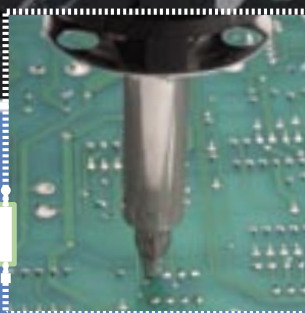
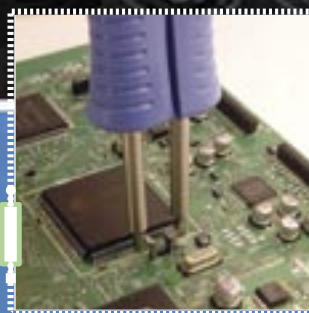




# SOLDERING DESOLDERING & REWORK

LEAD FREE COMPLIANT AND COMPATIBLE



SOLUTIONS FOR THE ELECTRONICS INTERCONNECTION PROCESS



## INTRODUCING PACE ST SYSTEMS

### IN TODAY'S ENVIRONMENT FLEXIBILITY ISN'T JUST IMPORTANT, IT'S THE KEY TO SUCCESS...

Component foot-prints are shrinking, through-put requirements are increasing, and thermally massive power management components (connectors, heat sinks, RF shields, and SMDs) on heavy ground planes **are not** going away anytime soon. Oh yes, let's not forget about the challenges of incorporating Lead Free solders into your process! Being locked into one heat control technology on your Soldering/Desoldering system isn't going to open the door to your success...

The ability to have multiple heating technologies available within a single system directly affects your bottom line. Until now, most systems only offer one type of heating technology which will never fit every application efficiently. The time has come for soldering and desoldering systems to evolve.



#### ....FLEXIBILITY DRIVES THROUGH-PUT!

PACE is proud to introduce your key to future success...The INTELLIHEAT™ Control System. IntelliHeat is the only thermal control system capable of managing multiple types of heating technologies within a single Power Source. There is no longer a need to have multiple Power Sources on your work bench or to force operators to use only one heating technology. Simply plug in any compatible handpiece and IntelliHeat does the rest.

The IntelliHeat Control System allows either SENSATEMP® or Tip-Heater Cartridge based technology handpieces to be plugged into a single Power Source. Finally, the benefits of SENSATEMP® and Tip-Heater Cartridge based technology can be found in a single system, without restriction.

PACE's legendary SENSATEMP® technology is renowned for its temperature stability and ability to handle high mass applications. For smaller components and when through-put is important, there is Tip-Heater Cartridge based technology. Tip-Heater Cartridge based technology is a patented technology that boasts the best response time for high volume applications and easily keeps up in a fast paced environment.

Upgrade your equipment, clear off your work bench and unlock your success with INTELLIHEAT™!

With over 50 years of experience and industry leadership in rework and repair technology and techniques, PACE provides much more than simply equipment. When you purchase PACE products, you receive access to one of the most valuable resources in the industry; PACE's applications and technical support services. Over the years, our applications support services have been the cornerstone of quality assurance and repair reliability for countless customers. Whenever you encounter a new component, a new PCB, Lead Free Solder, or if you just want reassurance that your process is safe and effective, simply contact PACE and we will create a procedure for you that not only identifies the equipment required to do the job correctly, but also every step in the process!

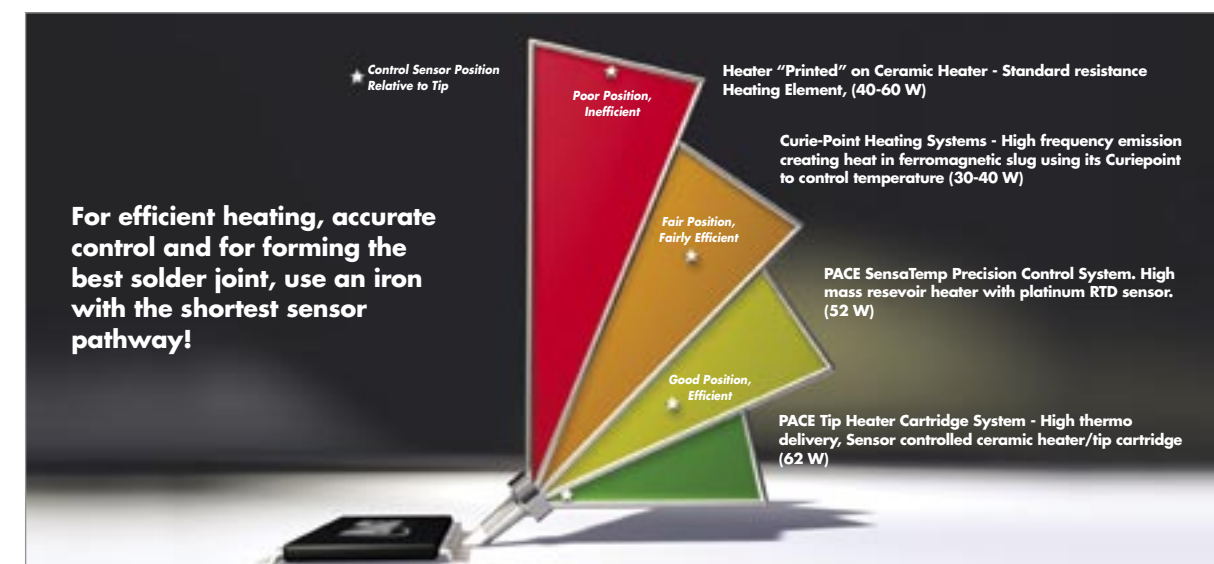
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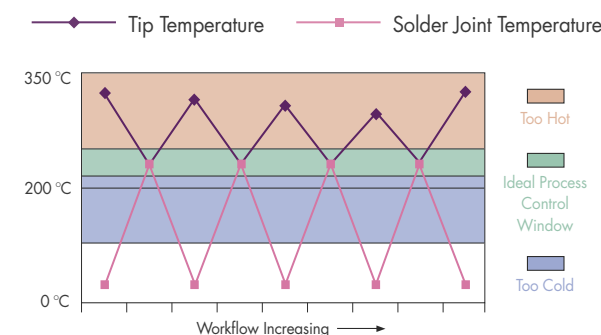
## HEAT TECHNOLOGY TIP HEATER CARTRIDGE & SENSATEMP TECHNOLOGY

**TIP-HEATER CARTRIDGE TECHNOLOGY** The key advantage of Tip-Heater Cartridge based technology is that its advanced electronics provide instantaneous load sensing and on-demand power to quickly reflow solder joints, regardless of the mass of the application. Further, the position of the control sensor is as far forward as possible to immediately respond to the thermal demand of the work. The tip and heater are permanently coupled, ensuring all the heat generated by the heater is available for use by the tip. For applications where the work cycle is high and for micro-miniature applications the direct power approach is ideal as the thermal demand is continuously monitored and the heater responds immediately by providing adequate power to meet the demand from the work, without overshoot.



#### MAINTAINING PERFORMANCE IN THE "GREEN" ZONE IS MORE LIKELY AS SENSOR PATHWAY BECOMES SMALLER

#### IDEAL IRON PERFORMANCE



**SENSATEMP® TECHNOLOGY** At the heart of SensaTemp is a laser trimmed, platinum RTD sensor that is more than 5 times more accurate than conventional thermo-couples. This level of accuracy allows for safe, productive soldering at the lowest possible temperatures. As a result, the amount of time spent reflowing each joint is reduced, minimizing the possibility of damage. Additionally, SensaTemp allows you to change tips, heaters and handpieces at will, without ever having to re-calibrate! SensaTemp's unique heater design acts as a thermal dampener that minimizes tip temperature overshoot, ensures temperature stability and creates a "thermal reservoir" that can be accessed instantaneously when high mass applications are being performed.

SensaTemp delivers consistent, repeatable results regardless of the thermal demand of the work. Its ability to respond quickly is ideal for light work, while its amazing thermal capacity can meet the challenges of the heaviest thermal loads, providing the operator with the flexibility that is essential in today's ever changing environment. Regardless of your application, SensaTemp delivers unsurpassed thermal performance, productivity and "bottom line" savings.



## INTELLIHEAT COMPATIBLE HANDPIECES

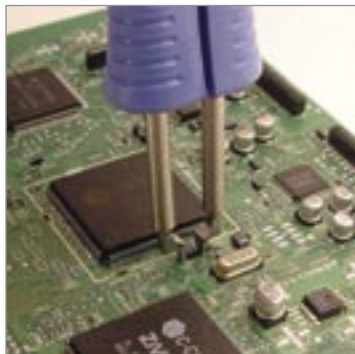
TIP-HEATER CARTRIDGE HANDPIECES PERFECT FOR LEAD FREE



### TD-100 THERMO-DRIVE® SOLDERING IRON

The **TD-100 Thermo-Drive®** Soldering Iron is the only iron crafted by a team of surgical instrument engineers and is uniquely designed to eliminate operator fatigue, improve control and enhance productivity in demanding soldering applications. The TD-100 uses a patented Tip-Heater Cartridge that is the best performing and lowest priced Tip-Heater Cartridge on the market today! Almost 100 soldering tip geometries are available as well as over 30 surface mount removal tips. **See Pages 18-21** for tip selection.

Shown with optional comfort grip 6993-0241-P1



### MT-100 MINITWEEZ™

The only high capacity, micro tweezer (**MT-100 MiniTweez™**) on the market today features soft comfort grips, the smallest stroke available, and its tweezing action mimics the natural motion of the human hand to eliminate hand fatigue. With 10 styles of component removal tips available, the MT-100 is one of the most versatile component removal tweezers and our tips cost less than half of our competitors! **See Page 22** for tip selection.



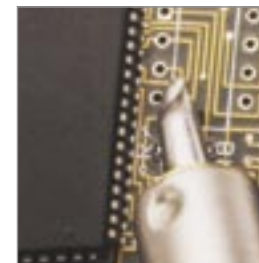
### THERMOPIK® 100

The newest tool for SMT component removal the **ThermoPik® 100**. The TP-100 is designed to reflow and remove QFPs in seconds. The integrated vacuum pik lifts the component from the PCB upon reflow. Based on our unique MT-100 handpiece, there isn't another SMT removal tool that is more comfortable in your hand. Over 10 styles of tips are available. **See Page 22** for tip selection.



## INTELLIHEAT COMPATIBLE HANDPIECES

VERSATILITY, PERFORMANCE AND VALUE SENSATEMP HANDPIECES



### PS-90 UNIVERSAL SOLDERING IRON

The Universal Soldering Iron (**PS-90**) is ideal for most soldering applications and SMT rework operations where high thermal capacity and flexibility are required. The PS-90 features a rugged plug in heater with gold contacts. There are 15 single point soldering tips and over 10 surface mount removal tips available for the PS-90.

**See Pages 23-24** for tip selection



### SX-90 SODR-X-TRACTOR®

The best performing, in-line, vacuum desoldering tool (**SX-90 Sodr-X-Tractor®**) is ideal for Thru-Hole desoldering when fitted with SX-90 Desoldering tips and for SMT land clean-up when fitted with SX-90 Flo-D-Sodr® tips. SX-90 Desoldering tips are the longest lasting, best performing desoldering tips on the market! The SX-90 features a unique solder collection system that can utilize disposable Flux/Solder traps or a reusable glass collection chamber. An operator replaceable plug-in heater cartridge that can be changed in seconds is standard. There is a wide range of standard and precision SX-90 Desoldering tips for when access is tight! **See Page 25** for tip selection.



### TT-65 THERMOTWEEZ®

The most versatile and only patented SMT removal tool (**TT-65 ThermoTweez®**) provides safe, one-handed, rapid reflow and component removal of PLCCs and other 4 or 2 sided SMT components. Unlike other methods, its high thermal capacity and targeted heat delivery remove even the largest SMDs in just seconds without damaging the PCB or risking of adjacent component reflow; even on heavy assemblies. The patented vertically oriented handpiece and a wide variety of quick-change, slim-line tips easily reach into the tightest spaces for fast, safe component removal. The TT-65 also features a patented "stroke" adjustment to reduce hand fatigue for repetitive operations. **See Page 26** for tip selection.



