

Screen Separator, Hot Air Rework, Soldering Station Multi-Station

Statement: The company reserves the right to improve & upgrade products,
product specifications and design are subject to change without notice.

OPERATION INSTRUCTION

English



Made in China

Thank you for purchasing this product. Please read the manual
carefully before operating and keep this manual for future reference.

Specifications

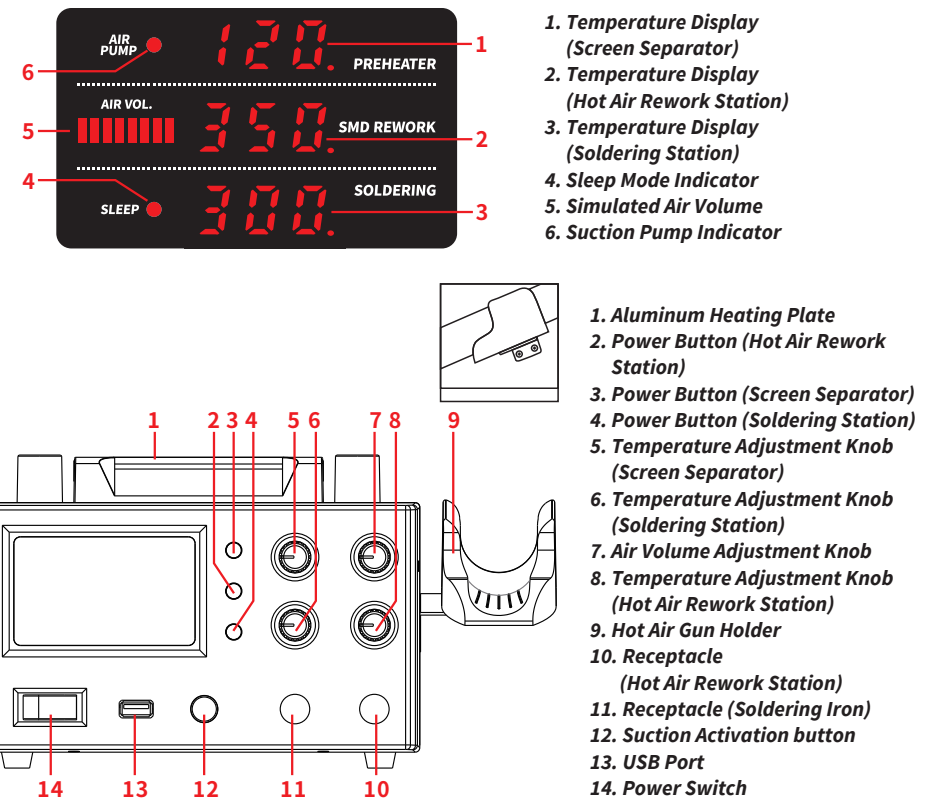
Model	853AAA II
Rated Voltage Range	220V-240V
Rated Frequency	50Hz
Rated Power	1170W (210 Handpiece) / 1250W (245 Handpiece)
Main Unit Dimensions	L275xW195xH130mm ±5mm
Operating Ambient Temperature	0~40°C (32°F~104°F)
Screen Separator	
Temperature Range	50°C~120°C (122°F~248°F)
Display	Nixie LED
Heater Surface Area	200×110mm ±5mm
Hot Air Rework Station	
Air Delivery	Brushless blower with smooth air delivery
Output Air Volume	≤120L/min
Temperature Range	100°C~480°C (212°F~896°F)
Display	Nixie LED
Soldering Station	
Temperature Range	200°C~480°C (392°F~896°F) / 90°C~450°C (194°F~842°F)
Display	Nixie LED
Soldering Tip to Ground Resistance	<2 Ohms

I. APPLICATIONS

1. This station is suitable for separating LCD screens, and especially suitable for separating mobile phone screens.
2. Suitable for soldering and desoldering applications for a wide range of components. (E.g., SOIC, CHIP, QFP, PLCC, BGA, SMD, and more) This station is especially great for desoldering in-line sockets.
3. Applicable in heat shrinking, drying, paint removal, conformal coating removal, defrosting, preheating, glue soldering and more.

