BASIC TROUBLESHOOTING GUIDE

PROBLEM 1: THE UNIT HAS NO POWER

1. Check if the unit is switched ON.
2. Check the fuse. Replace with the same type if fuse is blown.
3. Check the power cord and ensure there are no disconnections.
4. Verify that the unit is properly connected to the power source.

PROBLEM 2: PANEL DISPLAYS "Err" MESSAGES

DESCRIPTION: Display show **"SEnS" "Err"** messages. \

ERR0 — First external temperature probe not detected
ERR1 — Second external temperature probe not detected
ERR2 — Internal temperature probe not detected
ERR3 — First external temperature probe not attached.

SOLUTION: Turn off power and back on.

If err messages shows err0 or err1 check the connection of sensor to its receptacle. Check if the temperature probe tip is still intact.

If err messages shows err2 internal temperature connector might have come loose or needs to be replaced.

If err messages shows err3, the first external temperature probe was not detected, secure the external temperature on the underside of the board to be worked on.

PROBLEM 3: DISPLAY AND OTHER DEVICE OPERATION ISSUES

SOLUTION: Turn off power and back on.

OTHER PROBLEMS NOT MENTIONED:

Contact the vendor.

AOYUE® Int883

IR-Preheating System

INSTRUCTION MANUAL

Thank you for purchasing Aoyue Int883 IR-Preheating System.
It is important to read the manual before using the equipment.
Please keep manual in accessible place for future reference.

This manual is designed to familiarize the technician with the proper operation and maintenance of the equipment. The "Care and Safety Precautions" section explains the hazards of using any type of soldering or reworking device. Please read carefully and observe the guidelines in order to maximize usage and minimize the risk of injury or accidents .

CE   ESD SAFE

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OPERATING PROCEDURES

6.   After the process is finish the display will show **"End",** press the increase button to save the profile and exit to profile adjustment mode.

7.   To exit before the process is finished press the increase button while the profile is running. The system would exit and return to profile adjustment mode.

Note: There is a built in protection feature to automatically limit the temperature rising slope to no more than 3 degrees per second. Therefore based on your set time, the maximum temperature may not reach 250C.

Profile analysis:

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
050t	060t	080t	050t	040t	60t
100C	150C	180C	190C	195C	100C

Segment one is set to 50 seconds to reach 100C. Which means after 50seconds at the end of segment one the temperature should reach 100C. Then Segment two is set to 60 seconds to reach 150C, which means by the end of 60 seconds the set temperature should reach 150C, so on and so forth.

To check the slope from segment Two :
- 150C - 100C =30C
- Time to reach 150C is set to 60seconds.
- Therefore the slope is 50/60= 0.833 degrees per second increase.

To determine the slope if it is declining as seen in segment six:
- 195C - 100C =95C
- Time to reach 100C is set to 60seconds.
- Therefore the slope is 95/60= 1.58 degrees per second decline.

OPERATING PROCEDURES

D. TYPE "2" OPERATION

Before proceeding with this type of operation, attach the first external temperature probe to the underside of the PCB to be worked on. The second probe can be placed near areas of interest. Such as near the component to be worked on.

This type of operation utilizes the first external temperature sensor to control the heat. Type "**2**" operation uses the profile to slowly control the rise and fall of the temperature at board level. While the second external temperature probe can be attached for additional monitoring.

1. To enter type "**2**" mode. Select 2 at the initial screen then press the select button. The display would change to "**run Prof**". This signifies we are now in the type "**2**" mode.

2. To adjust the time and temperature profile of each segment press the selection button. The top display will show which segment "**SEG1**" we are currently adjusting while the bottom display shows whether we are adjusting the time (suffix **"t"**) or temperature (suffix "**C**").

3. Press the increase or decrease button to adjust the desired time and temperature. The set temperature is adjustable from 50 to 250 C and time 5 to 200 seconds.

4. To start preheating with the profile, repeatedly press the selection button until the display shows the word **"Run Prof"** then press the increase button. A 3 second countdown will commence before automated reworking starts.

5. To see the running time, or current segment the system is processing or the temperature of the external temperature probes. repeatedly press the selection button to switch between different views. Follow the suffix guide to determine displayed temperature.

CARE and SAFETY PRECAUTIONS

> ⚠️ **CAUTION: Improper usage can cause injury and physical damage. For your own safety, please observe the following precautions.**

- Temperature may reach as high as 500°C when turned ON.
  - Do not touch the heating element inside the pre-heater.
  - Do not expose skin to infra-red light for long periods.
  - Prolonged exposure may damage the skin tissue.
- Handle with care
  - Never drop or sharply jolt the unit.
  - Contains delicate parts such as IR tubes that may break if the unit is dropped
  - Do not spill any liquid to the system.
- Do not tamper the electrical control unit or any wiring inside the device.
- Disconnect plug from main power source if the device will not be used for a long period.
  - Turn off power during breaks, if possible.
- Allow ample time for the equipment to cool down before commencing maintenance.
- Use only genuine replacement parts. Turn-off power and let the unit cool down before replacing any component.