### TJ-85 THERMOJET®

When the precise application of hot air is required, our slim line air pencil (**TJ-85 ThermoJet®**) is ideal for delivering heat for the installation and removal of chip components, SOTs, and SOICs. Multiple quick-change nozzle sizes are available. The handpiece's slim line, pencil grip design maximizes operator comfort and control. The TJ-85's airflow is actuated with a foot pedal. Ideal for the precise application of hot air for large SMDs down to 0201s.

**See Page 26** for nozzle selection.





# HANDPIECE & POWER SOURCE CHARTS

CHOOSE THE RIGHT INTELLIHEAT HANDPIECE FOR YOUR APPLICATION



# ST SYSTEMS

PRODUCTION SOLDERING STATIONS ST30, ST 50 & ST 70 POWER SUPPLIES

HANDPIECES

Part Number includes handpiece and standard cubby \*Does not include Handpiece

| HANDPIECE                         | DESCRIPTION                                                                          | PART NUMBERS |
|-----------------------------------|--------------------------------------------------------------------------------------|--------------|
| TD-100 Thermo-Drive Iron          | The most responsive soldering iron available. Uses tip-heater cartridges.            | 6993-0263-P1 |
| TD-100 N                          | A nitrogen compatible version of the TD-100. Requires 6993-0271-P1.                  | 6993-0272-P1 |
| TD-100 with Instant SetBack Cubby | A kit containing the TD-100 and Instant SetBack Cubby                                | 6993-0281-P1 |
| MT-100 MiniTweez                  | Tip-heater cartridge based tweezer for 2 sided SMD removal.                          | 6993-0264-P1 |
| TP-100 ThermoPik                  | QFP removal tool with integrated component vacuum pick to lift reflowed component.   | 6993-0280-P1 |
| PS-90 Universal Soldering Iron    | Our famous High Capacity Soldering Iron for the most demanding applications.         | 6993-0267-P1 |
| PS-90 N                           | A nitrogen compatible version of the PS-90.                                          | 6993-0274-P1 |
| SX-90 Sodr-X-Tractor              | The latest innovation in desoldering. Features disposable or reuseable solder traps. | 6993-0266-P1 |
| TT-65 ThermoTweez                 | High capacity tweezer for large or small SMDs.                                       | 6993-0268-P1 |
| TJ-85 ThermoJet                   | A foot-pedal activated precision air pencil for the installation or removal of SMDs. | 6993-0270-P1 |
| SX-90 Heat Sleeve                 | Maintains comfortable temperature in heavy use applications.                         | 6993-0229-P1 |
| Instant Setback Cubby for TD-100* | Reduces tip temperature when iron is not in use.                                     | 6019-0077-P1 |
| Nitrogen Regulator Accessory      | Controls the flow of nitrogen to tip.                                                | 6993-0271-P1 |
| N <sub>2</sub> Manifold Kit       | Connect up to 10 N <sub>2</sub> irons to a single N <sub>2</sub> source.             | 6993-0277-P1 |

KITS & APPLICATIONS

| KITS & APPLICATIONS                                | Tip Heater Cartridge Technology Handpieces |              |              | SensaTemp Technology Handpieces |              |              |              |
|----------------------------------------------------|--------------------------------------------|--------------|--------------|---------------------------------|--------------|--------------|--------------|
|                                                    | TD-100                                     | MT-100       | TP-100       | PS-90                           | SX-90        | TT-65        | TJ-85        |
| Handpiece Kits (includes handpiece and tool stand) | 6993-0263-P1<br>6993-0281-P1               | 6993-0264-P1 | 6993-0280-P1 | 6993-0267-P1                    | 6993-0266-P1 | 6993-0268-P1 | 6993-0270-P1 |
| Handpiece Only Part Number                         | 6010-0147-P1                               | 6010-0148-P1 | 6010-0158-P1 | 6010-0150-P1                    | 6010-0149-P1 | 6010-0151-P1 | 6010-0153-P1 |
| High Cycle Soldering                               | ✓                                          |              |              | ✓                               |              |              |              |
| Standard Soldering                                 | ✓                                          |              |              | ✓                               |              |              |              |
| High Mass Soldering                                |                                            |              |              | ✓                               |              |              |              |
| Micro Soldering                                    | ✓                                          |              |              |                                 |              |              |              |
| Chip Installation                                  | ✓                                          | ✓            |              | ✓                               |              | ✓            | ✓            |
| Solder Wicking                                     | ✓                                          |              |              | ✓                               |              |              | ✓            |
| Thru-Hole Desoldering                              |                                            |              |              |                                 | ✓            |              |              |
| SMT Land Preparation                               | ✓                                          |              |              | ✓                               | ✓            |              | ✓            |
| Solder Removal from Lands                          |                                            |              |              |                                 | ✓            |              |              |
| Large SMD Removal                                  |                                            |              | ✓            |                                 |              | ✓            |              |
| Standard SMD Removal                               | ✓                                          | ✓            | ✓            | ✓                               |              | ✓            |              |
| Micro SMD Removal                                  | ✓                                          | ✓            |              | ✓                               |              | ✓            | ✓            |
| Large Component Installations*                     | ✓                                          |              |              | ✓                               |              |              | ✓            |
| Standard Component Installations*                  | ✓                                          |              |              | ✓                               |              |              | ✓            |
| Micro Component Installations*                     | ✓                                          |              |              | ✓                               |              |              | ✓            |

\*with Solder Paste

INTELLIHEAT POWER SOURCE & HANDPIECE COMPATIBILITY

| TIP-HEATER CARTRIDGE HANDPIECES | Power Source Options - ST and MBT Systems ✓ = Optional Handpiece ★ = Standard handpiece packaged with System |       |       |       |       |        |        |         |         |
|---------------------------------|--------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|--------|--------|---------|---------|
|                                 | ST 30                                                                                                        | ST 50 | ST 65 | ST 70 | ST 75 | ST 100 | ST 115 | MBT 301 | MBT 350 |
| • TD-100                        | ★                                                                                                            | ★     | ✓     | ★     | ✓     | ★      | ✓      | ★       | ★       |
| • MT-100                        | ✓                                                                                                            | ✓     | ✓     | ✓     | ✓     | ✓      | ✓      | ✓       | ★       |
| • TP-100                        |                                                                                                              |       | ✓     |       | ✓     |        | ✓      | ✓       | ✓       |
| SENSATEMP HANDPIECES            | ST 30                                                                                                        | ST 50 | ST 65 | ST 70 | ST 75 | ST 100 | ST 115 | MBT 301 | MBT 350 |
| • PS-90                         | ✓                                                                                                            | ★     | ✓     | ✓     | ✓     | ✓      | ✓      | ✓       | ✓       |
| • SX-90                         |                                                                                                              |       | ★     |       | ★     |        | ★      | ★       | ★       |
| • TT-65                         | ✓                                                                                                            | ✓     | ✓     | ✓     | ✓     | ✓      | ✓      | ✓       | ✓       |
| • TJ-85                         |                                                                                                              |       |       |       | ✓     |        | ✓      | ✓       | ✓       |

FEATURES:



- IntelliHeat Control Technology
- °C/°F Temperature Scales
- Temperature Adjustment Lockout
- ESD grounding jack
- ESD Safe metal housing
- Stackable
- Can be mounted under workbench or shelf with optional bracket 1321-0609-P1

The **ST 30** is a single channel system with dial control featuring IntelliHeat. The system is packaged with the TD-100 ThermoDrive Soldering Iron or can be purchased as a Power Source only and combined with any of 4 optional handpieces. The ST 30 improves quality, reduces costs and eliminates the maintenance and calibration hassles associated with other systems. The heavy-duty metal housing makes this system the ideal choice for the harshest environments and the sloped face of the front panel is a standard feature for ease of use. An optional mounting bracket (P/N 1321-0609-P1) is available to mount the system under a work-bench or shelf, preserving precious bench top space. The optional Instant-SetBack Cubby is available for the TD-100 ThermoDrive Soldering Iron to extend tip life, especially beneficial when Lead Free solders are used.

FEATURES:



- IntelliHeat Control Technology
- Digital Display & Keypad
- °C/°F display options
- Password lockout
- Temperature SetBack
- Auto-Off
- Definable operating temperature range
- ESD grounding jack
- ESD Safe metal housing
- Stackable
- Can be mounted under workbench or shelf with optional bracket 1321-0609-P1

The **ST 50** is a single channel, digital power supply that is available with the TD-100 ThermoDrive Soldering Iron or PS-90 SensaTemp Soldering Iron. The ST 50 can also be purchased as a Power Source only and combined with any of 4 optional handpieces. The programmable features of the ST 50 cannot be found anywhere on similarly priced systems! The ST 50 improves quality, reduces costs and eliminates the maintenance and calibration hassles associated with other systems. The ST 50 features IntelliHeat Control Technology. The heavy-duty, durable metal housing ensures years of service and the sloped face of the front panel is a standard feature for ease of use. An optional mounting bracket (P/N 1321-0609-P1) is available to mount the system under a work-bench or shelf, preserving precious bench top space. The optional Instant-SetBack Cubby is available for the TD-100 ThermoDrive Soldering Iron to extend tip life, especially beneficial when Lead Free solders are used.

FEATURES:



- IntelliHeat Control Technology
- Performance level lockout (if Power Module is removed the system is shut down.)
- ESD grounding jack
- ESD Safe metal housing
- Stackable
- Can be mounted under workbench or shelf with optional bracket 1321-0609-P1
- Supplied with 6.5, 7 and 7.5 Power Modules

The **ST 70** is a single channel system that is controlled by POWER MODULES™ and comes with the ThermoDrive Soldering Iron (TD-100). The system can also be purchased as a Power Source only and combined with any of 4 optional IntelliHeat handpieces. The ST 70 is the easiest to operate. Simply select the performance level you desire, plug in the appropriate Power Module and the system takes care of the rest! The ST 70 improves quality, reduces costs while protecting your process. The heavy-duty metal housing makes this system the ideal choice for the harshest environments and the sloped face of the front panel is a standard feature for ease of use. An optional mounting bracket (P/N 1321-0609-P1) is available to mount the system under a work-bench or shelf, preserving precious bench top space. The optional Instant-SetBack Cubby is available for the TD-100 ThermoDrive Soldering Iron to extend tip life, especially beneficial when Lead Free solders are used.



| POWER MODULE   | PART NUMBER     | COLOR  |
|----------------|-----------------|--------|
| Heat Level 5   | 1207-0446-01-P1 | Green  |
| Heat Level 5.5 | 1207-0446-02-P1 | Blue   |
| Heat Level 6   | 1207-0446-03-P1 | Orange |
| Heat Level 6.5 | 1207-0446-04-P1 | Gold   |
| Heat Level 7   | 1207-0446-05-P1 | Red    |
| Heat Level 7.5 | 1207-0446-06-P1 | Purple |
| Heat Level 8   | 1207-0446-07-P1 | Black  |
| Heat Level 8.5 | 1207-0446-08-P1 | Silver |





# DUAL CHANNEL SOLDERING SYSTEMS

SOLDERING & REWORK SYSTEMS

## ST 100 THE ANSWER FOR THE LEAD FREE SOLDER TRANSITION...

While transitioning from lead containing solders to Lead Free solders a very real problem is that most soldering operations will need to utilize Lead Free AND lead containing solders at the same time. Having only one soldering iron, or other handpiece, on the bench will ultimately lead to cross-contamination issues and result in lower productivity and potentially, higher costs. The ST 100 is a fully programmable system featuring two, individually controlled, IntelliHeat compatible handpiece channels. The system allows for 2 soldering irons, 2 MiniTweezers or one of each to co-exist on a workbench. Color coding accessories that clearly identify which handpiece is designated for use with Lead Free and lead containing solders are available.