II. REFERENCE DIAGRAM

Reference Diagram



III. OPERATIONS

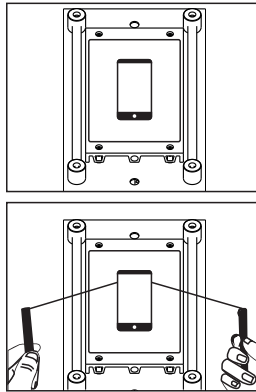
Screen Separator

1. Connect the station's power cord to an electrical outlet.
2. Place the silicone gel pad onto the aluminum heating plate, and align the gel pad's holes with the holes on the aluminum heating plate.
3. Turn ON the power switch, and turn the screen separator's temperature adjustment knob to set the temperature at around 80°C/176°F. Then, the aluminum heating plate will begin heating.



CAUTION: We recommend NOT setting the temperature value overly high to prevent damaging the screen due to overheating. The operation indicator (the dot located at the bottom-right corner of the screen) turns ON when heating, blinks at a consistent frequency when the temperature is stabilized, turns OFF when cooling.

4. Once the temperature have stabilized, place the screen onto the silicone gel pad and cover the holes on the gel pad with the screen. Then, turn ON the suction activation switch, and the screen will be secured.
5. Use the separating rods to separate: pull the rods left and right, and apply appropriate amount pulling motion towards the direction of the separation. Complete the screen separation procedure in two repetitions.
6. Once the operation is complete, turn OFF the suction activation button and the power switch. Disconnect the power plug from the electrical socket and clean the aluminum heating plate once the station had cooled completely.



CAUTION: The screen separator is not suitable for use in environments with excessive sources of air turbulence. Excessive amount of external airflow interference will lead to insufficient temperature for the aluminum heating plate, negatively impacting the work results.

Hot Air Rework Station

1. Set the station appropriately. Install the hot air gun holder onto the left side of the station, and place the hot air gun in its holder.
2. Connect the station to a power socket.

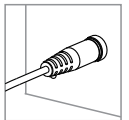
3. Turn ON the power switch, then turn ON the hot air rework station's power button, and the hot air rework station will begin heating. Turn the hot air rework station's temperature adjustment knob to select the desired temperature, and turn the air volume adjustment knob to set the desired output air volume. Begin operation once the hot air temperature have stabilized, and the hot air rework station's operation indicator light (the dot located at the bottom-right of the hot air temperature display) will turn ON. The operation indicator turns ON when heating up, blinks rapidly when the temperature stabilizes, and turns OFF when the station is cooling. Once the temperature is stabilized, the hot air operation indicator can be seen blinking rapidly. At this point, the precision PID program is tracking the actual hot air temperature and making temperature compensations every millisecond. The hot air gun is now in the high precision thermostat state.



4. Once the operation is complete, turn OFF the hot air rework station's power button. The hot air rework station's heating power will be automatically cut-off, and the operation indicator will turn off. The hot air gun will only output air without heating, and the hot air gun's heating element will begin cooling. Once the temperature is cooled to below 100°C (212°F), the hot air temperature display turns OFF and stop outputting air. If the station is not in use for an extended period, turn OFF the station's power switch.

Soldering Station

1. Connect the soldering iron to the station, and place the iron into its holder. Connect the soldering iron holder's cord to the main unit (853AAA II).
2. Turn ON the station's master power switch and then turn ON the soldering station's power button. The soldering station's heating element will begin heating, and its operation indicator light (located at the bottom-right corner of the display) will turn ON. The operation indicator light will stay constantly ON when the soldering iron is heating up, blink rapidly when the temperature stabilizes, and be turned OFF when the soldering iron is cooling. Begin your operation once the soldering station's indicator is blinking rapidly to indicate temperature stabilization.



CAUTION: Upon the first use of the soldering iron tip, set the temperature to 250°C/482°F. When the iron is just hot enough to melt the solder, coat the tip with a layer of solder (the use of rosin core solder is recommended), then set the temperature to your desired value.

3. When the operation is complete, use a wet sponge or metal wool ball to clean the soldering iron tip. Tin the tip with a new layer of solder, then put the soldering iron back to its holder and turn OFF the power switch. If the station is not in use for an extended period, turn OFF the station's power switch and DISCONNECT the power cord.

