

# Operation Manual

## AOYUE INT 866 Rework Station

90866



Illustration similar, may vary depending on model

Read and follow the operating instructions and safety information before using for the first time.

Technical changes reserved!

Due to further developments, illustrations, functioning steps, and technical data can differ insignificantly.

Updating the documentation

If you have suggestions for improvement or have found any irregularities, please contact us.



## Introduction

Thank you for purchasing this quality product. **To minimise the risk of injury we urge that our clients take some basic safety precautions when using this device. Please read the operation instructions carefully and make sure you have understood its content.**

Keep these operation instructions safe.

## Product description

The AOYUE INT866 repair system combines the functionalities of a heat gun, soldering gun, soldering iron, heat gun holder, temperature meter and pre-heater in one bundle. It holds multiple safety characteristics, such as the automatic cooling process of the heat gun. This functionality protects the device (and its components) from excessive heat development when reaching one of the following conditions:

- when the soldering gun is not being used in a certain amount of time;
- when the temperature of the device exceeds the safe limit when being switched off.

It holds various different modern functions, such as the digital calibration of the soldering iron, the configurable, automatic sleep mode for the heat gun and soldering iron and the switchable Celsius or Fahrenheit display.

## Technical data

<b>Main device</b>	
<b>Tension (V)</b>	230
<b>Dimensions (mm)</b>	192 (B) × 100 (H) × 325 (L)
<b>Weight (kg)</b>	6.6
<b>Soldering iron</b>	
<b>Power consumption (W)</b>	60
<b>Temperature range (°C)</b>	200–480 (392 °F–896 °F)
<b>Heating element</b>	Ceramic heater
<b>Output voltage (V)</b>	24
<b>Heat gun</b>	
<b>Power consumption (W)</b>	400
<b>Temperature range (°C)</b>	100–480 (212 °F–869 °F)
<b>Heating element</b>	Metal core heating
<b>Pump/motor type</b>	Sirocco ventilator
<b>Pre-heater</b>	
<b>Power consumption (W)</b>	400
<b>Temperature range (°C)</b>	100–480 (212 °F–869 °F)
<b>Heating element</b>	Quartz crystal



## Functions and features

- ESD safety equipment controlled via microprocessor.
- 4-in-1 repair system, which combines the functionality of a heat gun, soldering gun, soldering iron, heating gun stand, temperature meter and pre-heater in one highly developed bundle.
- Digital control and display of hot air temperature, soldering iron temperature, air pressure, pre-heating temperature with touchscreen control for precision and user friendliness.
- Switchable temperature display for Celsius and Fahrenheit.
- Integrated platform for the heat gun.
- Customisable 1–30 min mode (not during operation of the auto standby with 30 min standard) for additional device protection and energy saving.
- Integrated automatic cooling process, which protects the system and its components from excessive heat and increases the operating life.
- Integrated automatic standby mode for the soldering iron.
- Compatible with various air nozzles.
- Compatible with various soldering tips.

## Content of delivery

Quantity	Part
1	INT866 Main device with pre-heater and heat gun
1	Spare heating element for the heat gun
1	External sensor
1	Holding mast of the heat gun with cable holder
1	3-segment bracket
1	Stopper with safety screw
6	PCB (printed circuit board) holder
7	PCB holder safety screw
1 packet	AT9 air nozzle inserts (T1194, T1195, T1198, BGA-S)
1	B016 Soldering iron with tips
1	Replacement for the soldering iron heating element
1 packet	Soldering tips (10 pcs.) assorted: T-0,5C, T-0,8C, T-0,8D, T-1C, T-1.2D, T-1.6D, T-2.4D, T-B, T-LB, T-I *
1	2663 Soldering iron stand **
1	Soldering iron stand assembly instructions
1 set	Vacuum pen with 3 vacuum covers
1	Toolbox
1	G001 IC Component lifter
1	Operating manual
1	Power supply

\* The various soldering tips included in the delivery may vary depending on the availability. T-I is already placed in the soldering iron.

\*\* Please refer to the assembly instructions for the parts and instructions of the soldering iron stand.