The ST 100 is loaded with features to improve quality, control your process, increase through-put, and extend tip life. The system is fully programmable and can be password protected to prevent unauthorized changes. When high-mass tips are used, an offset can be programmed into the system.

Technicians can become frustrated with being locked into a single temperature. Additionally, a higher set temperature is often desired when working with Lead Free solders. The ST 100 has the solution! An approved, unique, operating range or process window, can be programmed FOR EACH HANDPIECE, allowing operators the flexibility to do their work, while eliminating the risks associated with giving techs access to the entire temperature range of the system. Also, a process window can be defined for the handpiece using leaded solder, and a separate process window can be defined for the handpiece using lead containing solder. Operators can be given a range of 5 to 450°F to operate within!



To maximize tip life and reduce operating costs, PACE's well recognized "SetBack" and "Auto-Off" features are included. The system will automatically reduce the set temperature to below solder melt temperatures, then turn off after a user defined period of inactivity, from 10 to 90 minutes each. To really protect the more expensive tip-heater cartridge and fine point soldering tips from oxidation, the TD-100 iron can be used with the PACE's "Instant-SetBack Cubby". The cubby puts the iron's channel into SetBack if it has been in the cubby for more than 45 seconds! Up to two Instant-SetBack cubbies can be connected to the ST 100.

The backlit, digital, LCD screen displays the temperature of both handpiece channels or with scan mode activated will cycle through the handpiece channels one at a time displaying set and actual temperatures. The backlight and character contrast on the display can be adjusted to meet individual preferences. Finally, the system can be programmed with the name of the operator or company which is displayed when the system is turned on.



# LEAD FREE ACCESSORIES

CUSTOMIZE YOUR SYSTEM FOR EVEN GREATER FLEXIBILITY



The optional **INSTANT-SETBACK CUBBY** is available for use with the ST 30, ST 50, ST 65, ST 70, ST 75, ST 100 and ST 115. When connected, it automatically puts the system into SetBack mode when the TD-100 Iron has been in the cubby for 45 seconds. SetBack mode means that the temperature is set to just below solder melt temperature so the corrosive action of the leaded or Lead Free solder is stopped, maximizing the life of your tips! The system returns to normal operation when the iron is removed from the cubby. The part number for the Instant-SetBack Cubby is 6019-0077-P1. The Instant-SetBack Cubby is also available for use with the TD-100 fitted with the Green Lead-Free moulded Comfort Grip as part number 6019-0078-P1.



**LEAD FREE IDENTIFIABLE** During the transition from leaded to Lead Free solders, it will not be uncommon to be using both types of solders at the same time. To assist in reducing cross contamination of soldering tools and to keep additional tips separated on a workbench, PACE is pleased to offer a variety of options to clearly identify handpieces and tool stands being used with Lead Free solders. The handpieces are identified by green comfort grips and the tool stands are identified with green cubbies. These options are available for the TD-100, MT-100 and PS-90 handpieces in the following configurations.

| DESCRIPTION                                                                    | PART NUMBER    |
|--------------------------------------------------------------------------------|----------------|
| Lead Free Cubby (Available Nov 07) with Green Insert for TD-100                | 6019-0079-G-P1 |
| Green Replacement Handpiece Insert for TD-100                                  | 1140-0081-G-P1 |
| MT-100/TP-100 Green, Lead Free Handpiece Cubby (Available Nov 07)              | 6019-0080-G-P1 |
| MT-100/TP-100 Green, Lead Free Handpiece Insert (Available Nov 07)             | 1257-0383-G-P1 |
| Green Comfort Grip and Green Handpiece Insert for TD-100 Tip & Tool Stand      | 6993-0283-P1   |
| Replacement Green Comfort Grips for TD-100, pack of 5                          | 1119-0176-P5   |
| Instant SetBack Tip & Tool Stand for TD-100 with Green insert                  | 6019-0078-P1   |
| Green Replacement Handpiece Insert for TD-100 Tip & Tool Stand (Before Nov 07) | 1140-0075-G-P1 |
| Green Comfort Grip and Green Handpiece Insert for MT-100 Tip & Tool Stand      | 6993-0284-P1   |
| Replacement Green Comfort Grips for MT-100, pack of 2                          | 1119-0177-P2   |
| Green Replacement Handpiece Insert for MT-100 Tip & Tool Stand (Before No 07)  | 1257-0323-G-P1 |
| PS-90 Handpiece (IntelliHeat Version) with Green Comfort Grip                  | 6010-0159-P1   |
| PS-90 Tip & Tool Stand with Green Insert                                       | 6019-0074-P1   |
| PS-90 Lead Free Cubby with Green Insert (Available Nov 07)                     | 6019-0081-G-P1 |
| Replacement Green Handpiece Insert for PS-90                                   | 1140-0083-G-P1 |



# SOLDERING & REWORK SYSTEMS

ST 65, ST 75 & ST 115 POWER SUPPLIES

The **ST 65** is a single channel, dial control power supply that is compatible with all IntelliHeat handpieces and comes as a system with the new SX-90 Sodr-X-Tractor or as a Power Source only. Featuring a powerful multistage venturi that is powered by your compressed air source, the ST 65 is ideal for application where continuous vacuum or pressure is required. An N<sub>2</sub> source can be connected to create an inert gas reflow environment when using an N<sub>2</sub> capable soldering iron. The heavy-duty, durable metal housing ensures years of service and the sloped face of the front panel is a standard feature for ease of use. An optional mounting bracket (P/N 1321-0609-P1) is available to mount the system under a work-bench or shelf, preserving precious bench top space. N<sub>2</sub> capable soldering iron.

FEATURES:

- IntelliHeat Control Technology
- Dial control
- °C/°F Temperature Scales
- Temperature lockout
- Patented Snap-Vac Technology
- ESD grounding jack
- ESD Safe metal housing
- Stackable
- Can be mounted under workbench or shelf with optional bracket 1321-0609-P1



The **ST 75** and **ST 115** are ideal for users having to deal with wide ranges of applications. With these systems, you can solder, desolder, remove components with a variety of tweezers and thermo-piks, as well as make use of the high performance, foot pedal activated, air pencil. The systems come standard with PACE's patented SNAPVAC desoldering technology to ensure quick, clean removal of solder from any through-hole joint. The Hi-Flo pump is so powerful that you won't lose vacuum in continuous use applications when removing residual/excess solder from surface mount leads. The new, high resolution pressure control valve delivers the widest range of adjustable airflow available on the market today. So if you're using the new TJ-85 to reflow a PLCC or an 0201 resistor, you always have the precise level of control that you need to get the job done right!

**ST 75** A single channel, dial control power supply, the ST 75 is compatible with all IntelliHeat handpieces and comes as a system with the new SX-90 or as a Power Source only. The ST 75 improves quality, reduces costs and eliminates the maintenance and calibration hassles associated with other systems. The heavy-duty, durable metal housing ensures years of service and the sloped face of the front panel is a standard feature for ease of use.

FEATURES:

- IntelliHeat Control Technology
- Dial control
- °C/°F Temperature Scales
- Temperature lockout
- Hi-Flo Pump
- Patented Snap-Vac Technology
- ESD grounding jack
- ESD Safe metal housing
- Stackable



**ST 115** A single channel, digital display, fully programmable power supply, the ST 115 is compatible with all IntelliHeat handpieces and comes as a system with the new SX-90 or as a Power Source only. The programmable features of the ST 115 cannot be found anywhere on similarly priced systems! The ST 115 improves quality, reduces costs and eliminates the maintenance and calibration hassles associated with other systems. The heavy-duty, durable metal housing ensures years of service and the sloped face of the front panel is a standard feature for ease of use.

FEATURES:

- IntelliHeat Control Technology
- Digital Display & Keypad
- °C/°F display options
- Password lockout
- Temperature SetBack
- Auto-Off
- User defined operating temperature range
- Hi-Flo Pump
- Patented Snap-Vac Technology
- ESD grounding jack
- ESD Safe metal housing
- Stackable



# PACE REWORK AND REPAIR

ST SYSTEM SPECIFICATIONS

| SPECIFICATIONS                 | ST 30                                                                                                                                                                                            | ST 50       | ST 70                                                      | ST 100                          |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------|---------------------------------|
| System with TD-100 115v        | 8007-0499                                                                                                                                                                                        | 8007-0500   | 8007-0504                                                  | 8007-0525                       |
| System with PS-90 115v         | N/A                                                                                                                                                                                              | 8007-0532   | N/A                                                        | N/A                             |
| Power Source Only 115v         | 8007-0497                                                                                                                                                                                        | 8007-0501   | 8007-0505                                                  | 8007-0524                       |
| System with TD-100 230v        | 8007-0512                                                                                                                                                                                        | 8007-0514   | 8007-0518                                                  | 8007-0527                       |
| System with PS-90 230v         | N/A                                                                                                                                                                                              | 8007-0533   | N/A                                                        | N/A                             |
| Power Source Only 230v         | 8007-0513                                                                                                                                                                                        | 8007-0515   | 8007-0519                                                  | 8007-0526                       |
| Power Requirements             | 97-127 VAC, 50/60 Hz, 90 Watts max. 197-253 VAC, 50/60 Hz, 90 Watts max.                                                                                                                         |             |                                                            |                                 |
| Dimensions                     | 104mm H x 130mm W x 152mm D<br>(4.1" H x 5.1" W x 6.0" D)                                                                                                                                        |             | 135mm H x 165mm W x 260mm D<br>(5.3" H x 6.5" W x 9.25" D) |                                 |
| Weight                         |                                                                                                                                                                                                  |             |                                                            | 5 Kg (11 lbs.)                  |
| Control                        | Dial                                                                                                                                                                                             | LED Display | Power Module                                               | LCD Display & Keypad            |
| Control Technology             | IntelliHeat                                                                                                                                                                                      |             |                                                            |                                 |
| Tip to Ground Resistance       | 2 ohms or less                                                                                                                                                                                   |             |                                                            |                                 |
| Temperature Accuracy           | Meets or exceeds ANSI-J-STD 001                                                                                                                                                                  |             | N/A                                                        | Meets or exceeds ANSI-J-STD 001 |
| Absolute Temperature Stability | ± 1.1°C (± 2 °F) at idle tip temp.                                                                                                                                                               |             |                                                            |                                 |
| Temperature Range              | Tip Heater Cartridge Technology Handpieces = 205° to 454°C (400° to 850°F)<br>SensaTemp Dial Control 176°C to 482°C (350°F to 900°F)<br>SensaTemp Digital Control 37°C to 482°C (100°F to 900°F) |             |                                                            |                                 |
| System Can be Calibrated       | Yes                                                                                                                                                                                              |             |                                                            |                                 |