IV. FUNCTION CONFIGURATION

Sleep Mode

1.1 853AAA I : When the station's sleep mode is turned ON, the system will automatically detect the station's operation status. If the station is not in use and no motion is detected for approximately 10 minutes, the soldering iron will enter the sleep mode. This effectively prevents the soldering iron tip from oxidization, prolongs the soldering iron tip's lifespan, and protects the environment.

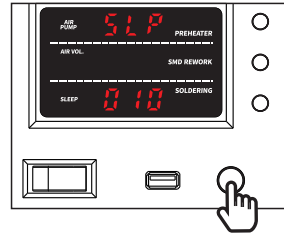
1.1.1 Press and hold the suction activation button for approximately 5 seconds, and the display will show value "SLP 10" to indicate that the sleep mode function is turned ON, with a countdown timer duration of approximately 10 minutes.

1.1.2 Press the soldering station's power switch to turn ON or turn OFF the sleep mode function.

1.1.3 Once done setting, press the suction activation button 2 times to exit the setting interface.

a. Shake the soldering iron handle a few times or

b. Turn OFF, then, turn ON the soldering station's power switch.



1.2 853AAA II: When the soldering iron is placed back into the holder, the soldering iron will enter sleep mode (9-1). When the set temperature is 200 (392) or higher, the temperature will cool to 200 (392); when the set temperature is below 200 (392), the temperature will remain unchanged. Pick up the soldering iron to wake the station.

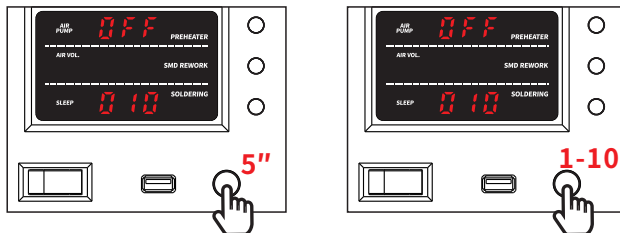


Stand-by Function

2.1 853AAA I: When the soldering station enters the sleep mode, its CPU will start counting down. If the station is not woken within approximately 30 minutes, the soldering station will enter stand-by mode. To restart the soldering station, please press the soldering station's power button to power OFF, then, press the power button again to turn the soldering station back ON.

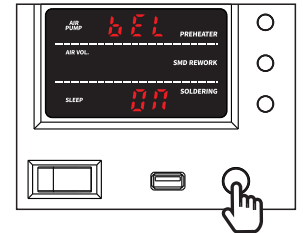
Note: The automatic shut-down function is ONLY activated when the sleep mode is turned ON.

2.2 853AAA II: Preset the timer (1-10 minutes). Upon reaching the preset duration in sleep mode, the soldering station will enter standby mode. Pick up the soldering iron to restart the soldering station.



Buzzer Prompt

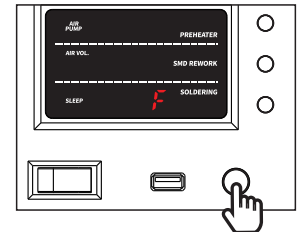
1. Press and hold the suction activation button for approximately 5 seconds, and the display will show value "bEL 10" or "OFF".
2. Press the suction activation button, and the display will show value "bEL ON" to indicate that the buzzer is turned ON.
3. Press the soldering station's power button to turn ON or turn OFF the buzzer prompt.
4. Once done setting, press the suction activation button once to exit the setting interface.



Fahrenheit\Celsius conversion settings

This function allows the station to adapt to user preferences in different regions.

1. When the station is not turned ON, press and hold the suction activation button, and then turn ON the master power switch, the display will show "C" or "F". "C" refers to Celsius display mode and "F" refers to "Fahrenheit" display mode.
2. Press the soldering station's power button to switch between the Fahrenheit and Celsius display mode.
3. Once done setting, press the suction activation button once to exit the setting interface.



Digital Temperature Calibration

Temperature discrepancies may occur due to the change in the environment's temperature or due to the replacement of the heating element, soldering iron tip and other components. You can correct the discrepancies with this function. The temperature calibration function can help improve work efficiency and extend the lifespan of the soldering iron.