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## Safety notes

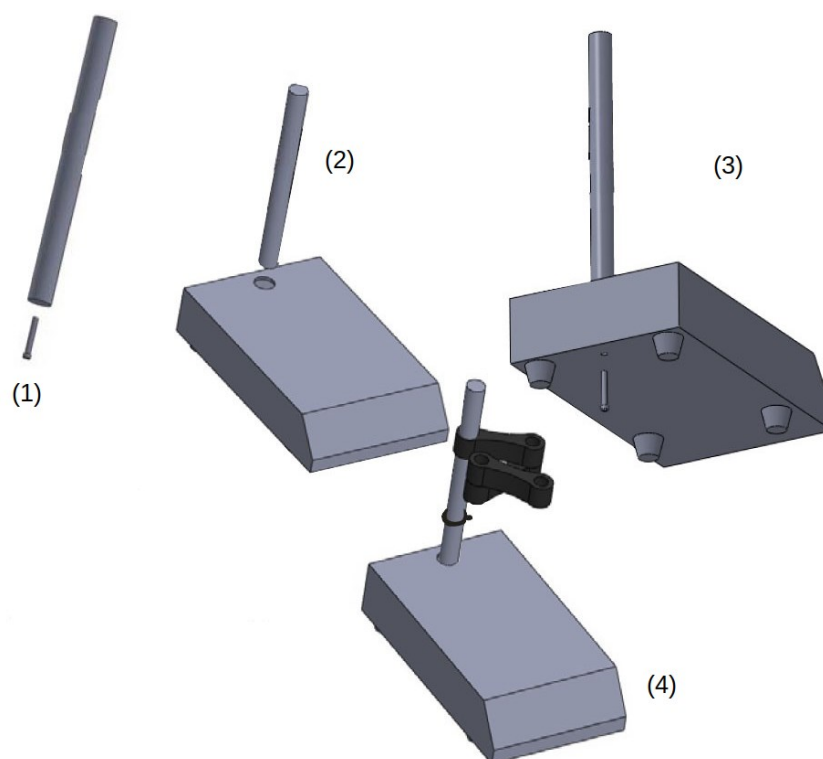
**Warning!** Improper use can lead to serious injury or to damage of equipment. Please comply with the following safety notes for your own safety:

- Check all components after opening the package and make sure that they are in an impeccable condition. If you assume that there any damages, do not use the device and notify the manufacturer or seller immediately.
- Turn the device off and disconnect it from the socket before relocating it.
- Please do not expose the device to impacts or shocks. Only use the device carefully, to avoid any injury or damage.
- Never let the device drop and avoid shacking movements, as the device contains sensitive parts which can break when being dropped.
- Make sure that the device is always grounded. Always connect the device to a grounded socket.
- When the device is turned on, temperatures of up to 480 °C can be reached.
- Never use the device near flammable gases, papers, or other flammable objects.
- Do not touch the heated elements, as these can cause serious burns.
- Do not touch the metal parts near the tip.
- Disconnect the device from the electricity supply if you will not be using it for a longer period. If possible, switch the electricity supply off during breaks.
- Only use original spare parts. Disconnect the device from the electricity supply and let it cool down before exchanging spare parts.
- When commissioning the device for the first time, a small amount of smoke can be created and transpire an unusual smell. This is entirely normal and should not have any negative effects on the work performance.
- Soldering work creates smoke. Thus, work in a well-ventilated area.
- Do not alter the device in any way, especially not the inner circuit.



## Assembly and preparations

### A. Main device and heating gun stand



Nº	Explanation
1	Remove the crew from the pole of the heat gun holder.
2	Place the pole in the bas.
3	Place the screw and secure the position of the pole.
4	Place the bracket and the stopper. Adjust the height and secure it with the screw.

### B. Soldering iron

1. Follow the instructions for the “assembly of the soldering iron stand.”
2. Connect the electricity cable of the soldering iron with the soldering iron output connection at the lower centre piece of the main unit.
3. Place the soldering iron in the soldering iron stand.

### C. Pre-heater

- Place the PCB fixture with safety screws in the required position.
- Adjusting the multi-purpose PCB holder to the shape of the PCB.