| SPECIFICATIONS                 | ST 65                                                                                                                                                                                            | ST 75                                                                         | ST 115                      |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------|
| System 115v                    | 8007-0502                                                                                                                                                                                        | 8007-0506                                                                     | 8007-0508                   |
| Power Source Only 115v         | 8007-0503                                                                                                                                                                                        | 8007-0507                                                                     | 8007-0509                   |
| System 230v                    | 8007-0516                                                                                                                                                                                        | 8007-0520                                                                     | 8007-0522                   |
| Power Source Only 230v         | 8007-0517                                                                                                                                                                                        | 8007-0521                                                                     | 8007-0523                   |
| Power Requirements             | 97-127 VAC, 50/60 Hz, 90 Watts max.<br>197-253 VAC, 50/60 Hz, 90 Watts max.                                                                                                                      | 97-127 VAC, 50/60 Hz, 120 Watts max.<br>197-253 VAC, 50/60 Hz, 120 Watts max. |                             |
| Dimensions                     | 104mm H x 130mm W x 152mm D<br>(4.1" H x 5.1" W x 6.0" D)                                                                                                                                        | 88mm H x 171mm W x 254mm D<br>(3.5" H x 6.75" W x 10" D)                      |                             |
| Weight                         | 2.3 Kg (5 lbs.)                                                                                                                                                                                  | 4 Kg (9 lbs.)                                                                 |                             |
| Control                        | Dial                                                                                                                                                                                             | Dial                                                                          | LED Display & Keypad        |
| Control Technology             | IntelliHeat                                                                                                                                                                                      |                                                                               |                             |
| Tip to Ground Resistance       | 2 ohms or less                                                                                                                                                                                   |                                                                               |                             |
| Temperature Accuracy           | Meets or exceeds ANSI-J-STD                                                                                                                                                                      |                                                                               |                             |
| Absolute Temperature Stability | ± 1.1°C (± 2 °F) at idle tip temp.                                                                                                                                                               |                                                                               |                             |
| Temperature Range              | Tip Heater Cartridge Technology Handpieces = 205° to 454°C (400° to 850°F)<br>SensaTemp Dial Control 176°C to 482°C (350°F to 900°F)<br>SensaTemp Digital Control 37°C to 482°C (100°F to 900°F) |                                                                               |                             |
| System Can be Calibrated       | Yes                                                                                                                                                                                              |                                                                               |                             |
| Vacuum/Pressure Source Type    | Compressed Air Powered Venturi                                                                                                                                                                   |                                                                               | Self Contained Pump         |
| Vacuum Rise Time               | 150 ms Average                                                                                                                                                                                   |                                                                               |                             |
| Vacuum (Nominal)               | 20 in Hg max                                                                                                                                                                                     |                                                                               |                             |
| Flow Control Valve             | Coarse Adjustment                                                                                                                                                                                |                                                                               | High Precision Needle Valve |
| Pressure (Nominal)             | 18 p.s.i. max                                                                                                                                                                                    |                                                                               |                             |
| Air Flow (Nominal)             | 8 slpm max                                                                                                                                                                                       |                                                                               |                             |



## MBT 301

SIMPLE AND EASY TO USE FOR REWORK TECHNICIANS OR OPERATORS ON THE LINE

The **MBT 301** is a multi-technology system with two, individually controlled, universal handpiece channels. The system features a two-line back lit LCD display. The programmable features include: password protection from unauthorized changes, a user definable temperature operating range, and "SetBack" & "Auto-Off" functions to preserve tip life. To protect your more expensive tip-heater cartridge and fine point soldering tips from oxidation, the TD-100 can be used with the optional "Instant-SetBack Cubby". The cubby puts the iron's channel into setback if it is idle in the cubby for more than 45 seconds! One Instant SetBack Cubby can be connected to the MBT 301.



The new dual purpose vacuum/pressure pump and delivery system featuring PACE's patented SNAP-VAC Technology, provides the most vacuum available for desoldering applications. When used with an air pencil, the high resolution, pressure control valve allows for precise adjustment when working on the smallest components such as 0201's.

### MBT 300 SERIES SPECIFICATIONS

| SPECIFICATIONS                    | MBT 301                                                                          | MBT 350                               | MBT 301 E                          | MBT 350 E                             |
|-----------------------------------|----------------------------------------------------------------------------------|---------------------------------------|------------------------------------|---------------------------------------|
| Kit with Handpieces Part Numbers: | 8007-0478<br>(TD-100 & SX-90)                                                    | 8007-0454<br>(TD-100, MT-100 & SX-90) | 8007-0479<br>(TD-100 & SX-90)      | 8007-0455<br>(TD-100, MT-100 & SX-90) |
| Power Source Only Part Numbers:   | 8007-0480                                                                        | 8007-0452                             | 8007-0481                          | 8007-0453                             |
| Power Requirements                | 120 VAC, 60 Hz (240 watts maximum)                                               |                                       | 230 VAC, 50 Hz (240 watts maximum) |                                       |
| Handpiece Technology Compatibilty | IntelliHeat Handpieces with Tip Heater Cartridge or SensaTemp Technology         |                                       |                                    |                                       |
| Dimensions                        | 135mm H x 165mm W x 260mm D (5.3" x 6.5" x 9.25")                                |                                       |                                    |                                       |
| Weight                            | 5 Kgs (11 lbs.)                                                                  |                                       |                                    |                                       |
| Tip to ground resistance          | < 2 Ohms                                                                         |                                       |                                    |                                       |
| Temperature Stability             | ± 1.1 °C (2 °F)                                                                  |                                       |                                    |                                       |
| Temperature Accuracy              | Meets or exceeds ANSI J Std 001                                                  |                                       |                                    |                                       |
| Set Temp Range                    | 37-482 °C (100-900 °F) SensaTemp<br>205-454 °C (400-850 °F) tip Heater Cartridge |                                       |                                    |                                       |
| Vacuum Rise Time                  | 150 ms Average as measured with PACE Process Monitor                             |                                       |                                    |                                       |
| Vacuum                            | 20 in Hg max                                                                     |                                       |                                    |                                       |
| Pressure                          | 18 p.s.i. max                                                                    |                                       |                                    |                                       |
| Air Flow                          | 8 SLPM max                                                                       |                                       |                                    |                                       |



## MBT 350

ADVANCED TECHNOLOGY AND PROGRAMMABILITY

The **MBT 350** is loaded with features to improve quality, increase through-put, extend tip life, and protect your process. The system is fully programmable and can be password protected from unauthorized changes. In some cases technicians become frustrated with being locked into a single temperature. The MBT 350 provides the solution! An approved operating range can be programmed allowing operators the flexibility to do their work, while eliminating the risks associated with giving techs access to the entire temperature range of the system. Operators can be given a range of 5 to 450°F (3-250°C) to operate within! When high-mass tips are required, an offset can be programmed for each of the three channels, individually.

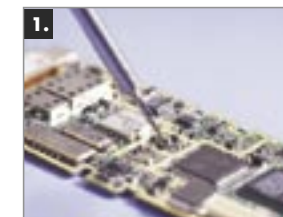


To maximize tip life and reduce operating costs, PACE's well recognized "SetBack" and "Auto-Off" features are included. The system will automatically reduce the set temperature by 50% then turn off after a user defined period of inactivity, from 1 to 90 minutes. To really protect your more expensive tip-heater cartridge and fine point soldering tips from oxidation, the TD-100 can be used with the new "Instant-SetBack Cubby". The cubby puts the iron's channel into setback if it's in the cubby for more than 45 seconds! Up to two Instant SetBack cubbies can be connected to the MBT 350.

The new dual purpose vacuum/pressure pump and delivery system featuring PACE's patented SNAP-VAC Technology, provides the most vacuum available for desoldering applications. When used with an air pencil, the high resolution, pressure control valve allows for precise adjustment when working on the smallest components such as 0201's.

The new backlit, digital, LCD screen displays the temperature of all three handpiece channels or, with scan mode activated, will cycle through the handpiece channels one at a time displaying set and actual temperatures. The backlight and character contrast on the display can be adjusted to meet individual preferences. And finally, the system can be programmed with the name of the operator or company which is displayed when the system is turned on.

1. TD-100 THERMO-DRIVE IRON
2. MT-100 MINITWEEZ
3. PS-90 UNIVERSAL IRON
4. TT-65 THERMOTWEEZ
5. TJ-85 THERMOJET
6. SX-90 SODR-X-TRACTOR
7. TP-100 THERMOPIK





# SENSATEMP REWORK SYSTEMS

ST 25, MBT 250 & PRC 2000



The **PRC 2000** Benchtop Factory is the ultimate rework center. The PRC 2000 can tackle just about any Thru-Hole, SMT application and is well suited for multilayer repairs on damaged or prototype PCBs. Featuring 3 simultaneously active SensaTemp handpiece channels, a built-in paste dispenser, MicroChine for removing conformal coatings or grinding away PCB laminate, and pulse heat technology. The PRC 2000 comes with 9 handpieces and continuously calibrates automatically.

The **ST 25** soldering system uses SensaTemp to maximize heat delivery and improves quality, reduces costs and eliminates the maintenance and calibration hassles associated with other soldering systems. The heavy-duty metal housing makes this system the ideal choice for the harshest environments and the sloped face of the front panel is a standard feature for ease of use. An optional mounting bracket (P/N 1321-0609-P1) is available to mount the system under a work-bench or shelf, preserving precious bench top space.

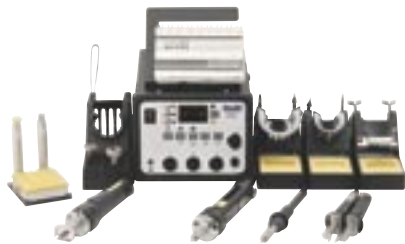
FEATURES:

- SensaTemp Control Technology
- Analog (dial) control
- °C/°F Temperature Scales
- Temperature Adjustment Lockout
- ESD grounding jack
- ESD Safe metal housing
- Stackable
- Can be mounted under work bench or shelf with optional bracket 1321-0609-P1



MBT 250 SD/SDTP

Still Available



SENSATEMP POWER SOURCE SPECIFICATIONS

| SPECIFICATIONS                 | ST 25                                                     | MBT 250 SD/MBT 250 SDTP                                    | PRC 2000 SMT                                                 | PRC 2000 TH |
|--------------------------------|-----------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------|-------------|
| System 115 V                   | 8007-0528                                                 | 8007-0203 (SD)<br>8007-0206 (SDTP)                         | 8007-0132                                                    | 8007-0138   |
| Power Source Only 115 V        | 8007-0529                                                 | 8007-0349                                                  | N/A                                                          | N/A         |
| System 230 V                   | 8007-0510                                                 | 8007-0204 (SD)<br>8007-0207 (SDTP)                         | 8007-0133                                                    | N/A         |
| Power Source Only 230 V        | 8007-0511                                                 | 8007-0353                                                  | N/A                                                          | N/A         |
| Input Power Requirements       | 97-127 VAC, 50/60 Hz or 197-253 VAC, 50/60 Hz             |                                                            |                                                              |             |
| Max Power Consumption          | 120 W                                                     | 240 W                                                      | 400 W                                                        |             |
| Dimensions                     | 104mm H x 130mm W x 152mm D<br>(4.1" H x 5.1" W x 6.0" D) | 135mm H x 165mm W x 260mm D<br>(5.3" H x 6.5" W x 9.25" D) | 175mm H x 350mm W x 230mm D<br>(6.9" H x 13.75" W x 9.25" D) |             |
| Weight                         | 2.3 Kgs (5 lbs.)                                          | 5 Kgs (11 lbs.)                                            | 13 Kgs (28.6 lbs.)                                           |             |
| Control                        |                                                           | LED Display                                                | LED Display                                                  |             |
| Control Technology             | SensaTemp (Black Connector HandPieces)                    |                                                            |                                                              |             |
| Tip to Ground Resistance       | 2 ohms or less                                            |                                                            |                                                              |             |
| Temperature Accuracy           | Meets or exceeds ANSI-J-STD 001                           |                                                            |                                                              |             |
| Absolute Temperature Stability | ± 1.1°C (± 2 °F) at idle tip temp.                        |                                                            |                                                              |             |
| Temperature Range              | 176° to 482°C (350° to 900°F) nominal                     |                                                            |                                                              |             |
| System Can be Calibrated       | Calibration not required                                  |                                                            |                                                              |             |
| Pump Type                      | N/A                                                       | Self Contained Pump                                        |                                                              |             |
| Vacuum Rise Time               | N/A                                                       | 150 ms Average                                             |                                                              |             |
| Vacuum (Nominal)               | N/A                                                       | 20 in Hg max                                               |                                                              |             |
| Flow Control Valve             | N/A                                                       | High Resolution Needle Valve                               | Coarse adjustment                                            |             |
| Pressure (Nominal)             | N/A                                                       | 18 p.s.i. max                                              | 7 p.s.i. max                                                 |             |
| Air Flow (Nominal)             | N/A                                                       | 8 slpm max                                                 | 13 slpm max                                                  |             |



# LEAD FREE SOLDERING

WORKING WITH LEAD FREE SOLDERS

Lead Free solders do not behave or look like their lead containing counterparts. As our industry changes over to Lead Free solders, individual PCB assemblers will need to address several issues relating to hand soldering and rework. These issues include:

- **Higher melting temperatures** – which mistakenly lead to operators increasing equipment operating temperatures. Higher operating temperatures do not make the process quicker, they can actually slow it down.
- **Poor wetting and spreading properties** – Additional time is required when working with lead free solders, they do not spread or wet like lead containing solders do. Operators must slow down.
- **Difficult to work with** - Bridging and insufficient solder defects are common, even for experienced operators, leading to operator frustration and poor quality.
- **Dull grainy finish** – makes inspection difficult.