PRODUCT DESCRIPTION

The Aoyue Int 883 IR-Preheating System is a reworking equipment that combines infrared (IR) heating technology, enhanced pre-heating area, versatile board holder, and profile control of heating in one sophisticated package. It is designed for reworking double-sided, diverse technology printed circuit boards (PCB) which utilizes traditional or lead free solder.

The system is equipped with a high powered IR-heating elements combined with multiple types of preheating operation with built in safety control of heat and over heat protection. Finally, the unique, innovative design with digital control panel offers precision, safety, and ease of use to meet all reworking requirements.

FUNCTIONS and FEATURES

- Microprocessor-controlled ESD safe unit.
- Utilizes infrared heat wave technology.
- Versatile board holder. To fit various board types
- Enhanced pre-heating area to fit large PCBs.
- Widely used for reworking BGAs, micro BGAs, QFPs, PLCCs, SOICs, small SMD, and other circuit board components.
- Large pre-heating area minimizes board warping
- Easy-to-adjust pre-heat temperatures with digital display.
- Built in extra temperature sensor for more accurate monitoring of board temperature.
- Built-in temperature sensor for stable (temperature) measurements.
- Closed loop system for precise temperature control.
- Profile adjustment functionality for automating reworking tasks under user defined temperature and time settings.
- Three modes of operation to suite different reworking requirements.
- Temperature and Profile settings are stored into CPU memory for easy configuration.
- Compatible for use with either hot air or IR top heating systems.

OPERATING PROCEDURES

D. TYPE "1" OPERATION

Before proceeding with this type of operation, attach the first external temperature probe to the underside of the PCB to be worked on. The second probe can be placed near areas of interest.

This type of operation utilizes the first external temperature sensor to control the heat. Using this type of operation allows us to closely control the temperature at board level. While freeing up the second external temperature probe for additional monitoring.

1. To set the desired temperature press the selection button repeatedly until the top display shows "**Set**". The bottom display would show the current set temperature followed by a suffix "**A**".

2. Press the increase or decrease button to adjust the set temperature level. The set temperature is adjustable from 50 to 280 C in this type of operation.

3. For this type of operation we must closely monitor the actual temperature of the first external temperature probe. To view the actual temperature readout of this probe repeatedly press the selection button until the top display shows the word "**Act1**", and the bottom display shows the actual temperature of first external temperature probe followed by a suffix "**b**".

4. To view the temperature of the second external temperature probe or simultaneously view both external temperature probe's temperature:

- Repeatedly press the selection button until the top display shows "**Act 2**" and bottom's suffix shows "**c**" this displays the second temperature probe.

- Repeatedly press the selection button until the top shows the first temperature probe with suffix "**b**" and the bottom shows the second temperature probe with suffix "**c**".

5. Under type "**1**" mode of operation it is not necessary to monitor the internal temperature sensor's read out.

OPERATING PROCEDURES

2. Press the increase or decrease button to adjust the set temperature level. The set temperature is adjustable from 50 to 400 C in this type of operation.
3. To view the actual temperature read by the internal temperature probe, repeatedly press the selection button until the top display shows the word "**Act3**", and the bottom display shows the actual temperature of internal temperature probe followed by a suffix "**d**".
4. To view the actual temperature read by the first external temperature probe, repeatedly press the selection button until the top display shows the word "**Act1**", and the bottom display shows the actual temperature of first external temperature probe followed by a suffix "**b**".
5. To view the actual temperature read by the Second external temperature probe, repeatedly press the selection button until the top display shows the word "**Act2**", and the bottom display shows the actual temperature of second external temperature probe followed by a suffix "**c**".
6. To simultaneously view the actual temperature read by the first and Second external temperature probe, repeatedly press the selection button until the top display shows the actual temperature of first external temperature probe followed by a suffix "**b**". and the bottom display shows the actual temperature of second external temperature probe followed by a suffix "**c**".