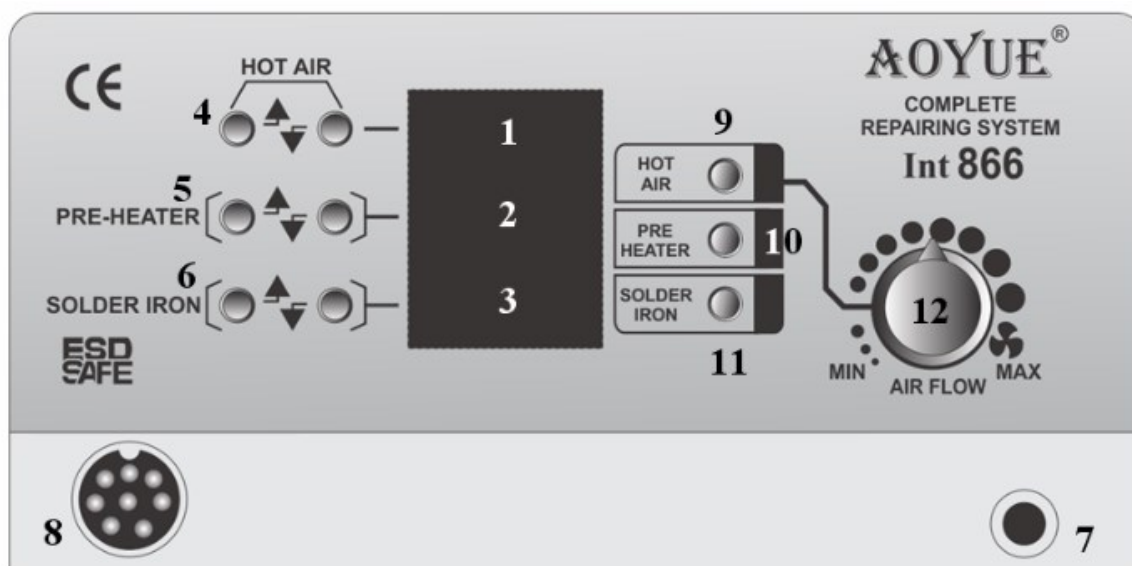
### D. Heat gun

To install the stand of the heating gun:

- Use the 8 mm screw, to attach the holder to the station.
- Place the heat gun on the holder in preparation for use.



## Control Panel



No	Name	No	Name
	Temperature meter of the	7	Outlet connection of the heat gun
1	... heat gun	8	Soldering iron/extern. sensor probe intake
2	... pre-heater		Function activation ...
3	... soldering iron	9	... of the heat gun
	Temperature regulator of the ...	10	... pre-heater
4	... heat gun	11	... soldering iron
5	... pre-heater	12	Air flow regulation of the heat gun
6	... soldering iron/activation of the outer sensor		
<b>Meanings of the abbreviations</b>			
<b>Abbr.</b>	<b>Meaning</b>	<b>Abbr.</b>	<b>Meaning</b>
<b>A</b>	External sensor	<b>C</b>	Cooling down
<b>H</b>	Actual temperature	<b>---</b>	Display standby
<b>h</b>	Temperature adjustment	<b>OFF</b>	Display function deactivated

## Commissioning

### Important reminder:

- Make sure that the equipment is placed on a flat, stable surface, able to withstand high temperatures.
- Make sure that all switches are in the off position.
- Make sure that all terminal connections are secured accordingly.

**Important!** Information regarding the buttons and the index of the display panel can be seen in the paragraph “control panel.”



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### A. First use

1. Connect the device via the electricity cable included in the delivery to the mains power supply.
2. With all functions switched off and all connections properly secured, switch the device on by activating the main current switch, located on the back of the device.
3. The display shows the product name temporarily in a scrolling way. After finishing the scrolling, all lines will show "off" (see picture below). The system stays like this until a function is activated.

### B. Switching from Celsius to Fahrenheit

1. Connect the device via the electricity cable included in the delivery to the mains supply.
2. Press and hold the "up" button to put the device into the Celsius mode. The display will show "Aoyue 866C." The last digit will show the used temperature scale. "C" stands for Celsius and "F" for Fahrenheit.
3. Press and hold the "down" button on the soldering iron whilst turning the system on to change it into the Fahrenheit mode. The display will show "Aoyue 866F." The last digit will show the used temperature scale. "C" stands for Celsius and "F" for Fahrenheit.

### C. Heat gun

1. Follow the steps of the "first use."
2. Adjust the air flow of the heat gun to the centre position.
3. Activate the switch of the "heat gun" (9 on the control panel).
4. The system immediately begins to create an air flow of medium speed, the heat of the air flow will slowly start heating up to 100 °C (pre-set system parameters). These values are represented by the air temperature display panels 1 of the heat gun/control panel.
5. Adjust the wished air flow.
6. Adjust the desired temperature of the heat gun via the buttons for the temperature adjustment of the heat gun (4 on the control panel). The prefix of the display will change from "H" into "h" for the temperature of the hot-air fan and shows that the air temperature has been adjusted. It will change back to "H" (the actual temperature) whilst the temperature is starting to increase again or decreases until the desired temperature is reached.