Because Lead Free solders oxidize quickly, more aggressive and longer lasting fluxes are required to keep surfaces clean and free from oxidation. Working with no-clean fluxes is challenging as their process window is often small. Once they are burned off, oxidation immediately begins to form which can result in a marginal or defective solder joint. Additionally, increasing operating temperatures creates an ideal environment for oxidation to form and will also lead to flux and solder ball splatter on the PCB. If the flux is splattered all over the PCB, it's not able to do its job on the surfaces to be joined during the soldering process.

Lead Free solders also affect soldering and rework tools and their effect is detrimental. Lead Free solders contain high percentages of tin, almost always over 94%. Tin is a corrosive and active metal. When it mixes with iron (the protective layer on soldering tips), an inter-metallic compound is formed that wears away more quickly than the iron would either by itself or when used with lead containing solder. This causes two problems, one is shorter tip life as the protective iron coating is dissolved in the tin, and the second is that oxidation forms more quickly which is further exacerbated by the high temperature environment the tips work in. As a result, tin oxides form and create an inter-metallic compound with the iron plating on the tip. Once the oxidation begins to form, the tip will lose its ability to wet with solder and if not cleaned off quickly, it becomes almost impossible to remove and the tip must be replaced.

When using Lead Free solders, regardless of alloy, it is absolutely imperative that tips are properly maintained, otherwise tip life will be reduced significantly. Tips should be cleaned frequently to remove oxidation before it becomes impossible to remove. Tips should always be tinned when not being used, otherwise oxidation will quickly form on the tip. If the iron will not be used for extended periods of time, they should be turned off. Should oxidation form that cannot be easily cleaned by tinning or by using a cleaning tool, PACE's Tip-Brite is recommended.

Tip-Brite is a high quality tip tinner that will remove stubborn oxidation.

The use of equipment with SetBack and Auto-Off functions (standard on all PACE equipment), is very desirable. Additionally, optional accessories such as PACE's Instant SetBack Cubby ensure that tip life is maximized. The Instant SetBack Cubby puts the system into "SetBack" after 45 seconds of inactivity. When the iron is removed from the cubby, it restores itself to the set temperature almost immediately.

The use of nitrogen assisted soldering equipment helps to mitigate the problems associated with using Lead Free solders. Nitrogen helps on two fronts. First, it creates an inert environment around the soldering tip, reducing the potential for tip to oxidize. Second, it assists in the soldering process at the PCB level by purging oxygen from the immediate area which reduces or eliminates the formation of oxidation on the work site. This not only reduces the amount of flux that is required, but it also helps to improve wetting, spreading and leaves a finish that is shinier and less grainy.

PACE's nitrogen assisted soldering systems pass the nitrogen through or around the heater before it is directed to the work site. This "pre-heats" the immediate area which can also help to reduce thermal shock to component leads and to components themselves. Pre-heating also allows for the use of lower, safer and more effective soldering temperatures.

PACE's soldering systems offer legendary thermal control as well as advanced features to maintain your process. Unique PACE features such as IntelliHeat, Power Modules and password protection ensure consistency and quality in your process. Economical tips and standard features such as "SetBack" and "Auto-Off" maximize tip life to reduce operating costs and increase your bottom line.





## LEAD FREE SOLDERING

LEAD FREE SOLDERING COMPATIBLE AND RoHS COMPLIANT

PACE's soldering systems offer legendary thermal control as well as advanced features to maintain your process. Unique PACE features such as IntelliHeat, Power Modules and password protection ensure consistency and quality in your process. Economical tips and standard features such as "SetBack" and "Auto-Off" maximize tip life to reduce operating costs and increase your bottom line.

### All ST & MBT systems, handpieces and tips are Lead Free soldering compatible and RoHS compliant.

They can be used with any Lead Free alloys without modification. PACE's soldering systems, handpieces and tips are fully compatible with your Lead Free process. PACE's TD-100 soldering iron boasts one of the most efficient heat transfer capabilities and is clearly one of the most responsive irons on the market today. This means that the TD-100's ability to recover from thermal loading and maintain its heat output is far superior to other conventional irons, eliminating the need for higher, unsafe temperatures when using Lead Free solders. Quick and consistent heat transfer also ensures that flux is fully activated and burned off, leaving the work site properly prepared for the formation of highly reliable solder joints. Our PS-90 soldering iron has been the staple of the industry for years and is known for its amazing thermal capacity and ability to deliver the heat at safe, low temperatures. Both the TD-100 and PS-90 are available for use with nitrogen.



|          | HANDPIECE KIT | HANDPIECE ONLY |
|----------|---------------|----------------|
| TD-100 N | 6993-0272-P1  | 6010-0156-P1   |
| PS-90 N  | 6993-0274-P1  | 6010-0157-P1   |



All ST products are compatible with either the PS-90 N and/or the TD-100 N handpieces. The benefits of nitrogen assisted soldering are available for all of PACE's soldering stations with the N<sub>2</sub> Regulator Accessory which can be easily mounted to any ST system.

### All of PACE's soldering, desoldering and component removal tips are tinned with Lead Free solder

Due to the corrosive nature of the high tin content in Lead Free alloys and because more aggressive fluxes are commonly required when using Lead Free solders, we have also optimized the iron plating on our tips to maximize thermal transfer while providing for the longest life possible.

PACE is leading the way in soldering technology with our patented "Diamond Series" tips. "Diamond Series" tips are manufactured with an iron matrix that is impregnated with sub micron sized diamond particles. The diamond-impregnated surface is harder and more corrosion resistant than iron alone.

When reworking area array components with Lead Free solder, the greatest enhancement to existing equipment is the use of nitrogen for reflow. All of PACE's Area Array equipment comes fitted for nitrogen use as standard.

Additionally, PACE manufactures Fume Extraction Systems to reduce exposure to harmful particulates and gases created from hand soldering operations. PACE Fume Extraction Systems effectively remove these contaminants from the workers breathing zone thereby reducing or eliminating health risks and improving productivity.



## LEAD FREE SOLDERING

NITROGEN ASSISTED SOLDERING ACCESSORIES

### NF 50 & NF 100

The compact high-performance single station N<sub>2</sub> generator (NF 100) will generate Nitrogen Gas at a maximum concentration level of 99.9%. This system should be used in conjunction with NF 50 N<sub>2</sub> Flow Control Unit.



### NF 500 & NF 1000

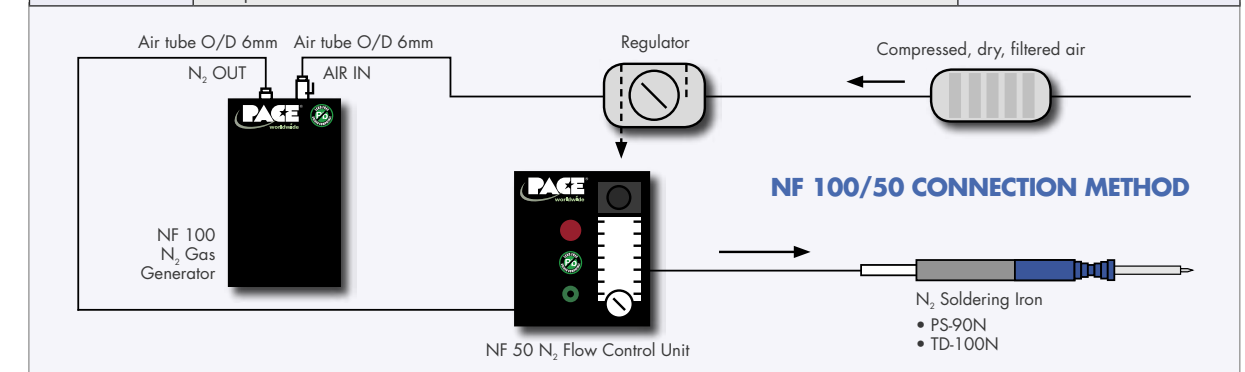
PACE is also pleased to offer the NF Series Nitrogen farms. Nitrogen farms harvest N<sub>2</sub> from a compressed air supply that is passed through a specialized filter. The other atoms that make up "air" are forced through the filter, leaving a pure stream of N<sub>2</sub> as the product of filtering. Nitrogen farms are passive collection devices which means that there are no electrical or moving parts, little or no maintenance, low running costs, and they maintain the balance of air/N<sub>2</sub> in a confined space (as long as the compressed air is pulled from the same space).



### NF 100 PERFORMANCE TABLE

|                                      |                       | N <sub>2</sub> Concentration % |      |      |      |      |      |      |      |
|--------------------------------------|-----------------------|--------------------------------|------|------|------|------|------|------|------|
| Input compression air pressure (MPa) | Output amount (L/min) | 99.9                           | 99.5 | 99.0 | 98.0 | 97.0 | 96.0 | 95.0 | 90.0 |
|                                      |                       | 0.15                           | 0.37 | 0.48 | 0.66 | 0.88 | 1.1  | 1.3  | 2.6  |
|                                      |                       | 0.24                           | 0.57 | 0.77 | 1.1  | 1.4  | 1.7  | 2.0  | 4.4  |
|                                      |                       | 0.35                           | 0.75 | 1.1  | 1.5  | 1.9  | 2.2  | 2.9  | 5.9  |
|                                      |                       | 0.48                           | 0.97 | 1.3  | 1.8  | 2.4  | 3.1  | 3.5  | 7.5  |
|                                      |                       | 0.55                           | 1.2  | 1.6  | 2.2  | 3.1  | 3.7  | 4.2  | 9.2  |

| NF SYSTEMS | DESCRIPTION                                           | PART NUMBERS |
|------------|-------------------------------------------------------|--------------|
| NF 50      | Single station N <sub>2</sub> regulator with shut off | 8110-0500    |
| NF 100     | For a single station                                  | 8110-0100    |
| NF 500     | For up to 2 stations                                  | 8110-0001    |
| NF 1000    | For up to 10 stations                                 | 8110-0002    |





