached.

   - Press and release the Program Key (●) to keep the currently stored Instant SetBack time.
   - Adjust the stored Instant Setback Timer value using keypad. (▲▼)
   - Press and release the Program Key (●) to proceed to the next step.

Temperature Presets 1-3

10. The Digital Display will now alternate between “PSx” (x= 1 thru 3) and a temperature. These three options control the three Temperature Presets that can be used during normal operation by simply pressing the Program Key (●) to activate them.

   - Press and release the Program Key (●) to keep the currently stored Temperature Preset for Preset 1 or;
   - Adjust temperature value using the keypad. (▲▼)
   - Press and release the Program Key (●) proceed to the next step or to the next feature after “PS3”.

Improving Tip Life Using Temperature Preset: Solder alloys, especially lead-free alloys, are destructive to the protective iron plating on tips and much more aggressively corrosive at any temperature over solder melt. In general, the higher the temperature, the more destructive to the iron plating. To significantly improve tip life, program 350℉ or 177℃ into the PS1 position. When the ADS200 is not in use, press the Program Key to initiate a “Manual Temperature SetBack” and when ready to use the station again push the Program Key twice to re-establish the operating temperature that is in the PS2 position.

SetBack Temperature

11. The Digital Display will now alternate between “Sbt” and a temperature. This is the temperature that the system will go to anytime the system goes into SetBack, either from the built-in timer or from the Instant SetBack Tool Stand.

   - Press and release the Program Key (●) to keep the currently stored Temperature or;
   - Adjust temperature value using the keypad. (▲▼) SetBack Temperature can be set anywhere between 150℃ (300℉) and 230℃ (450℉).
   - Press and release the Program Key (●) proceed to the next step.

Temperature Match Offset Control Mode

12. The Digital Display now shows the options for how it stores or erases the Temperature Match Offset value as "OCx" (x=0 thru 3). Change the Offset Control Mode by pressing Scroll Up Key (▲) or Scroll Down key (▼). Choose one of the following options:

    i. "OC0" (Offset Control 0) – The Temperature Match will be cleared to zero only when the handpiece is disconnected from the system, while it is turned on. Removing the Tip-Heater Cartridge will not clear the Temperature Match. In this Temperature Match control scheme, the LED will be SOLID Amber when the heater is heating up and change to SOLID Green once the heater has reached the Set Temperature.

    ii. "OC1" (Offset Control 1) – The Temperature Match will clear to zero if either the handpiece or the tip is removed from the system. The LED will change from Green to BLINKING Amber in either case.

        - This option could be selected when a variety of different Tip-Heater Cartridges and handpieces are being used and the user would like notification if there is a Temperature Match in use.
        - This option is suitable if the user wants to verify the system anytime the Tip-Heater Cartridge or the handpiece is replaced.

    iii. "OC2" (Offset Control 2) The Temperature Match will clear to zero if the handpiece is removed from the system, but removing the Tip-Heater Cartridge will leave the current Temperature Match in place. The LED will go to BLINKING Amber if the handpiece is removed or it will change to SOLID Amber if the tip is removed.

        - This option may be desirable when using Tip-Heater Cartridges of the same geometry and the Temperature Match does not need to be changed for each one.
        - This option would be beneficial where it is desirable for quick visual determination if the Tip-Heater Cartridge or handpiece has been removed or replaced.

    iv. "OC3" (Offset Control 3) The Temperature Match will clear to zero if the handpiece is removed from the system, but removing the tip will keep the existing Temperature Match. The LED will only be Green if the system has a Temperature Match. In this mode, the LED will change from Green to BLINKING Amber only if the handpiece is removed.

        - This option could be selected in applications when the Tip-Heater Cartridge is rarely replaced or when the same style of Tip-Heater Cartridge is used throughout the application.
        - This option is suitable if the user would like to change the existing Temperature Match only after changing handpieces.

    - Press and release the Program Key (●) to proceed to the next step.

13. If you selected "OC2" (Offset Control 2) then you are greeted with one additional option of L-0 or L-1 which offers a choice of how to return the LED to Green when it is SOLID Amber. In OC2 mode, if the LED is BLINKING Amber, the Temperature Match has been lost and a new one must be entered. If the LED is SOLID Amber, the system is still using the existing Temperature Match.

    - If you select L-0, (Reset Off) - The LED can not reset back to Green without setting a new Temperature Match value.
    - If you select L-1, (Reset On) - Holding the Program Key (●) for 5 seconds will reset the LED back to Green and the existing Temperature Match Offset remains.

Exiting Set-Up Mode

14. The LED Display now reads "End". The Set-Up Mode procedure is now complete. Choose one of the following steps:

- Press and release the Scroll Up Key (▲) to save the changes, exit the Set-Up Menu and return to normal operation.
- Press and release the Scroll Down Key (▼) to return to the start of the Set-Up Menu without saving any changes. Go back to step 3, Password Entry.

Corrective Maintenance

Digital Display Message Codes

Listed below are message codes, which, may be shown on the LED Display if a mistake were to be made by the operator (e.g., wrong Password entry) or if the system has malfunctioned.

LED Display Message	Description
	The incorrect password has been entered. The displayed message will time out after 6 seconds and revert to normal operation. Enter the correct password.
	"Check Handpiece" A handpiece is not connected to the Power Receptacle or is faulty, or the Tip-Heater Cartridge is not properly inserted or faulty.
	"Over Current Error" The Tip-Heater Cartridge circuit is shorted or the handpiece has failed. Replace the Tip-Heater Cartridge.
	"SetBack" Indicates the unit is in Temperature SetBack mode to preserve tip life by preventing oxidation. The display will alternately show "Sbt" and the current tip temperature.

