

# Fancort Presents Japan UNIX Robotic Soldering Solutions



**Perfect Soldering every time  
with reduced labor costs**



# Why robotic soldering might be the right solution for your application

1. Eliminate human error
2. Faster than manual soldering
3. Very flexible
4. Easy to program
5. Very low maintenance
6. Use less skilled operators for difficult soldering applications.



## Three Possible Solutions:

- Contact Soldering
- Laser Soldering
- Ultrasonic Soldering

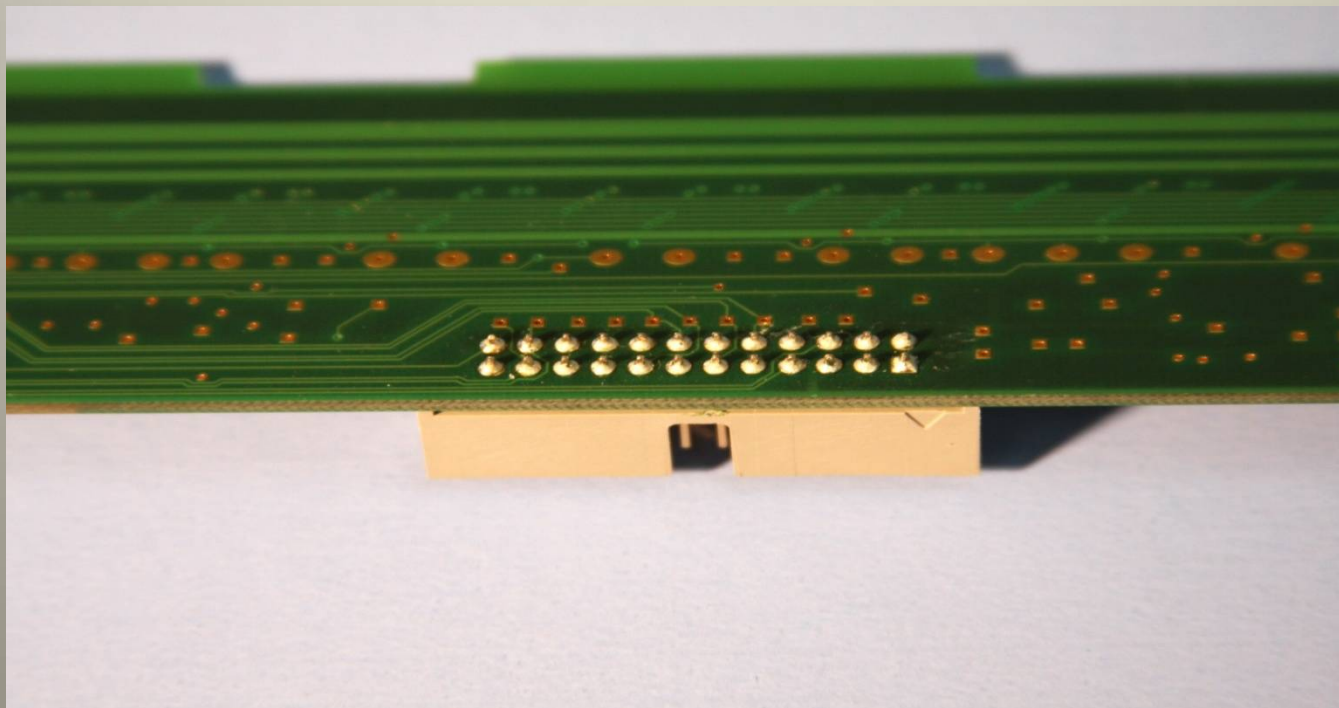


# Contact Soldering Applications

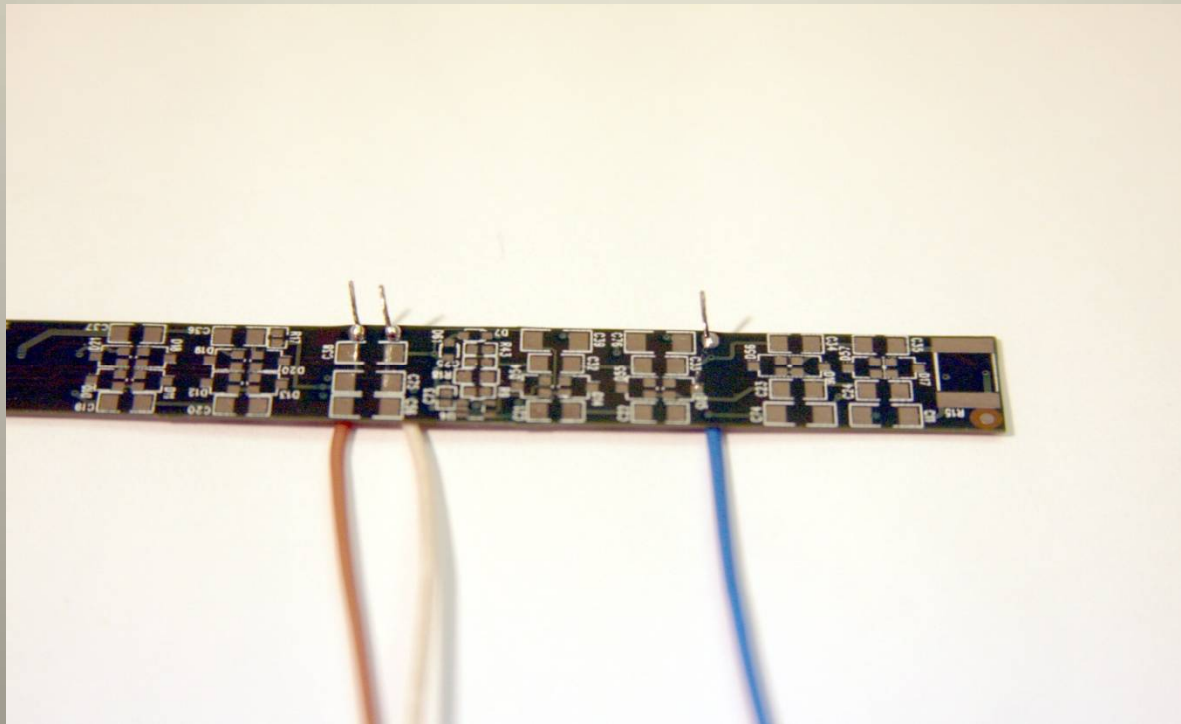
