

Operating Manual

Jetronix-Eco

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Table of Contents

1	Introduction	4
1.1	PURPOSE	4
1.2	JETRONIX-ECO FEATURES.....	4
1.3	JETRONIX-ECO FIELD OF APPLICATIONS	5
2	Jetronix-Eco Technical Data.....	6
2.1	PRODUCT TECHNICAL SPECIFICATION	6
2.2	JETRONIX-ECO MAIN PARTS DESCRIPTION.....	7
2.3	OPERATING PRECAUTION.....	12
2.4	SAFETY INSTRUCTIONS.....	12
3	Initial Setup	13
3.1	MACHINE PACKAGE CONTENTS.....	13
3.2	MACHINE INITIAL SETUP	13
4	Operating instructions	14
4.1	GETTING STARTED	14
4.2	PROCESS PROFILE PARAMETERS.....	16
5	Warranty Policy	20
6	Getting the Technical Support	21
7	The Glossary	22

About this Guide

This document is divided into the following chapters:

- Chapter 1, “Introducing Jetronix-Eco Product Information”.
- Chapter 2, “Jetronix-Eco Technical Data”
- Chapter 3, “Jetronix-Eco Initial Set up”
- Chapter 4, “Operating Instruction”
- Chapter 5, “Warranty Policy”
- Chapter 6, “Getting Technical Support”
- The glossary provides definitions of technical terms that appear in the guide.

“Jetronix-Eco” Operating Manual organized in chapters and ends with a glossary of the terms and abbreviations used.

Chapters contain all what's related to the Product features, Technical Data, Safety precautions Product initial Set up, operating instructions and warranty policy ends how to get the Technical support.

Table of content in the soft copy version is dynamic (cross reference); Right click over any content then Ctrl + Right click will direct the reader to the content location.

For more detailed information regarding features, capabilities, and Technical Information introduced with this release, contact our Live Technical Support through SKYPE account [jovysystemscs](#) duty time is 10am to 5pm daily (China Local Time). Alternatively, send email to support@jovy-sys.com or fill in a support form, from this link <http://www.jovy-systems.com/en/contacts/contact-us.html>

For the most current version of this document, please visit: <http://www.jovy-systems.com/>

1 Introduction

1.1 Purpose

“Jetronix-Eco” Rework System is manufactured by Jovy Systems® Limited as the first product in the Jovy Systems’ Economic Rework System lines. This operation manual provides the detailed information about the product. Product feature shows what the product made for, as well the field of application.

The Safety precaution is very important for user, product and work space safety. User should follow and print it out if necessary

The Operating Manual provides a standard guide for the user. The user can develop own operating method after complete understanding, following and practice the information in this Manual.

The Operating Manual is the only reference for using Jetronix-Eco, it is recommended to read it carefully before using the product.

1.2 Jetronix-Eco Features

- Powerful machine: (max heating power: 3200 watt).
- PID temperature control based microprocessor technology.
- Three heating zones, Reflow zone, Inner preheating zone and Outer preheating zone.
- Close loop heating environment.
- Upper heater can move Up/Down, In/Out and rotate 180°.
- Two Channels thermocouple real time temperature reading (one optional).
- Flexible thermocouple mounting embedded in a Flexi - tube.
- Large preheating area up to (245mmX245mm).
- Three stages for full process control.
- Separate preheating stage for uniform preheats.
- Built in 1 Watt LED light source.
- Powerful pick up tool up to 120gm lifting power.
- Graphical widescreen LCD.
- Elegant user interface design.
- Saving up to 50 profiles in machine memory.
- User friendly software interface via USB 2.0
- Economical Rework Station with high performance.
- Convenient work space.
- Safety alarm functions to protect PCB or application damage.

1.3 Jetronix-Eco Field of Applications

- BGA on Flex printed circuit.
- PTH connectors, card slots and sockets.
- Metal components housing.
- Micro lead frame.
- PBGA with heat sink.
- Processor plastic sockets.
- Metal Shielding.
- CSP and fine pitches BGA.
- Plastic PLCC.
- Through- hole sockets.
- Heavy Mass CCGA & CBGA.
- Under fill or epoxy coated components.
- QFN, VQFN and advanced design QFN.
- Package over package (POP)...
- Graphical widescreen LCD.