1. Set the temperature value that requires calibration. (80°C/176°F for screen separator, 300°C/572°F for hot air rework station and 300°C/572°F for soldering station)
2. Once the temperature is stabilized, press and hold the screen separator/hot air rework station/soldering station's power button for approximately 8 seconds, the display will show 3 dots and the set temperature.
3. Turn the screen separator/hot air rework station/soldering station's temperature adjustment knob to enter the measured temperature.
4. After the temperature reaches the calibrated temperature, press the screen separator (hot air gun/soldering station)'s power button to confirm. The system will save the calibrated temperature and exit the calibration interface.



V. MAINTENANCE & PRECAUTIONS

Screen Separator

1. Do not knock the aluminum heating plate with any hard objects.
2. Keep the aluminum heating plate clean, and DO NOT allow foreign objects to fall into the vacuum pump through the holes on the aluminum heating plate. Otherwise, the foreign objects may impact the suction performance negatively.

Hot Air Rework Station

1. Keep the air outlet clear and free of blockages at all times.
2. The installation of the hot air nozzles MUST be carried out ONLY when the steel pipe and nozzle have cooled. Install the nozzle correctly, DO NOT install the nozzle with brute force, pull the edge of the nozzle with tweezers, or over-tighten the screws.
3. Select the appropriate nozzle based on your operation requirement (temperature may vary when you use nozzles in different diameters). When using nozzles smaller than the standard machine nozzles, you MUST use the maximum air volume with a relatively lower temperature setting. Complete this operation in the shortest possible duration to avoid damaging the hot air gun.
4. Keep a minimum distance of 2mm between the object and the hot air gun's air outlet.
5. DO NOT allow the hot air to come in direct contact with facial parts, and beware of the danger of burn injuries. Upon the first use, the hot air gun may emit white fumes, and the white fume will dissipate in a short while.

NOTE:

The station's hot air gun and soldering iron handles use high-strength stainless steel tubes. The station goes through 4 times or more testing, inspection, and calibration procedures before rolling off the assembly line. The steel tube may exhibit light bronze color as a result of our quality control efforts. It is normal to have a slightly bronzed steel tube when using a brand-new station, rest assured for regular usage.

Soldering Station

1. If a layer of oxidization forms on the surface of the soldering iron tip, a misconception can be created that the soldering tip cannot heat up properly to melt the solder and do the tinning. However, the actual temperatures of both the heating element and soldering tip are high. In such an instance, please do not increase the temperature value confusedly but use a metal wool ball to remove the oxidization following the steps below:

A. Set the temperature to 300°C (572°F).

B. Once the temperature has stabilized, gently rub the soldering iron tip inside the metal wool ball.

C. When the oxidization is partially removed, continue applying solder onto the tip while rubbing it until the solder completely adheres to soldering iron tip. If the tip is too severely oxidized beyond cleaning, replace the tip with a new one.

2. DO NOT use metal files to remove the oxidization on the soldering iron tip. If the soldering iron tip deforms or rusts, replace it with a new tip.
3. DO NOT apply excessive force on the soldering tip when soldering. Doing so will not only damage the iron tip but also not improve the heat transfer.
4. When placing the soldering iron back in its holder to idle after a high-temperature operation, adjust the temperature to 250°C (482°F) or below for idling. Failure to do so, and leaving the soldering iron tip to idle on a high-temperature setting will cause the accelerated aging of the heating element, and shorten the lifespan of the heating element and soldering iron tip.
5. After every operation, always clean the soldering iron tip, then coat it with a layer of solder to prevent its oxidization.