- These are the most common applications for robotic soldering and are designed to replace manual soldering, especially soldering that requires a highly skilled operator.
- The size of what's being soldered, or the elements being soldered are usually not an obstacle. Access to the points to solder can be an issue as the system needs to bring solder tip and feed needle to the point of contact.
- The choice of robot platform will depend on your budget, your desired throughput, and the type of parts being soldered
- The following slides show you some typical applications



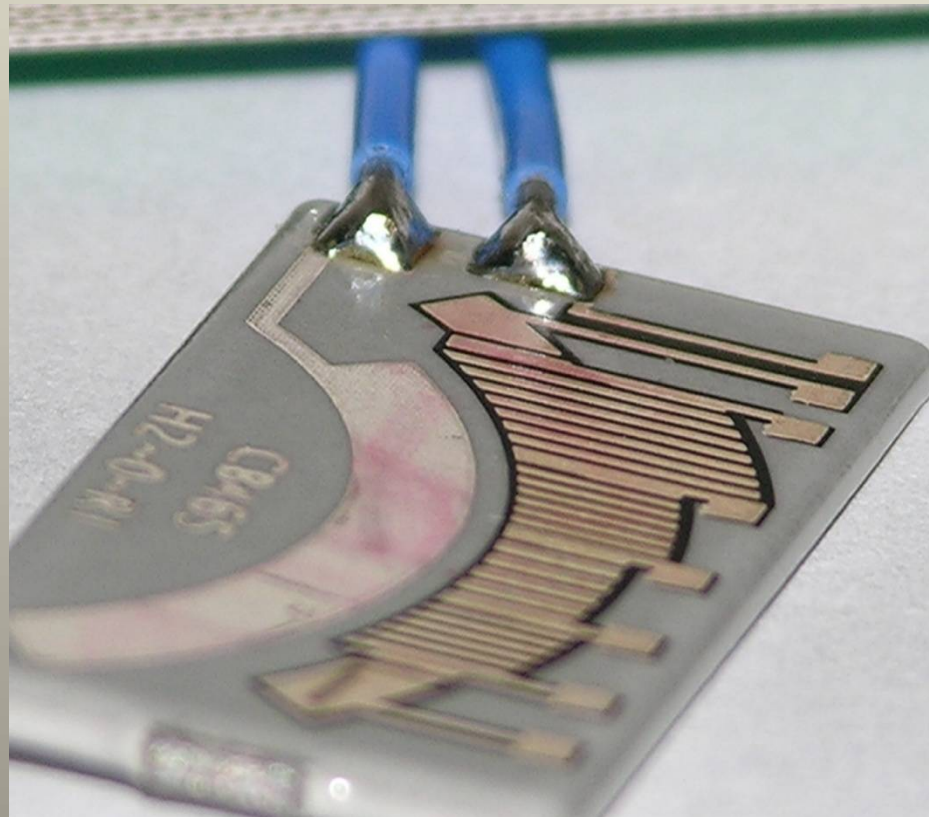
# Contact Slide Soldering of connector doing both rows simultaneously