TD-100 STANDARD SOLDERING TIPS

TIP SPECIFICATIONS

TIP SPECIFICATIONS

| TIPS | DESCRIPTION                                     | TIP SIZE - L    | SIZE - D        | PART NUMBER  |
|------|-------------------------------------------------|-----------------|-----------------|--------------|
|      | 1/32" Conical Sharp Extended                    | 13.4mm (0.530") | 0.80mm (0.031") | 1124-0001-P1 |
|      | 1/64" Conical Sharp                             | 7.8mm (0.310")  | 0.40mm (0.016") | 1124-0002-P1 |
|      | 1/64" Conical Sharp Bent 30 Degrees             | 7.8mm (0.310")  | 0.40mm (0.016") | 1124-0003-P1 |
|      | 1/64" Conical Sharp Extended                    | 13.5mm (0.535") | 0.40mm (0.016") | 1124-0004-P1 |
|      | 13/64" Conical Sharp Extended                   | 4.7mm (0.188")  | 0.80mm (0.031") | 1124-0005-P1 |
|      | 3/128" Conical                                  | 4.6mm (0.184")  | 0.58mm (0.023") | 1124-0006-P1 |
|      | 1/16" 90 Degree Chisel                          | 10.9mm (0.430") | 2.03mm (0.080") | 1124-0007-P1 |
|      | 3/64" 30 Degree Chisel                          | 9.7mm (0.380")  | 1.20mm (0.047") | 1124-0008-P1 |
|      | 3/64" 30 Degree Bevel                           | 3.6mm (0.140")  | 1.20mm (0.047") | 1124-0009-P1 |
|      | 13/64" Extra Large Chisel                       | 7.62mm (0.300") | 5.15mm (0.203") | 1124-0010-P1 |
|      | 1/64" 60 Degree Bevel                           | 14.7mm (0.580") | 0.40mm (0.016") | 1124-0011-P1 |
|      | 1/32" 30 Degree Chisel                          | 9.1mm (0.360")  | 0.80mm (0.031") | 1124-0012-P1 |
|      | 3/32" 30 Degree Chisel                          | 9.9mm (0.390")  | 2.40mm (0.094") | 1124-0013-P1 |
|      | 5/64" 60 Degree Chisel                          | 4.7mm (0.185")  | 2.00mm (0.078") | 1124-0014-P1 |
|      | 1/64" Conical, Sharp, Bent 30 Degrees, Extended | 15.1mm (0.595") | 0.40mm (0.016") | 1124-0015-P1 |
|      | 3/64" Chisel Bent 30 Degrees                    | 11.7mm (0.460") | 1.20mm (0.047") | 1124-0016-P1 |
|      | 1/16" 60 Degree Chisel                          | 15.8mm (0.620") | 1.60mm (0.063") | 1124-0017-P1 |
|      | 1/32" Conical Sharp Extended                    | 16.7mm (0.660") | 0.80mm (0.031") | 1124-0018-P1 |
|      | 1/16" 30 Degree Chisel                          | 9.9mm (0.390")  | 1.60mm (0.063") | 1124-0019-P1 |
|      | 1/8" 90 Degree Chisel                           | 4.8mm (0.190")  | 3.20mm (0.125") | 1124-0020-P1 |

MAXIMIZING TIP LIFE PACE recommends the following practices to maximize tip life.

1. Always use the lowest possible temperatures while soldering. High temperatures cause tips to oxidize faster, which reduces heat transfer and damages the protective iron plating.
2. Avoid aggressive fluxes whenever possible. Aggressive fluxes erode tips faster; shortening their useful life.
3. Always use a properly sized tip for the work. Tips, that are too small, will wear out faster and tips that are too large will wear unevenly which, in turn, will change the tip geometry rendering it useless, possibly damaging pads.
4. Always tin tips when not in use and after cleaning on a damp sponge. A coating of solder will prevent oxidation from forming which causes tips to lose their tinning or wetting capability.
5. Always feed solder wire into the heated work, not the tip. Feeding solder directly into the tip will cause pin-holes in the tip and will cause the flux in the solder wire to be burned off before it can activate and prepare the surfaces being soldered.

Should tips lose their tinning or wetting capability, a tip cleaner such as PACE's Tip-Brite may be used to restore them.



TD-100 STANDARD SOLDERING TIPS

TIP SPECIFICATIONS

TIP SPECIFICATIONS

| TIPS | DESCRIPTION                             | TIP SIZE - L     | SIZE - D        | PART NUMBER  |
|------|-----------------------------------------|------------------|-----------------|--------------|
|      | 3/128" Conical Sharp Bent 30 Degrees    | 14.4mm (0.570")  | 0.58mm (0.023") | 1124-0021-P1 |
|      | 1/16" Conical Sharp                     | 9.9mm (0.390")   | 1.60mm (0.063") | 1124-0022-P1 |
|      | 1/8" 90 Degree Chisel Extended          | 8.6mm (0.340")   | 3.20mm (0.125") | 1124-0023-P1 |
|      | 1/16" 30 Degree Bevel                   | 9.9mm (0.390")   | 1.60mm (0.063") | 1124-0024-P1 |
|      | 1/16" Conical Sharp Extended            | 12.1mm (0.478")  | 1.60mm (0.063") | 1124-0025-P1 |
|      | 1/16" Chisel Bent 30 Degrees            | 9.7mm (0.385")   | 1.60mm (0.063") | 1124-0026-P1 |
|      | 3/128" Conical Sharp                    | 15.2mm (0.600")  | 0.58mm (0.023") | 1124-0027-P1 |
|      | 3/64" Chisel, Bent 30 Degrees, Extended | 15.2mm (0.600")  | 0.91mm (0.36")  | 1124-0028-P1 |
|      | 1/32" 30 Degree Bevel                   | 9.1mm (0.360")   | 1.91mm (0.75")  | 1124-0029-P1 |
|      | 1/32" Conical Sharp                     | 9.9mm (0.390")   | 0.80mm (0.031") | 1124-0030-P1 |
|      | Heat Staking                            | N/A              | 4.04mm (0.159") | 1124-0031-P1 |
|      | MiniWave                                | N/A              | 3.05mm (.120")  | 1124-0032-P1 |
|      | Angled MiniWave                         | N/A              | 3.05mm (.120")  | 1124-0033-P1 |
|      | Single Sided Chisel                     | N/A              | 3.05mm (.120")  | 1124-0034-P1 |
|      | Angled MiniWave                         | N/A              | 2.11mm (.083")  | 1124-0035-P1 |
|      | 1/128" Conical                          | N/A              | 0.20mm (0.008") | 1124-0036-P1 |
|      | 1/4 Flat Blade                          | N/A              | 4.57mm (0.180") | 1124-0037-P1 |
|      | Single Sided Chisel, Fine Pitch         | N/A              | 1.5mm (.06")    | 1124-0038-P1 |
|      | Angled MiniWave, Fine Pitch             | N/A              | 1.6mm (.064")   | 1124-0039-P1 |
|      | MicroFine Single Sided Chisel           | N/A              | 0.9mm (.035")   | 1124-0040-P1 |
|      | MicroFine Single Sided Chisel           | N/A              | 1.1mm (.045")   | 1124-0041-P1 |
|      | MicroFine Conical                       | N/A              | 0.25mm (.01")   | 1124-0042-P1 |
|      | MicroFine Bent Conical                  | N/A              | 0.76mm (.03")   | 1124-0043-P1 |
|      | MicroFine Bent Conical                  | N/A              | 0.5mm (.02")    | 1124-0044-P1 |
|      | Angled Micro-Wave                       | N/A              | 1.1mm (.045")   | 1124-0045-P1 |
|      | Micro-Wave                              | N/A              | 1.1mm (.045")   | 1124-0046-P1 |
|      | Angled Chisel                           | 8.4mm (0.33")    | 1.33mm (0.051") | 1124-0047-P1 |
|      | Single Sided Chisel                     | 17.00mm (0.693") | 4.55mm (0.178") | 1124-0048-P1 |



UNIQUE TO PACE... PATENTED DIAMOND/IRON PLATING PROCESS USING REAL DIAMONDS THAT PROVIDES IMPROVED THERMAL PERFORMANCE AND LONG LIFE WHEN WORKING WITH LEAD FREE SOLDER

## DIAMOND SERIES EXTENDED LIFE SOLDERING TIPS

FOR USE WITH THE TD-100



## TD-100 SMT REMOVAL TIPS

TIP SPECIFICATIONS

| PROFILE | DESCRIPTION                                 | PART NUMBER  | PROFILE | DESCRIPTION                                   | PART NUMBER  |
|---------|---------------------------------------------|--------------|---------|-----------------------------------------------|--------------|
|         | .016 Conical                                | 1126-0601-P1 |         | .06 Wide, Bevel 60 Degrees, .12x.06 Oval Face | 1126-0625-P1 |
|         | .039 Conical                                | 1126-0602-P1 |         | .07 Bevel, 60 Degree                          | 1126-0626-P1 |
|         | .055 Conical, Blunt                         | 1126-0603-P1 |         | .078 Bevel, 45 Degree                         | 1126-0627-P1 |
|         | .031 Conical, Blunt                         | 1126-0604-P1 |         | .13 Bevel, 60 Degree                          | 1126-0628-P1 |
|         | .016 Conical, Long                          | 1126-0605-P1 |         | .118 Bevel, 45 Degree                         | 1126-0629-P1 |
|         | .016 Conical                                | 1126-0606-P1 |         | .023 Bevel, Special                           | 1126-0630-P1 |
|         | .016 Conical, Extended                      | 1126-0607-P1 |         | .031 Chisel Standard                          | 1126-0631-P1 |
|         | .024 Conical                                | 1126-0608-P1 |         | .047 Chisel Standard                          | 1126-0632-P1 |
|         | .039 Conical                                | 1126-0609-P1 |         | .062 Chisel Standard                          | 1126-0633-P1 |
|         | .031 Conical                                | 1126-0610-P1 |         | .094 Chisel Standard                          | 1126-0634-P1 |
|         | .047 Conical                                | 1126-0611-P1 |         | .157 Chisel Standard                          | 1126-0635-P1 |
|         | .016 Conical Bent                           | 1126-0612-P1 |         | .205 Chisel Standard                          | 1126-0636-P1 |
|         | .016 Conical, Blunt, Bent                   | 1126-0613-P1 |         | .157 Chisel Long Reach                        | 1126-0637-P1 |
|         | .016 Conical, Blunt                         | 1126-0614-P1 |         | .205 Chisel Long Reach                        | 1126-0638-P1 |
|         | .016 Conical Extended, Bent                 | 1126-0615-P1 |         | .078 Chisel Blunt                             | 1126-0639-P1 |
|         | .157 Bevel, 45 Degree                       | 1126-0616-P1 |         | .125 Chisel Blunt                             | 1126-0640-P1 |
|         | .078 Bevel, 60 Degree                       | 1126-0617-P1 |         | .055 Chisel, Bent 30 Degrees                  | 1126-0641-P1 |
|         | .118 Bevel, 60 Degree                       | 1126-0618-P1 |         | .062 Chisel, Bent 30 Degrees                  | 1126-0642-P1 |
|         | .157 Bevel, 45 Degree Tinned on edge/face   | 1126-0619-P1 |         | .055 Chisel, Bent, Extended                   | 1126-0643-P1 |
|         | .039 Bevel, 60 Degree, Extended             | 1126-0620-P1 |         | .185 Knife, 45 Degree                         | 1126-0644-P1 |
|         | .039 Bevel, 45 Degree Tinned on edge / face | 1126-0621-P1 |         | .181 Knife, 45 Degree                         | 1126-0645-P1 |
|         | .078 Bevel, 45 Degree Tinned on edge / face | 1126-0622-P1 |         | .185 Knife, 45 Degree, Blunt                  | 1126-0646-P1 |
|         | .118 Bevel, 45 Degree Tinned on edge / face | 1126-0623-P1 |         | .118 Knife, 45 Degree                         | 1126-0647-P1 |
|         | .039 Bevel, 45 Degree                       | 1126-0624-P1 |         | Single Sided Chisel .08 Wide                  | 1126-0648-P1 |

\* Drawings are representative of tips actual shape. Actual tips may differ somewhat, other than front end geometry.