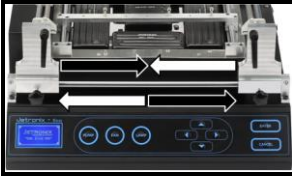
2 Jetronix-Eco Technical Data

2.1 Product Technical Specification

Upper heater Power & type	400 watt-Jetronix(special made)
Upper heater size	80*80 mm
Lower heater power	2800 watt-Jetronix(special made)
Lower heater size	245*245 mm
Total power	3200 watt
Control Method	PID controlling method
Light source	Built in flexible tube 1 Watt LED
Thermocouple type	K-type ,Built in Flex tube
LCD Type	128 *64 Pixel Graphical LCD
Power Supply	230 Volt AC,50/60 Hz.
USB connectivity	USB 2.0
Suction Pump	60 -90 dpi (Lifting power up to 150 gm.)
Cooling fan	Horizontal Cross flow Fan
Max. Application size	290* 315 mm
Total weight	28 Kg.

2.2 Jetronix-Eco Main Parts Description

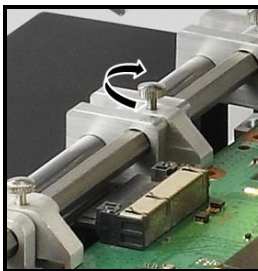
2.2.1 X/Y Movable PCB Holder



The X/Y movable PCB holder, the base equipped with bearing to guarantee smooth movement. The maximum PCB size is 219mm x 315mm



The PCB holder base fastener is known to stop the movement after placing the PCB over the holder.



PCB clamp, to tighten the PCB over the holder and the fastener screw is to prevent the PCB from moving or sag during the heating process

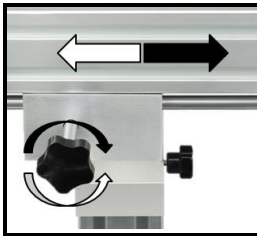
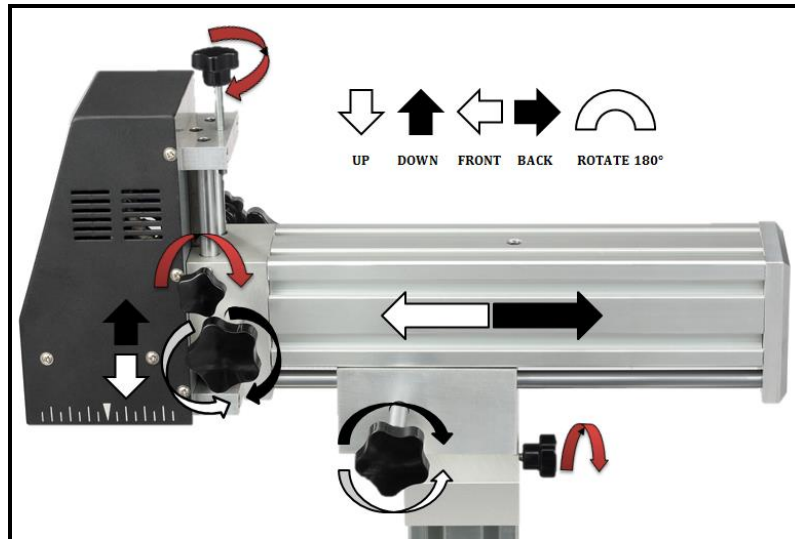


PCB clamp to be open before placing the PCB. There are four movables along the clamp rail, for fixing the PCB from its flat edges.

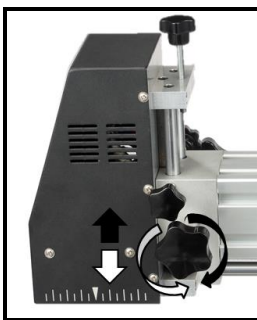


PCB clamp to be closed after placing the PCB. The used clamps should not be closed over or make minimal stress to any PCB components.

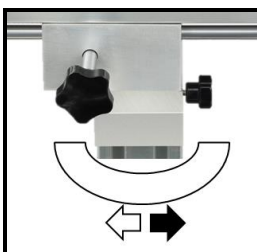
2.2.2 Upper Heater Movement Description



Upper heater Arm move Forward and Backward. **The F/B Knob driver** controls the movement through gears and two roll bars.