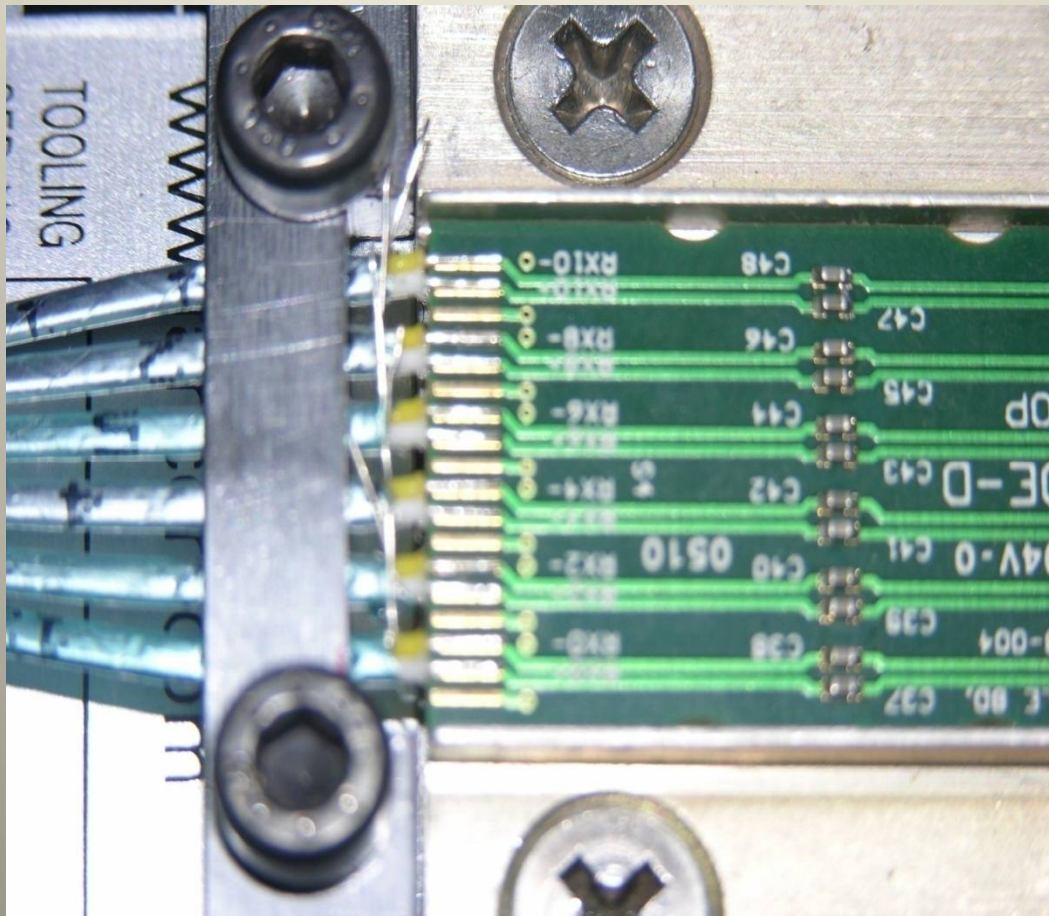
# Through-hole Wires-Point to Point



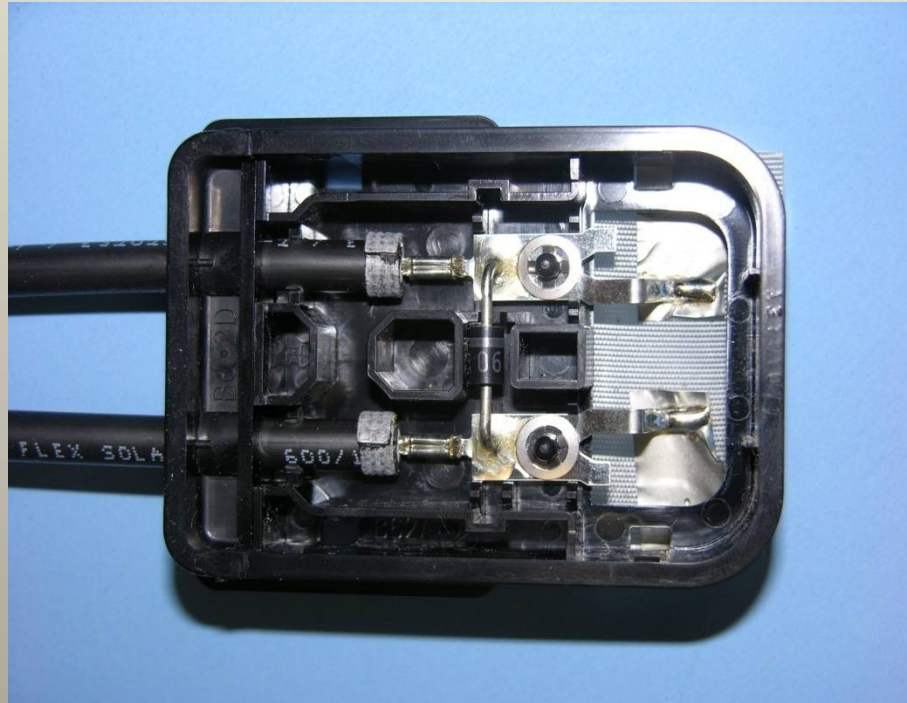
# Wires on pads-Point to Point



# Very fine, close pitch wires on pads-Point to Point

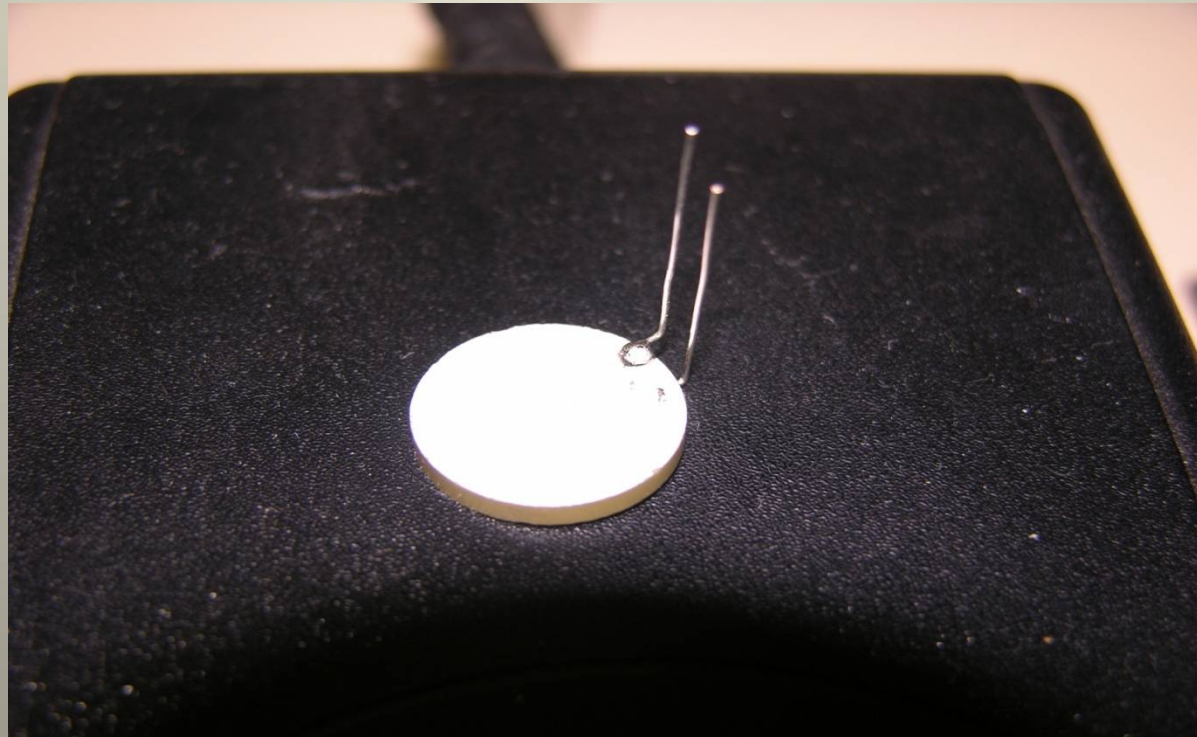


# Solar Manufacturer 'J' Box



- Contact soldering of terminals to foil
- UNIX components sold to systems integrator for use in a large cell they delivered to the customer

# Wires to piezoelectric device-Point to Point



# Features of a UNIX Contact System:

- Point-to-point or line soldering
- Long lasting, solid core solder tips
- Change tips in less than 60 seconds by removing heater block assembly; no need to wait for tip to cool down
- Solder feed angle is pinned into position for accurate changeover using graduated angle setter
- Program up to 63 different soldering conditions
- Easy to program soldering profiles on teach pendant or optional software
- Alarms for solder out, solder jam or heater alarm
- Options include N2 for lead-free, solder wire preheater, three axis tip correction, wire brush cleaner, clean-cut feeder and more



# UNIX Laser Soldering



# Laser Soldering Applications

- **Laser soldering is the ideal non-contact solution for very small soldering applications that are too difficult for a contact soldering system**
- **Laser soldering is typically faster than contact soldering and is therefore ideal for very high volume requirements**
- **Some typical laser soldering applications are found in medical device manufacturing, camera components, automotive assemblies, sensors, watches, motors, and microelectronic devices**
- **Laser soldering reduces the cost of consumables since there are no solder tips to replace and reduced electrical costs**