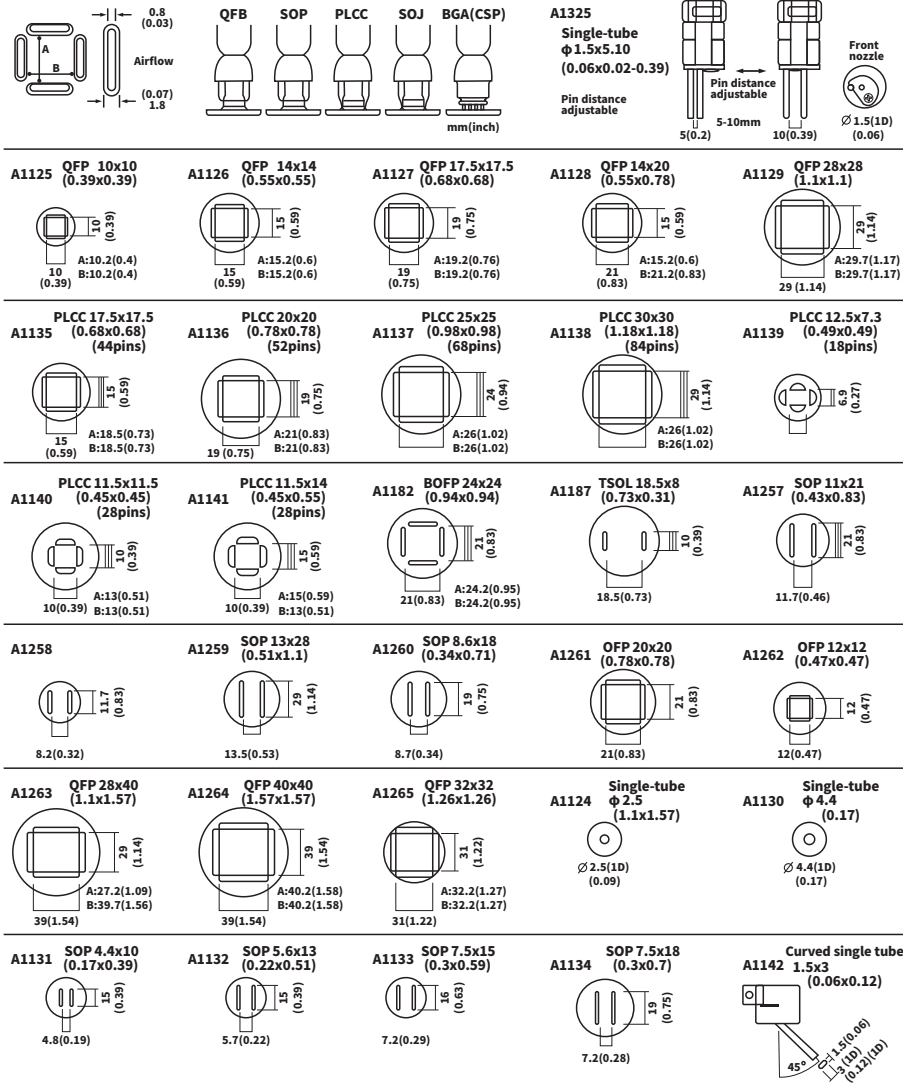
Troubleshooting

1. "S-E" – This is an indication that the station's sensor module is faulty. To resolve this issue, you need to replace the heating element (the heating element and the sensor modules). Alternatively, the soldering iron could be disconnected from the station. (Please turn OFF the station, reconnect the soldering iron, and reboot the station)
2. When replacing the heating element, take note of the original connecting order and colors of the wires which MUST NOT be connected incorrectly.
3. F-1 or F-2 – This is an indication that the station has activated the hot air fail-safe measures. To resolve this, check the hot air gun and the hot air gun's power circuitry.
4. "SLP" – This is an indication that the soldering station is in sleep mode.

For reference: compatible parts

Nozzle style (specifications and sizes)

Nozzle sizes in correspondence to the IC sizes.



IMPORTANT SAFEGUARDS

When using electrical appliances, basic safety precautions should always be followed including the following:

CAUTION!!! WARNING!!!

Read instruction manual before using.