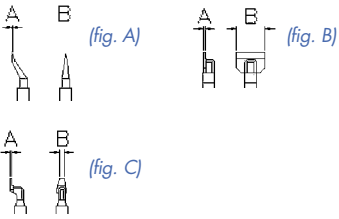
| TIP - CHIP/SOT REMOVAL | COMPONENT TYPE           | SIZE - A        | SIZE - B        | PART NUMBER  |
|------------------------|--------------------------|-----------------|-----------------|--------------|
|                        | Chip 0402 Angle (fig. A) | 2.2mm (.085")   | -               | 1124-0581-P1 |
|                        | Chip 0201 Angle (fig. A) | 0.5mm (.02")    | -               | 1124-0533-P1 |
|                        | Chip 1808 (fig. B)       | 5.0mm (.195")   | -               | 1124-0520-P1 |
|                        | Chip 0402 (fig. C)       | 1.0mm (.40")    | -               | 1124-0521-P1 |
|                        | Chip 0201 (fig. C)       | 0.5mm (.02")    | -               | 1124-0534-P1 |
|                        | SOT 23 (fig. D)          | 1.8mm (.070")   | -               | 1124-0522-P1 |
|                        | SOT 89 (fig. E)          | 2.8mm (.110")   | -               | 1124-0523-P1 |
|                        | Chip 1206 (fig. F)       | 3.6mm (.142")   | -               | 1124-0524-P1 |
|                        | Chip 0805 (fig. G)       | 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 (1.011") | 1124-0507-P1 |
|                        | SOP 44                   | 13.1mm (.516")  | 28.4mm (1.120") | 1124-0508-P1 |
|                        | TSOP 56                  | 18.8mm (.739")  | 14.1mm (.557")  | 1124-0509-P1 |
|                        | TSOP 28                  | 12.0mm (.471")  | 8.5mm (.333")   | 1124-0510-P1 |
|                        | SOIC 8                   | 5.1mm (.202")   | 4.65mm (.183")  | 1124-0519-P1 |
|                        | TSOP 40                  | 18.8mm (.740")  | 10.4mm (.410")  | 1124-0526-P1 |
|                        | PLCC 28 Socket           | 9.3mm (.365")   | 9.3mm (.365")   | 1124-0511-P1 |
|                        | PLCC 32                  | 14.2mm (.561")  | 11.7mm (.459")  | 1124-0512-P1 |
|                        | PLCC 44                  | 16.8mm (.622")  | 16.8mm (.622")  | 1124-0513-P1 |
|                        | QFP 144                  | 20.6mm (.810")  | 20.6mm (.810")  | 1124-0514-P1 |
|                        | PLCC 28                  | 11.8mm (.465")  | 11.8mm (.465")  | 1124-0515-P1 |
|                        | QFP 100/128              | 22.0mm (.865")  | 16.0mm (.628")  | 1124-0516-P1 |
|                        | PLCC 18                  | 7.6mm (.300")   | 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 |
|                        | QFP 100                  | 26.6mm (1.048") | 26.6mm (1.048") | 1124-0531-P1 |
|                        | VQFP 100                 | 15.5mm (.610")  | 15.5mm (.610")  | 1124-0535-P1 |
|                        | TQFP 64                  | 15.3mm (.602")  | 15.3mm (.602")  | 1124-0537-P1 |
|                        | Blade                    | 6mm (.236")     | -               | 1124-0536-P1 |
|                        | Blade                    | 10.8mm (.425")  | -               | 1124-0501-P1 |
|                        | Blade                    | 16.0mm (.630")  | -               | 1124-0502-P1 |
|                        | Blade                    | 21.2mm (.835")  | -               | 1124-0503-P1 |
|                        | Blade                    | 25.0mm (.984")  | -               | 1124-0532-P1 |



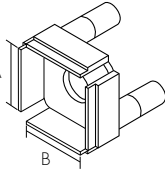
# MT-100 AND TP-100 SMT REMOVAL TIPS

TIP SPECIFICATIONS

## MT-100 TIPS

| TIP - CHIP/SOT REMOVAL                                                            | COMPONENT TYPE            | SIZE - A      | SIZE - B      | PART NUMBER  |
|-----------------------------------------------------------------------------------|---------------------------|---------------|---------------|--------------|
|  | Chip (fig. A)             | 0.2mm (.008") | 0.2mm (.008") | 1124-1001-P1 |
|                                                                                   | Chip, SOT (fig. B)        | 0.7mm (.03")  | 0.5mm (.03")  | 1124-1002-P1 |
|                                                                                   | Chip, SOT (fig. B)        | 0.7mm (.03")  | 1mm (.04")    | 1124-1003-P1 |
|                                                                                   | Chip, SOT (fig. B)        | 0.7mm (.03")  | 2mm (.08")    | 1124-1004-P1 |
|                                                                                   | Chip, SOT, TSOPS (fig. C) | 0.7mm (.03")  | 6mm (.24")    | 1124-1005-P1 |
|                                                                                   | Chip, SOT, TSOPS (fig. C) | 0.7mm (.03")  | 8mm (.31")    | 1124-1006-P1 |
|                                                                                   | Chip, SOT, TSOPS (fig. C) | 0.7mm (.03")  | 10mm (.39")   | 1124-1007-P1 |
|                                                                                   | Chip, SOT, TSOPS (fig. C) | 0.7mm (.03")  | 13mm (.51")   | 1124-1008-P1 |
|                                                                                   | Chip, SOT, TSOPS (fig. C) | 0.7mm (.03")  | 18mm (.74")   | 1124-1009-P1 |
|                                                                                   | Chip, SOT, TSOPS (fig. C) | 0.7mm (.03")  | 28mm (1.09")  | 1124-1010-P1 |

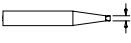
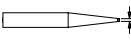
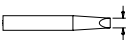
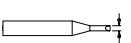
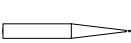
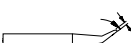
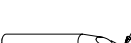
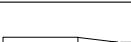
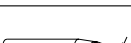
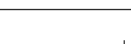
## TP-100 TIPS

| TIP                                                                                 | TYPE      | LEAD COUNT                 | SIZE - A     | SIZE - B     | COMPONENT HEIGHT | COMPONENT FOOTPRINT | PART NUMBER  |
|-------------------------------------------------------------------------------------|-----------|----------------------------|--------------|--------------|------------------|---------------------|--------------|
|  | LQFP/TQFP | 80                         | 12mm (.472") | 12mm (.472") | 1.4mm            | 2.0mm               | 1124-2001-P1 |
|                                                                                     | LQFP/TQFP | 64, 80, 100, 120, 128, 168 | 14mm (.551") | 14mm (.551") | 1.4mm            | 2.0mm               | 1124-2002-P1 |
|                                                                                     | LQFP/TQFP | 128, 144, 160, 176         | 20mm (.788") | 20mm (.788") | 1.4mm            | 2.0mm               | 1124-2003-P1 |
|                                                                                     | LQFP/TQFP | 176, 216                   | 24mm (.945") | 24mm (.945") | 1.4mm            | 2.0mm               | 1224-2004-P1 |
|                                                                                     | LQFP/TQFP | 208, 256                   | 28mm (1.10") | 28mm (1.10") | 1.4mm            | 2.0mm               | 1224-2005-P1 |
|                                                                                     | QFP       | 52, 64, 80, 100            | 14mm (.551") | 14mm (.551") | 2.7mm            | 3.2mm               | 1124-2006-P1 |
|                                                                                     | QFP       | 52, 64, 80, 100            | 14mm (.551") | 14mm (.551") | 2.7mm            | 3.9mm               | 1124-2007-P1 |
|                                                                                     | QFP       | 64, 80, 100, 128           | 14mm (.551") | 20mm (.788") | 2.7mm            | 3.2mm               | 1124-2008-P1 |
|                                                                                     | QFP       | 64, 80, 100, 128           | 14mm (.551") | 20mm (.788") | 2.7mm            | 3.9mm               | 1124-2009-P1 |
|                                                                                     | QFP       | 120, 128, 144, 160, 208    | 28mm (1.10") | 28mm (1.10") | 3.4mm            | 3.9mm               | 1124-2010-P1 |
|                                                                                     | QFP       | 160                        | 28mm (1.10") | 28mm (1.10") | 3.4mm            | 3.9mm               | 1124-2011-P1 |



# PS-90 SOLDERING TIPS

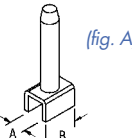
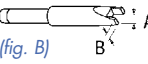
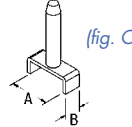
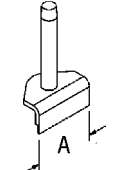
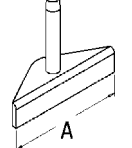
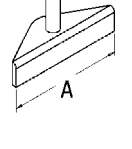
TIP SPECIFICATIONS

| TIPS                                                                                  | DESCRIPTION                   | TIP SIZE        | PART NUMBER  |
|---------------------------------------------------------------------------------------|-------------------------------|-----------------|--------------|
|    | 1/16" Chisel                  | 1.60mm (0.063") | 1121-0335-P5 |
|    | 1/32" Conical                 | 0.80mm (0.031") | 1121-0336-P5 |
|    | 1/8" Chisel                   | 3.20mm (0.125") | 1121-0337-P5 |
|    | 1/16" Chisel (MicroFine)      | 1.60mm (0.063") | 1121-0349-P5 |
|    | 1/32" Chisel                  | 0.80mm (0.031") | 1121-0359-P5 |
|   | 3/32" Chisel                  | 2.40mm (0.094") | 1121-0360-P5 |
|  | 1/32" Bent Chisel             | 0.80mm (0.031") | 1121-0361-P5 |
|  | Single-Sided Chisel           | 3.30mm (0.13")  | 1121-0406-P5 |
|  | 1/16" Chisel (High Capacity)  | 1.60mm (0.063") | 1121-0414-P5 |
|  | Mini-Wave                     | 3.30mm (0.13")  | 1121-0490-P5 |
|  | 1/16" Chisel, Long Reach      | 1.60mm (0.063") | 1121-0499-P5 |
|  | 1/16" Bent Chisel, Long Reach | 1.60mm (0.063") | 1121-0500-P5 |
|  | 1/16" Chisel, Extended Reach  | 1.60mm (0.063") | 1121-0533-P5 |
|  | Angled Mini-Wave              | 2.40mm (0.09")  | 1121-0610-P5 |
|  | 1/64" Sharp Bent Conical      | 0.40mm (0.016") | 1121-0830-P5 |



## PS-90 SMT REMOVAL TIPS

### TIP SPECIFICATIONS

| TIPS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | DESCRIPTION                | TIP SIZE                             | PART NUMBER  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------|--------------|
| <br><br><br><br><br> | SOIC - 8 (JEDEC) (fig. A)  | 5.05mm x 5.08mm<br>(0.199" x 0.200") | 1121-0390-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SOIC - 14 (JEDEC) (fig. A) | 5.05mm x 8.99mm<br>(0.199" x 0.354") | 1121-0391-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SOIC - 16 (JEDEC) (fig. A) | 5.05mm x 10.2mm<br>(0.199" x 0.404") | 1121-0392-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Chip Component (fig. B)    | 3.56mm x 2.03mm<br>(0.14" x 0.08")   | 1121-0303-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | TSOP (fig. C)              | 19.333mm x 8.1mm<br>(0.76" x 0.32")  | 1121-0403-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Flat Blade Tip             | A = 7.6mm (0.3")                     | 1121-0512-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Flat Blade Tip             | A = 10.2mm (0.4")                    | 1121-0514-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Flat Blade Tip             | A = 12.7mm (0.5")                    | 1121-0473-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Flat Blade Tip             | A = 17.8mm (0.7")                    | 1121-0416-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Flat Blade Tip             | A = 20.3mm (0.8")                    | 1121-0497-P1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Flat Blade Tip             | A = 25.4mm (1.0")                    | 1121-0448-P1 |



## SX-90 DESOLDERING TIPS & SOLDER REMOVAL TIPS

### TIP SPECIFICATIONS

**TIPS SELECTION** One of the most important aspects for successful solder removal is the selection of the proper size tip. There are several points to keep in mind.