Note: External temperature probes are color coded.
The first external temperature probe is the red and blue pair.
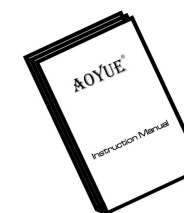**While the second external temperature probe is all white.**

PACKAGE INCLUSION
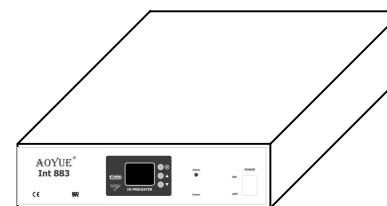

883 Main Station
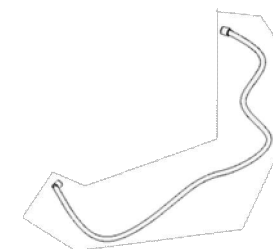
Temperature probe

Instruction Manual

SPECIFICATIONS

Power Input:	Available in 110V / 220V
Dimensions:	520(l) x 370(w) x100(h) mm
Power Consumption:	1500W (maximum)
Temperature Range:	50°C - 400°C (^maximum)
Heating Element:	IR Heating
Pre-Heating Area:	310mm x 310mm

^Depends on type of operation
*Specifications subject to change without prior notice

Control Panel Guide

Front Panel

Back Panel
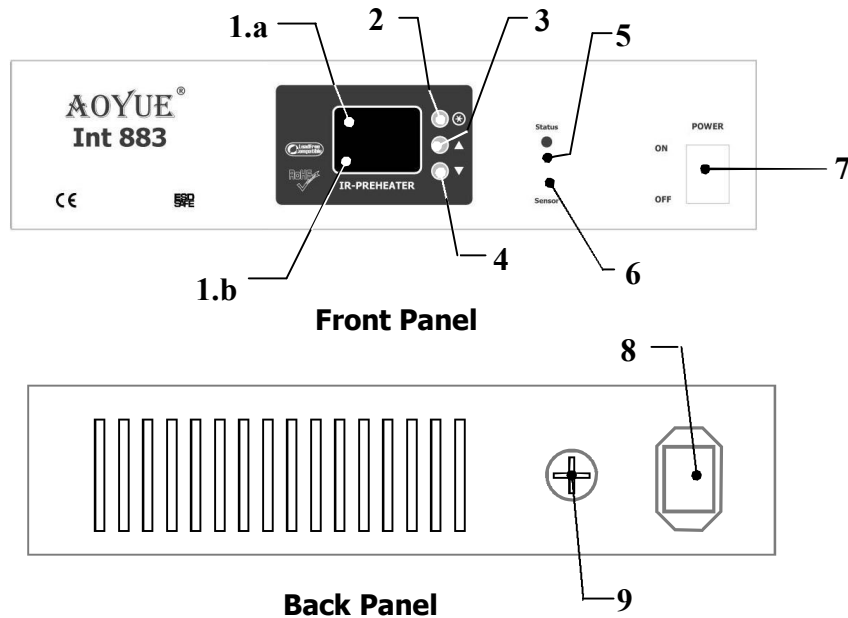
LEGEND:

1 — Digital Display
    1.a Top Display
    1.b Bottom Display
2 — Selection button.
3 — Increase Button/ Enter button.
4 — Decrease Button.
5 — Status LED.

6 — External Sensor connector
7 — Main Power switch.
8 — Power cord attachment.
9 — Fuse holder.

Suffix guide:

A -   Set temperature for type 0 and 1 operation.

b -   Actual Temperature of Sensor 1 (red/blue wire)

c -   Actual Temperature of Sensor 2 (white wire)

d -   Actual Temperature of Internal Sensor

C -   Set Temperature for profile.

t -   Set duration/time (seconds) for profile.

OPERATING PROCEDURES

A. INITIAL PROCEDURES

1. Make sure all switches are deactivated.
2. Attach external sensor probes to the three pin socket. (#6 on control panel guide)
3. Attach power cord to the power cord attachment (#8 on control panel guide)
4. Plug the device to the main power source.
5. To turn the unit ON. Toggle the main power switch to ON position (#7 on control panel guide)

B. OPERATION TYPE(MODE) SELECTION

1. Follow initial procedures, "**A. INITIAL PROCEDURES**".
2. The display would show "**TYPE 0**", which means Type 0 operation will be used. To select between types 0 to 2. Press the increase or decrease buttons (#3 & #4 of control panel guide).
3. To confirm selection and enter into operation mode using the selected type. Press the selection button.(#2 of control panel guide)

C. TYPE "0" OPERATION

This type of operation utilizes the internal temperature sensor to control the heat. Using this type frees up the two extra external temperature probes for additional monitoring. Attach the two extra temperature probes to areas of interest such as the bottom of the board and top of the board near the components to be worked on for monitoring.

1. To set the desired temperature press the selection button repeatedly until the top display shows "**Set**". The bottom display would show the current set temperature followed by a suffix "**A**".