Upper Heater Block moves Upward and Downward. **The U/D knob driver** controls the movement through gears and two roll bars.



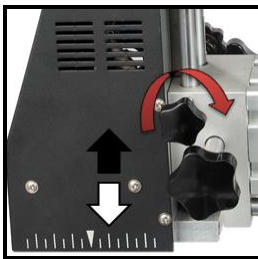
Upper Heater Block with Arm together Rotate 180° from Left to Right and reverse. **L/R rotation fastener** Stop the arm and make it non-movable.



Upper heater Block safety fastener

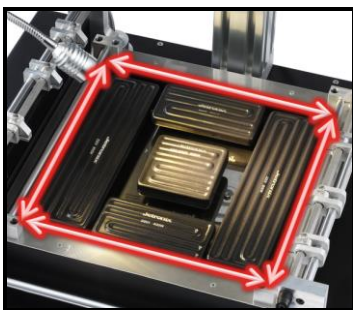


Upper heater Arm L/R rotation fastener

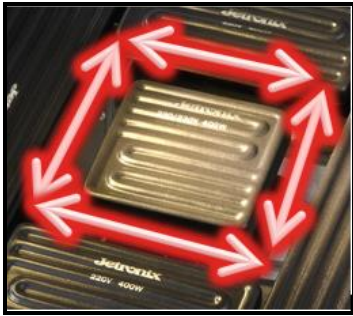


Upper heater Block fastener

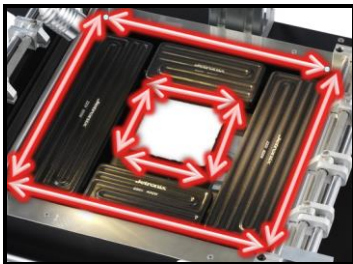
2.2.3 Heaters Technical Details



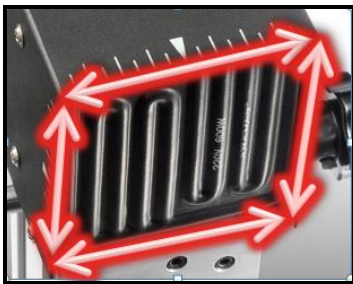
Lower Heaters segmented in Two Zones. Total Heaters Power is 2800 watts.



Lower Heater Zone 2 – Middle Heating Area, Heater size is 80mm x 80mm with total power of 400 watts

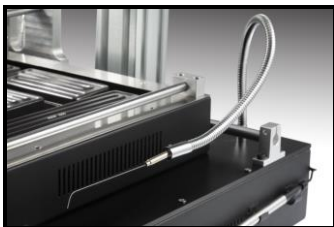


Lower Heating Zone 3 – Sides Heating Area. Two heaters of 60mm x 120mm with total power of 800 watts (400 watts x 2) and Two heaters of 60mm x 240mm with total power of 1600 watts (800 watts x 2).



Upper Heating Zone 1 – Upper heating Area. One Heater of 80mm x 80mm with total power of 400 watts.

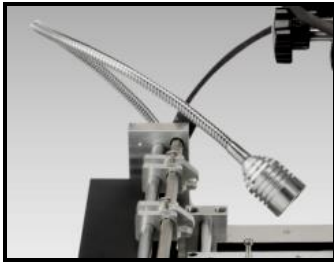
2.2.4 Machine peripherals



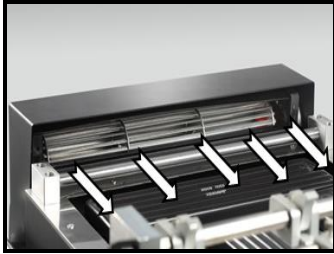
K-type thermocouple embedded inside Flexi tube for easy placement over the PCB.



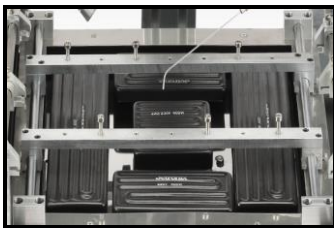
Optional K-type thermocouple channel.



LED light lamp embedded inside Flexi tube for free easy placements.



Cross flow cooling fan directed above the lower heaters level and under the PCB level to provide cooling air carpet without direct effect to the PCB or the Process.



Large PCB supports in two pieces to prevent PCB damage during the heating process.