**Important:** When you adjust the air temperature, we strictly recommend to decrease the air flow level, to be able to regulate the system temperature. This protects the heating element on the inside from excessive heat and additionally avoids the possibility of neighbouring parts being affected by a temperature shock.

7. The rework can be started 1 min after reaching the desired hot air temperature and the air flow level, as shown on display 1.
8. When the work has been finished, place the heat gun onto the rack and do **not** switch the electricity supply off immediately.
9. First, deactivate the activation button of the heat gun to begin the automatic cooling process. The system begins to blow out air (room temperature) fast, to reduce the warmth from the heat gun and bring the temperature to a responsible and safe level of 90 °C. In this time, the abbreviation on the display of the heat gun will change from "H" to "C" whilst the temperature is cooling down. Additionally, the air pressure is on the maximum value as shown on the display. As soon as the temperature has cooled down to about 90 °C, the device stops and the display will show "off". Now it is safe to turn the main power supply off.
10. Switch the main power supply off.
11. Disconnect the device from the electricity source.

### D. Soldering iron

- Connect the soldering iron connection with the six-pin socket at the front of the control panel (8 on the control panel).
- Follow the instructions for the first use (see paragraph A).



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- Activate the activation switch “soldering iron” (**11** on the control panel). The temperature of the soldering iron is automatically increased to 350 °C (standard).
  - Adjusting the soldering temperature with the soldering iron adjustment buttons (**6** on the control panel).
  - Use the soldering iron as soon as the desired heat has been reached.
  - Deactivate the soldering iron activation switch.
  - Let the soldering iron cool down for quite a while, before storing it.

#### *E. Pre-heater*

- Follow the instructions of the first-time use (paragraph A).
- Place the PCB onto the pre-heater to warm up or to rework it.
- Activate the pre-heater activation switch (**10** on the control panel). This will increase the temperature of the soldering iron to 100 °C (standard).
- Set the pre-heating temperature by pressing the “pre-heat settings” (**5** on the control panel).
- The upper heater can be activated for the reworking of a multiple layered conductor board, after the PCB has been pre-heated to the desired temperature.
- The actual temperature of the conductor board can be measured with the help of the external sensor, by placing it on the conductor board.
- After the reworking has been finished, deactivate the activation switch of the pre-heater.

#### *F. External sensor*

- Follow the instructions of the first-time use (paragraph A).
- Place the PCB onto the pre-heater to warm up or to rework it.
- Connect the external sensor probe with the connection of the external sensor (**8** on the control panel).
- When the soldering iron function switch is deactivated push the downward button of the temperature regulator of the soldering iron to activate the functions of the external sensor.
- The actual temperature of the conductor board can be measured with the help of the external sensor, by placing it on the conductor board.
- To switch the functions of the external sensor probe off, push the soldering iron up.

### **Automatic standby mode**

#### *Automatic standby mode (heat gun)*

This device has a built-in standby mode, e.g., if the heat gun has not been used for a longer period, for example 30 min (standard) with no user input via the temperature adjustment in that time, it goes into the automatic standby mode.

The system blows air (room temperature) with a maximum speed to decrease the temperature. When the temperature has decreased to approx. 90 °C, the heat gun will stop automatically. The display will show “---,” meaning that the system is in standby mode.

#### *Adjusting the standby mode timer (heat gun)*

Standardly the system has 30 min time before the heat gun goes into standby mode. This can be altered the following way:

1. Whilst the heat gun is in the standby mode (showing “off” on the display, **1**) hold the “up” and “down” button on the heat gun.
2. Wait until “t030” is shown on the display of the heat gun.
3. Let the buttons go as soon as “t030” appears.
4. Adjust the time with the “up” and “down” buttons of the temperature adjustment.
5. Confirm the changes by pressing the function switch of the heat gun.
6. The system immediately switches back into operation and uses the defined countdown parameters for the entire use.





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**Note:** The standby mode is adjustable between 1 and 30 min. The standby mode adjustment for the heat gun and soldering iron are saved and stored until they are reset or new data is entered.