Power Source

Most malfunctions are simple and easy to correct.

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 Tip-Heater Cartridge	Refer to the appropriate handpiece manual
	Power Source Malfunction	Contact PACE

Spare Parts

Description	PACE Part Number
Fuse 1.25 Amp, Time Lag (for 115V)	1159-0251-P5
Fuse 0.63 Amp, Time Lag (for 230V)	1159-0214-P5
Optional under shelf mounting bracket	1321-0609-P1

Item #	Description	Part number
	ADS200, 120V with Standard Tool Stand	8007-0578
	ADS200, 230V with Standard Tool Stand	8007-0590
	ADS200, 120V with Instant SetBack (ISB) Tool Stand	8007-0579
	ADS200, 230V with Instant SetBack (ISB) Tool Stand	8007-0581
1	TD-200 Soldering Iron (Tips not included)	6010-0166-P1
2	Standard Tip & Tool Stand	6019-0088-P1
	Instant SetBack (ISB) Tool Stand (optional, not shown)	6019-0088-P1
3	Brass Tip Cleaner	1129-0018-P1
4	Sponge	4021-0013-P3
5	Hot Grip Removal Pad	1100-0307-P1
6	Tip Tool	1100-0206-P1
7	Power Cord, 115V	1332-0094-P1
7	Power Cord Kit, 230V (Type E/F & Type G)	6993-0294
	Blue Series Tip Heater Cartridges	Tips not included

Optional AccuDrive® Blue Series Tip-Heater Cartridges

For optimum thermal performance, always select the shortest, widest tip with the maximum contact surface area with which you can safely access the work.

Standard Tips

For delicate micro-soldering to challenging, high thermal mass applications

Tip	Description	Part Number
	1/32" Conical Sharp Extended (0.80mm)	P/N 1130-0001-P1
	1/64" Conical Sharp (0.40mm)	P/N 1130-0002-P1
	1/64" Conical Sharp Bent 30° (0.40mm)	P/N 1130-0003-P1
	1/64" Conical Sharp Extended (0.40mm)	P/N 1130-0004-P1
	3/64" 30° Chisel (1.20mm)	P/N 1130-0008-P1
	13/64" Extra Large Chisel (5.15mm)	P/N 1130-0010-P1
	1/64" 60° Bevel (0.40mm)	P/N 1130-0011-P1
	1/32" 30° Chisel (0.80mm)	P/N 1130-0012-P1
	3/32" 30° Chisel (2.38mm)	P/N 1130-0013-P1
	3/64" 30° Bent Chisel (1.20mm)	P/N 1130-0016-P1

Tip	Description	Part Number
	1/16" 30° Chisel (1.59mm)	P/N 1130-0019-P1
	1/8" 90° Chisel (3.18mm)	P/N 1130-0020-P1
	1/16" 30° Bent Chisel (1.59mm)	P/N 1130-0026-P1
	MiniWave® (3.05mm)	P/N 1130-0032-P1
	Angled MiniWave® (3.05mm)	P/N 1130-0033-P1
	Angled MiniWave® (2.11mm)	P/N 1130-0035-P1
	1/128" Conical (0.20mm)	P/N 1130-0036-P1
	1/4" Flat Blade (6.35mm)	P/N 1130-0037-P1
	1/128" Conical, Special (0.20mm)	P/N 1130-0050-P1
	1/8" 30° Chisel (3.18mm)	P/N 1130-0051-P1

Ultra-Performance Tips

Optimized tip geometries and increased thermal pipeline deliver maximum heat throughput

Tip	Description	Part Number
	1/32" Conical Sharp Ext. (0.80mm)	P/N 1131-0001-P1
	1/64" Conical Sharp (0.40mm)	P/N 1131-0002-P1
	1/64" Conical Sharp Bent 30° (0.40mm)	P/N 1131-0003-P1
	3/64" 30° Chisel (1.20mm)	P/N 1131-0008-P1
	13/64" Chisel (5.15mm)	P/N 1131-0010-P1
	1/32" 30° Chisel (0.80mm)	P/N 1131-0012-P1
	3/32" 30° Chisel (2.38mm)	P/N 1131-0013-P1
	1/16" 30° Chisel (1.59mm)	P/N 1131-0019-P1
	MiniWave® (3.05mm)	P/N 1131-0032-P1
	1/4" Knife Blade (6.35mm)	P/N 1131-0037-P1

Tip	Description	Part Number
	1/8" 30° Chisel (3.18mm)	P/N 1131-0051-P1
	1/16" Chisel (1.59mm)	P/N 1131-0052-P1
	1/8" Chisel (3.18mm)	P/N 1131-0053-P1
	3/16" Chisel (4.78mm)	P/N 1131-0054-P1
	1/4" Chisel (6.35mm)	P/N 1131-0055-P1
	9/32" Chisel (7.14mm)	P/N 1131-0056-P1
	5/16" Chisel (7.95mm)	P/N 1131-0057-P1

Service

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

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. This Warranty as applied to blowers, motor pumps, x-ray tubes, lenses, optical/lighting probes and cameras is limited to a period of six (6) months. 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 locations 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.

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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