The suction Pen with high power of 60 dpi to 90 dpi (lifting objects up to 150gm weight)

2.3 Operating precaution

- Please carefully read the relevant information provided by the manual before starting using this machine.
- Make sure that the power cord has been properly connected before using the machine.
- Install the rework station at a location free from splashing of water or other liquids.
- Install the rework station in a dry location.
- Install the rework station at a location free from excessive dust.
- Install the rework station at a location away from inflammable.
- Before starting any process, install the rework station at a location free from the direct airflow impact from air Conditioner, heater or ventilator.
- Regularly clean the surface of the machine especially the guard glass.
- For more safety, please wear heat-proof gloves and never touch the high-temperature zone.

For further information or technical inquiries please write to support@jovy-sys.com

2.4 Safety instructions

- *Fire and explosion hazard*

The upper heating element and the lower heating element become very hot during operation. Flammable objects, liquids, and gases, must be removed from the work area of the device!



Do not use the system to heat any liquids, or containers under pressure. Batteries and electrolyte capacitors can explode if heated excessively.

- *Attention burn hazard*

Hot housing elements should not be brought into contact with the skin or materials that are sensitive to heat. The housing parts of the IR system remain hot for several minutes after a rework process.

- *Attention*

The device contains voltage-conducting parts. There is a risk of fatal injury if inexperienced personnel work on the unit.

Only experienced and qualified electricians may perform repair work.

- Choose the supply power voltage standard. (230V-250V/50Hz or 60Hz) before installing
- To avoid possible electric shock caused serious damage, please disconnect the power cord from the outlet temporary before moving machines.
- Pull out the power if don't use the machine for a long time.

3 Initial Setup

3.1 Machine package contents

The machine package includes the following items

- Basic unit
- 3 heaters, 1 heater from each type
- Operation Manual
- USB cable
- CD includes all needed operational files

3.2 Machine Initial Setup

- Take out the Basic Unit and put it on the horizontal worktable. Please note that the machine weight is 30Kg.
- Remove any plastic or packing materials or any residues might burn when switch the heaters first time.
- Please make sure that the supply voltage accords with the rated voltage on the system nameplate then connect the power cord. 230V-250V/15A
- Insert the vacuum tube into the suction pump nozzle
- Run the CD and copy files into a known folder "Jetronix-Eco"

4 Operating instructions

4.1 Getting started

- Connect the machine to power source and switch on the machine, the

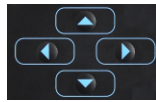


welcome screen will be displayed

- When the LCD display Main Menu Screen choose



settings, scrolling Up/Down through the UP and

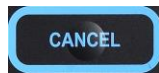


Down press buttons to change the setting parameter press Right to increase or Left to decrease the value or to toggle between

the available choices. Press Enter for Settings Menu

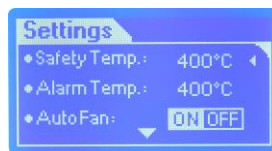


Press

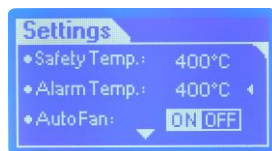


to return to Menu or cancel the input.

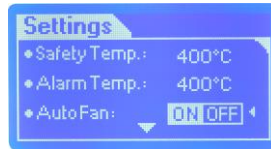
- Settings Menu include the following function parameters



- Safety set point, at this temperature value all heaters will turn off and the cooling fan will turn on.



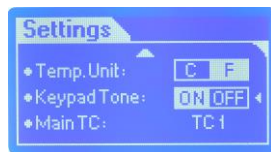
- Alarm set point, at this temperature value the machine buzzer will start working, as audible warning.



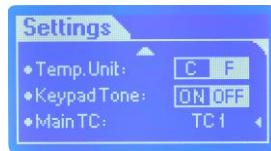
- Auto Fan, ON to run the fan after process Profile ends. OFF to run the fan



- Temperature Unit, to set temperature reading display in °C or °F.

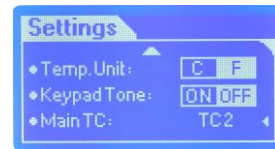


- Keypad Tone, On to activate audible sound with each press at any key pad button. OFF to deactivate the audible sound.