1. The Inside Diameter (I.D.) of the tip must be large enough to fit over the lead, while providing sufficient room so that air and solder can be drawn through the tip.
2. The Outside Diameter (O.D.) of the tip must be slightly smaller than the diameter of the pad to prevent tip contact to the board laminate and minimize the possibility of damage.

| TIPS                                                                                                                                                                           | DESCRIPTION                 | DIAMETER                                            | PART NUMBER  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------|--------------|
|                                                                                             | Thermo-Drive                | 0.76mm (0.030") I.D. x 2.03mm (0.080") O.D.         | 1121-0930-P5 |
|                                                                                                                                                                                | Thermo-Drive                | 1.02mm (0.040") I.D. x 2.29mm (0.090") O.D.         | 1121-0931-P5 |
|                                                                                                                                                                                | Thermo-Drive                | 1.52mm (0.060") I.D. x 3.05mm (0.120") O.D.         | 1121-0932-P5 |
|                                                                                                                                                                                | Thermo-Drive                | 2.29mm (0.090") I.D. x 5.1mm (0.200") O.D.          | 1121-0933-P5 |
|                                                                                                                                                                                | Thermo-Drive                | 4mm (0.16") I.D. x 5.1mm (0.200") O.D.              | 1121-0951-P5 |
|                                                                                                                                                                                | Thermo-Drive, Flathead      | (0.050") x (0.090") I.D. x (0.110") x (0.190") O.D. | 1121-0934-P5 |
|                                                                                                                                                                                | Extended Reach Thermo-Drive | 0.78mm (0.030") I.D. x 2.29mm (0.090") O.D.         | 1121-0935-P5 |
|                                                                                                                                                                                | Extended Reach Thermo-Drive | 1.02mm (0.040") I.D. x 2.54mm (0.10") O.D.          | 1121-0936-P5 |
|                                                                                                                                                                                | Extended Reach Thermo-Drive | 1.52mm (0.060") I.D. x 3.05mm (0.120") O.D.         | 1121-0937-P5 |
|                                                                                                                                                                                | ThermoMax                   | 0.76mm (0.030") I.D. x 1.91mm (0.075") O.D.         | 1121-0938-P5 |
|                                                                                           | Precision                   | 0.50mm (0.020") I.D. x 1.79mm (0.070") O.D.         | 1121-0941-P5 |
|                                                                                                                                                                                | Precision                   | 0.76mm (0.030") I.D. x 2.03mm (0.080") O.D.         | 1121-0942-P5 |
|                                                                                                                                                                                | Precision                   | 1.02mm (0.040") I.D. x 2.29mm (0.090") O.D.         | 1121-0943-P5 |
|                                                                                                                                                                                | Precision                   | 1.52mm (0.060") I.D. x 2.79mm (0.110") O.D.         | 1121-0944-P5 |
|                                                                                                                                                                                | Precision                   | 0.635mm (0.025") I.D. x 1.39mm (0.055") O.D.        | 1121-0949-P5 |
|                                                                                                                                                                                | Precision                   | 0.635mm (0.025") I.D. x 1.14mm (0.045") O.D.        | 1121-0950-P5 |
| <br> | Flo-D-Sodr                  | 1.52mm (0.060") I.D. X 4.78mm (0.188") O.D.         | 1121-0945-P5 |
|                                                                                                                                                                                | Flo-D-Sodr, Precision       | 0.50mm (0.020") I.D. X 1.78mm (0.070") O.D.         | 1121-0946-P5 |
|                                                                                                                                                                                | Flo-D-Sodr, Precision       | 0.50mm (0.020") I.D. X 1.78mm (0.070") O.D.         | 1121-0947-P5 |
|                                                                                                                                                                                | Flo-D-Sodr, Precision       | 1.02mm (0.040") I.D. X 2.29mm (0.090") O.D.         | 1121-0948-P5 |

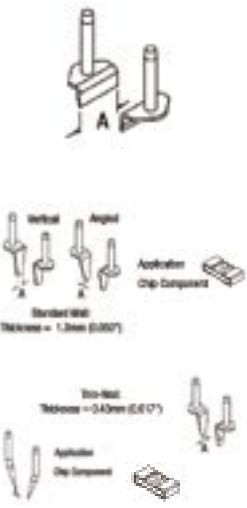
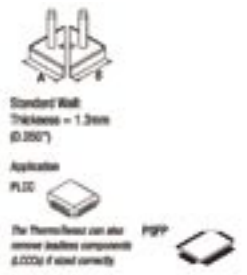
Not suitable for use with SX-70 or SX-80



# TT-65 SMT REMOVAL TIPS & HOT JET NOZZLES

TIP SPECIFICATIONS

## TT-65 SMT REMOVAL TIPS

| CHIP REMOVAL TIPS                                                                   | DESCRIPTION                     | TIP SIZE                        | PART NUMBER  |
|-------------------------------------------------------------------------------------|---------------------------------|---------------------------------|--------------|
|   | SOIC, SOJ, SIMMs                | A=10.2mm (0.4")                 | 1121-0514-P1 |
|                                                                                     | SOIC, SOJ, SIMMs                | A=12.7mm (0.5")                 | 1121-0473-P1 |
|                                                                                     | SOIC, SOJ, SIMMs                | A=17.8mm (0.7")                 | 1121-0416-P1 |
|                                                                                     | SOIC, SOJ, SIMMs                | A=20.3mm (0.8")                 | 1121-0497-P1 |
|                                                                                     | SOIC, SOJ, SIMMs                | A=25.4mm (1.0")                 | 1121-0448-P1 |
|                                                                                     | Chip Component                  | A=0.76mm (0.03")                | 1121-0398-P1 |
|                                                                                     | Chip Component                  | A=2.0mm (0.08")                 | 1121-0313-P1 |
|                                                                                     | Chip Component                  | A=4.1mm (0.16")                 | 1121-0399-P1 |
|                                                                                     | Chip Component, Small SOIC      | A=6.4mm (0.25")                 | 1121-0401-P1 |
|                                                                                     | Thin-Walled Chip Component      | A=0.76mm (0.03")                | 1121-0520-P1 |
|                                                                                     | Thin-Walled Chip Component      | A=2.0mm (0.08")                 | 1121-0521-P1 |
|                                                                                     | 1/64" Angled Fine Point Conical | A=0.43mm (0.017")               | 1121-0517-P1 |
| PLCC REMOVAL TIPS                                                                   | DESCRIPTION                     | TIP SIZE A x B                  | PART NUMBER  |
|  | PLCC-20                         | 6.86mm x 6.86mm (0.27" x 0.27") | 1121-0316-P1 |
|                                                                                     | PLCC-28                         | 9.4mm x 9.4mm (0.37" x 0.37")   | 1121-0317-P1 |
|                                                                                     | PLCC-32                         | 12.2mm x 9.65mm (0.48" x 0.38") | 1121-0352-P1 |
|                                                                                     | PLCC-44, PQFP-84                | 14.5mm x 14.5mm (0.57" x 0.57") | 1121-0318-P1 |
|                                                                                     | PLCC-52, PQFP-100               | 17.0mm x 17.0mm (0.67" x 0.67") | 1121-0319-P1 |
|                                                                                     | PLCC-68, PQFP-132               | 21.9mm x 21.9mm (0.86" x 0.86") | 1121-0320-P1 |
|                                                                                     | PLCC-84, PQFP-160               | 26.9mm x 26.9mm (1.06" x 1.06") | 1121-0321-P1 |

## TT-85 HOT JET NOZZLES

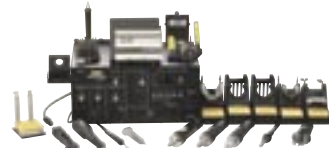
| TIPS                                                                                | DESCRIPTION                   | TIP SIZE                                           | PART NUMBER  |
|-------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------|--------------|
|  | Round Nozzle                  | 1.5mm (.06") Inner diameter                        | 1259-0129-P1 |
|  | Round Nozzle, Bent 60 degrees | 1.5mm (0.6") Inner diameter                        | 1259-0130-P1 |
|  | Flat Jet Nozzle               | 6.1mm x 1.9mm (.24" x .074") Inner flow dimensions | 1259-0131-P1 |



# PRODUCT PAGE

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PACE provides innovative solutions, products and training for the assembly, rework, repair and testing of printed circuit boards. PACE's unique capabilities and evolving vision have provided universal solutions to thru-hole and surface-mount assembly and rework problems for the most advanced electronics. Our strong commitment and history of achievement has resulted in an unparalleled range of Assembly, Repair and Fume Extraction systems to meet your company's needs whether working to ISO-9000, industrial, military or your own internal specifications. Whatever the challenge, PACE stands ready to provide the best, cost-effective solution for you.

| ST SYSTEMS                                                                                                                                                                                                                                                                                                          | ST 30                                                                                 | ST 50                                                                                 | ST 70                                                                                 | ST 100                                                                                | ST 115                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| PACE's new ST systems offer the most innovative control technology ever developed - IntelliHeat. ST systems are capable of providing the widest range of applications and flexibility by simply adding additional handpieces. Regardless if you are a small or large shop, ST systems are the right answer for you! |    |    |    |    |  |
| FUME EXTRACTION                                                                                                                                                                                                                                                                                                     | ARM-EVAC 105                                                                          | ARM-EVAC 250                                                                          | FUMEFLO WORKTABLE                                                                     | ARM-EVAC 50                                                                           |                                                                                     |
| PACE's Fume Extraction Systems feature the latest advancements in filter condition monitoring and process control as well as cost effective solutions. A variety of collection accessories are available.                                                                                                           |   |   |   |   |                                                                                     |
| MBT/PRC SYSTEMS                                                                                                                                                                                                                                                                                                     | MBT 350                                                                               | PRC 2000                                                                              |                                                                                       |                                                                                       |                                                                                     |
| PACE offers a broad range of rework and repair products to meet all your repair needs. Whether you are replacing a surface mount component, repairing a multi-layer printed circuit board, or making a plated thru-hole repair.                                                                                     |  |  |                                                                                       |                                                                                       |                                                                                     |
| THERMOFLO SYSTEMS                                                                                                                                                                                                                                                                                                   | TF 1700                                                                               | TF 2700                                                                               | XR 3000                                                                               |                                                                                       |                                                                                     |
| PACE's family of ThermoFlo products offer complete solutions from simple surface mount removal and installation to delicate BGA and CSP rework. PACE's new inspection systems feature X-Ray and endoscopic technology to really "SEE" the results of your processes.                                                |  |  |  |                                                                                       |                                                                                     |
| CONVECTIVE & PRE-HEAT                                                                                                                                                                                                                                                                                               | ST 300                                                                                | ST 350                                                                                | ST 525                                                                                | ST 450                                                                                |                                                                                     |
| PACE's new family of hot air rework systems are ideal for all SMT applications. A wide range of product features are available to meet your specific needs. They can be easily upgraded by adding one of our powerful preheaters and/or PCB holders.                                                                |  |  |  |  |                                                                                     |

# SOLUTIONS FOR THE ELECTRONICS INTERCONNECTION PROCESS

## A WORLDWIDE COMMITMENT

With offices worldwide, PACE is a recognized world leader in the development of solutions for the assembly and repair of highly advanced electronics. Our expertise extends back to the dawn of the modern electronics industry. In 1958, PACE introduced training programs for the repair of printed wire assemblies and soon after, revolutionized the industry by creating the first self-contained vacuum desoldering system.

Today, PACE continues to provide innovative solutions, products and training for the rework, repair and testing of printed circuit assemblies. Our unique capabilities and evolving vision have provided universal solutions for thru-hole and surface mount assembly and rework problems for the most advanced electronics.

Additionally, PACE manufactures Fume Extraction Systems to reduce exposure to harmful particulates and gases created from hand soldering operations. PACE Fume Extraction Systems effectively remove these contaminants from the worker's breathing zone thereby reducing or eliminating health risks and improving productivity.

Our strong commitment and history of achievement has resulted in an unparalleled range of Assembly, Repair and Fume Extraction solutions to meet your needs whether working to ISO-9000, industrial, military or your own internal specifications. Whatever the challenge, PACE stands ready to help you set a new standard.

## A CUSTOMER COMMITMENT

In 2001 the distinguished Frost & Sullivan Award for the World Surface Mount Technology Rework and Repair Equipment Industry was bestowed upon PACE.

The Frost & Sullivan Market Engineering Customer Service Leadership Award is presented to companies that have demonstrated superior responsiveness to customer needs and value-added support in technology and services.

PACE was selected based upon independent research with customers, key market participants and even our competition. This award reiterates PACE's commitment to excellence from product concept to customer service in the field. Frost & Sullivan's research recognizes that the key to PACE's success in the industry is our interactive approach with customers to provide solutions and respond to end-user feedback when developing products.



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