#### *Automatic standby mode of the soldering iron*

The standby mode of the soldering iron is standardly deactivated. Follow the following instructions to activate this function:

**Condition:** Function of the soldering iron is inactive.

- Whilst the soldering iron is showing “off” or is in standby, push the “up” and “down” buttons of the temperature adjustment of the soldering iron (**6** on the control panel).
- Wait until “tOFF” is shown on the display of the soldering iron temperature adjustment. This shows, that the standby mode is turned off at this point.
- After the figures in the display change, let go of both buttons.
- Use the same buttons to alter the timer. “t001” means that the soldering iron will go into standby after one minute. The timer can be altered between 1 and 60 min.
- Confirm the settings by activating the soldering iron button.
- To deactivate this function, follow the steps mentioned above but select “tOFF” this time.
- Whilst being in standby mode, the display will show “----” for the soldering iron temperature.
- To stop the soldering iron from being in standby, push the button for the temperature adjustment of the soldering iron.

### **Digital calibration**

#### *Digital calibration of the soldering iron*

The system is standardly calibrated, but in case smaller alterations to the soldering iron need to be carried out, the following steps can be taken:

1. Switch the function switch of the soldering iron on.
2. Adjust the required temperature, which you wish to calibrate. Place the tip of the soldering iron on the external temperature sensor.
3. The display of the external temperature sensor should be more or less the same temperature as the adjusted temperature.
4. If there are bigger deviations when measuring the temperature, the temperature settings can be calibrated again.
5. Whilst the soldering iron is being used, make sure that the heat gun and the pre-heating function are switched off. (“OFF” is shown on the displays **1** and **2**), hold the pre-heater “up” button for a few seconds until “0000” is shown on the display.
6. Adjust the temperature compensation via the “up” and “down” buttons on the soldering iron settings.
7. A zero “0” as the first digit shows an addition to the momentary temperature, whilst a minus “-” as the first digit shows a deduction of the shown value from the adjusted momentary temperature.
8. Confirm your alterations by pushing the “down” button of the air pressure adjustment.

#### *Soldering iron temperature calibration example*

- The external temperature sensor shows 248–252 °C.
- The adjusted temperature and the shown actual temperature of the soldering iron is 300 °C.
- $300 - 248 = 52$ . An additional adjustment of 52 °C is necessary.
- Enter the calibration mode.
- Increase it from “0000” to “0052”.
- Leave the calibration mode.
- The external temperature sensor will now show 298–302 °C.



## Notes:

- The calibration data is saved in the storage and stays valid until it is replaced either via a new calibration or until new data is entered.
- Calibration only allows the newly calibrated point to be the most accurate. Other temperatures can vary a bit.
- The soldering iron has the lowest temperature limit, thus if the temperature has been set to 200 °C and the external actual temperature also shows 200 °C an additional decrease of the temperature offset would only have a minimal influence on the actual temperature.

## Care and maintenance

### Soldering tips

Always keep the soldered bit of the tip/nozzle coated with a little bit of solder. The oxide layer on the tip of the nozzle reduces the thermal conductivity. By coating the tip with a small amount of fresh solder, the maximal thermal conductivity is reached.

### Soldering iron fault indications

1. The soldering iron connection order is not connected or not connected properly with the jack of the control panel.
2. The soldering tip is damaged and needs to be exchanged.
3. The device will show "PLUG": Sign of a problem with the contacts of the soldering iron or the tip.



## Troubleshooting

Problem	Solutions
The device has no electricity.	Check whether the device is switched on.
	Check the fuses. Replace a blown fuse with one of the same model.
	Check the electricity cable and make sure that the electricity cable has not been disconnected from the electricity supply.
	Make sure that the device is connected to the mains supply accordingly.
The temperature gauge of the heat gun is always above 500 °C. The display shows "off" after a few minutes.	The thermal sensor might be broken and needs to be exchanged.
The temperature of the heat gun does not increase to the required level.	The heating element might be broken or has reached the end of its lifespan and thus needs to be replaced.
The temperature display panel of the soldering iron shows "PLUG."	Check whether the connections of the soldering iron connection is properly connected to the jack of the control panel.
The device is working irregularly.	Switch the device off and back on. If necessary, disconnect the device from the electricity supply and reconnect it.
	Reset the device to factory settings. Switch the device off/on whilst keeping the button for the hot air temperature pushed until the banner has stopped scrolling. The device is being reset to factory settings.

**With any other problems, please contact a specialist.**