# Features of UNIX Laser Soldering System

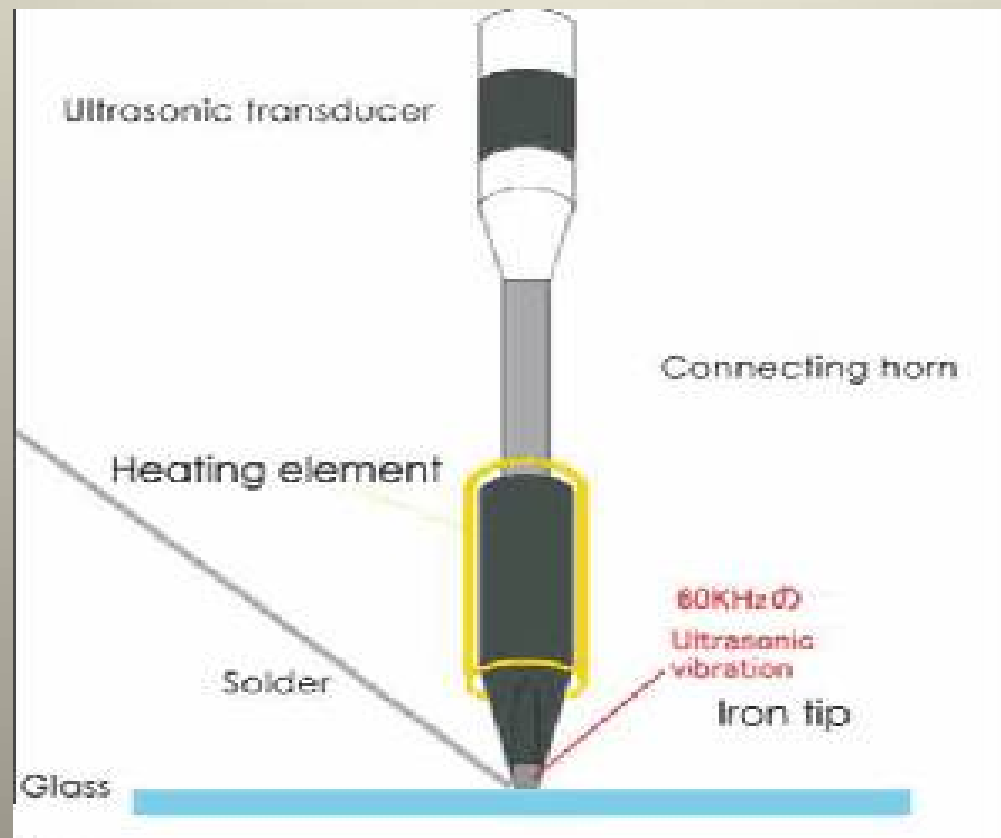
- CCD Camera built into laser head for ease of programming
- Spot sizes down to .2mm
- Custom shapes for more precise spot of heat, eg oval, rectangle, etc.
- Average mean life of 20,000 hours
- Special feeder to handle .015mm solder wire
- Ideal for faster cycle times and very fine soldering requirements
- IR sensor to measure real time temperature
- Available in desktop, SCARA, or Cartesian robots



# UNIX Ultrasonic Soldering



# Ultrasonic Soldering Iron



# Features of UNIX Ultrasonic Soldering Systems

- Available in manual system or can be integrated into any UNIX robot
- Ideal for soldering applications where you want to eliminate the use of flux
- Temperature range from 250-450C
- Heater capacity 150W
- Alarms for heater or sensor wire breaking
- Digital temperature control
- Ultrasonic stability improved by using double-structure vibrator
- 60KHz of ultrasonic waves creates cavitation, cleaning, diffusing, deaeration and chemical actions
- Ideal solution for soldering on glass or dissimilar metals

# Four Robotic Platforms:



# Desktop Soldering Robots



- Four axis robots: X, Y, Z and rotational
- Four models from working area of 200x200mm to 500x500mm
- Comes with soldering head, solder wire feeder, air blow off for tip cleaning, teach pendant
- Graduated angle setter for solder feed angle
- Very rigid construction



# Six Axis Multi-Articulated Robot



- Install on a floor or suspend from a ceiling
- Maximum flexibility for difficult soldering angles