- TC1 is the default Main Thermocouple reading – Built in machine thermocouple, to choose the optional

thermocouple as main TC, choose TC2



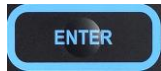
4.2 Process Profile Parameters

4.2.1 Create

Jetronix-Eco Process Profile divided into optional 1 to 4 stages, user can create a process profile of at least 1 stage. Preheat stage is preprogrammed and heaters power predefined, while the other user define the heaters power for each zone.



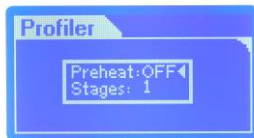
From Main Menu choose Profiler and press Enter



. Then, create a profile

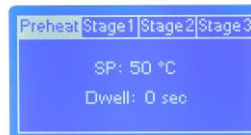


The first screen to Define the process profile stages, if the preprogrammed (preheat) stages needed, press ON. If the process profile stages all to be defined by user, the Preheat stage should be



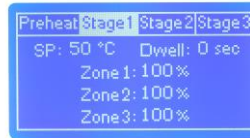
OFF

The required inputs for pre heat stage is the stage ends temperature and



dwell time needed at this temperature

The rest of stages the process profile parameter include more inputs for



each heating zone power setting

In the main tab **Preheat Stage1 Stage2 Stage3** use the Right and Left buttons for stages parameter inputs or to review the stage parameter.

To set a stage's parameter press Up or Down button to the parameter location change the input value (increase) by press Right button (decrease) by press Left button.

In each stage parameters are as follow:

- Stage ends temperature value **SP:**.
- Time in ends temperature (Dwell time) **Dwell:**.
- Upper heater power Level from (0% to 100%) **Zone 1:**.
- Middle heater power Level from (0% to 100%) **Zone 2:**.
- Side heaters power Level from (0% to 100%) **Zone 3:**.

4.2.2 Save process profile

After input the process profile paramters save the profile in the machine memory (Memory can save up to 50 profiles).



Press enter and choose Save profile

The Process Profile will be numbered according to the available empty



profile number in the machine memory .

Write a Name for each Process Profile, choose from letters (A to Z) or



Numbers (0 to 9) , the Name is 5 digits length.

4.2.3 Run a Process Profile

Run a Process Profile just after create new one (the Process Profile could not be saved after running) by chose Run instead of Save



or Run a Saved Process Profile saved in machine



Memory . The Process Profile parameters will be displayed to ensure the settings before running the choosed profile.

The Running Process window display the temperature and stage



status (the stage running will be in converted color).

The Thermocouple readings display the attached thermocouples (TC1, TC2 or both).

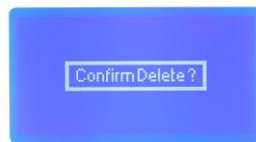
The Process profile time displayed in seconds.

4.2.4 Delete a specific Process Profile

Delete specified one Process Profile from the machine memory by chose



Erase , then chose the profile number



and confirm Delete .

4.2.5 Erase all profiles in machine memory

Delete all Process Profiles saved in machine memory in one step by chose



Format , and confirm Delete all .



A message will be displayed that no profiles saved after this step



done .

5 Warranty Policy

Thank you for purchasing Jovy systems product, you did your good decision. We committed with quality and warranty as follows:

The complete machine has a warranty period of 6 months from the time of purchase.

The package include extra spare 3 heaters from each heaters type, easy to install.

Warranty applied only from machines sold through our official distributors or authorized resellers.

We provide online troubleshooting support and technical advice service through the web site www.jovy-sys.com by support tickets. Alternativly, refer to Getting the Technical Support.

6 Getting the Technical Support

For after sales service at utmost levels and Jovy Systems customer care, we have many support ways in the following points:

- Many process profiles for the common applications.
- White papers.
- Videos.
- Live support through SKYPE.

We also support software and drivers for the any updates.

Visit www.jovy-systems.com and enjoy the priority in support.

7 The Glossary

TC-1	Main Thermocouple
TC-2	Optional Thermocouple
SP	Temperature value for process profile Stage's end
Zone1	Upper heater heating zone
Zone2	Middle heater heating zone
Zone3	Side heaters heating zone
°C	Celsius
°F	Fahrenheit
OFF	For exclude the preheating stage from the process profile
ON	For include the preheating stage as one of process profile stages
Sec	Seconds