- 340 degrees of motion
- Maximum speed of 5300mm/sec

# Five Axis Cartesian Robot



- Motion range: X-350mm; Y-400mm; Z-100mm; theta 360 degrees
- Maximum speed 1130/mm/sec



# Five Axis SCARA Robot



- Two models, 450mm or 550mm reach
- Maximum speed 5349mm/sec

# Rotary Table with 700H SCARA Soldering Robot



# Options and Accessories

- **Vision or inspection systems**
- **Light curtain or full enclosure**
- **Clean-cut feeder to reduce solder balling**
- **Needle swing mechanism to increase access to solder tip**
- **Solder wire preheater**
- **N2 generator for lead-free applications**
- **Fume extractor**
- **Custom solder tips**
- **Digital thermometer for confirming tip temperature**
- **Wire brush cleaner**
- **Fixturing**
- **Training**
- **Conveyor**

# The Next Steps

- 1. Send us photographs, drawings, a finished soldered part so we can evaluate the application**
- 2. Complete the Solder Application Development Form we can email you so we have more detailed information on your current process, solder used, desired throughput, etc.**
- 3. We will give you feedback and see if you want us to process your parts on our system and send you a video.**
- 4. If you request sampling, we will need enough parts to produce at least ten assemblies along with a spool of your solder.**
- 5. It usually takes about a week to ten days to complete the sampling and a video.**
- 6. We will provide a quotation for your consideration further discussion with us.**
- 7. Send us your most difficult application for evaluation.**