- To provide continued protection against risk of electric shock, connect to properly grounded outlets only.
- Do not immerse in water.
- Hot Surface. Avoid Contact.
- Shock Hazard. To provide continued protection against electric shock disconnect from the power supply when not in use.
- Heat gun, soldering iron, desoldering iron must be placed on its stand when not in use.
- HOUSEHOLD AND INDOOR USE ONLY.
- To prevent electric shock, unplug before replace the fuse and other service.
- Replace only with same type and rating of fuse.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- The soldering iron and desoldering iron is only to be used with the power supply unit provided with the appliance.
- If the SUPPLY CORD is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Any servicing should be performed by an authorized service representative AND that the product has no user serviceable parts.
- To reduce the risk of fire or electric shock, do not expose this product to rain or moisture. Store indoors. Read instruction manual before using.
- A fire may result if the appliance is not used with care, therefore
 - be careful when using the appliance in places where there are combustible materials;
 - do not apply to the same place for a long time;
 - do not use in presence of an explosive atmosphere;
 - be aware that heat may be conducted to combustible materials that are out of sight;
 - place the appliance on its stand after use and allow it to cool down before storage;
 - do not leave the appliance unattended when it is switched on.
- Hidden areas such as behind walls, ceilings, floors, soffit boards and other panels may contain flammable materials that could be ignited by the heat gun when working in these locations. The ignition of these materials may not be readily apparent and could result in property damage and injury to persons. When working in these locations, keep the heat gun moving in a back-and-forth motion. Lingering or pausing in one spot could ignite the panel or the material behind it.
- WARNING:** Extreme care should be taken when stripping paint. The peelings, residue and vapors of paint may contain lead, which is poisonous. Any pre-1977 paint may contain lead and paint applied to homes prior to 1950 is likely to contain lead. Once deposited on surfaces, hand to mouth contact can result in the ingestion of lead. Exposure to even low levels of lead can cause irreversible brain and nervous system damage; young and unborn children are particularly vulnerable.
- Before beginning any paint removal process you should determine whether the paint you are removing contains lead. This can be done by your local health department or by a professional who uses a paint analyzer to check the lead content of the paint to be removed.
- LEAD-BASED PAINT SHOULD ONLY BE REMOVED BY A PROFESSIONAL AND SHOULD NOT BE REMOVED USING A HEAT GUN.**
- Persons removing paint should follow these guidelines:
 - Move the work piece outdoors. If this is not possible, keep the work area well ventilated. Open the windows and put an exhaust fan in one of them. Be sure the fan is moving the air from inside to outside.
 - Remove or cover any carpets, rugs, furniture, clothing, cooking utensils and air ducts.
 - Place drop cloths in the work area to catch any paint chips or peelings. Wear protective clothing such as extra work shirts, overalls and hats.
 - Work in one room at a time. Furnishings should be removed or placed in the center of the room and covered. Work areas should be sealed off from the rest of the dwelling by sealing doorways with drop cloths.
 - Children, pregnant or potentially pregnant women and nursing mothers should not be present in the work area until the work is done and all clean up is complete.
 - Wear a dust respirator mask or a dual filter (dust and fume) respirator mask which has been approved by the Occupational Safety and Health Administration (OSHA), the National Institute of Safety and Health (NIOSH), or the United States Bureau of Mines. These masks and replaceable filters are readily available at major hardware stores. Be sure the mask fits. Beards and facial hair may keep masks from sealing properly. Change filters often. DISPOSABLE PAPER MASKS ARE NOT ADEQUATE.
 - Use caution when operating the heat gun. Keep the heat gun moving as excessive heat will generate fumes which can be inhaled by the operator.
 - Keep food and drink out of the work area. Wash hands, arms and face and rinse mouth before eating or drinking. Do not smoke or chew gum or tobacco in the work area.
 - Clean up all removed paint and dust by wet mopping the floors. Use a wet cloth to clean all walls, sills and any other surface where paint or dust is clinging. DO NOT SWEET, DRY DUST OR VACUUM. Use a high phosphate detergent or trisodium phosphate (TSP) to wash and mop areas.
 - At the end of each work session put the paint chips and debris in a double plastic bag, close it with tape or twist ties and dispose of properly.
 - Remove protective clothing and work shoes in the work area to avoid carrying dust into the rest of the dwelling. Wash work clothes separately. Wipe shoes off with a wet rag that is then washed with the work clothes. Wash hair and body thoroughly with soap and water.
- To ensure personal safety, please turn off the power switch after work is completed; When not in use for an extended period, please unplug the power cord!!!
- Do not install nozzle when the hot air gun is turned on, the heat pipe and the nozzle must be cooling. Then installed the other nozzle.
- The soldering iron should only be used for soldering. Do not hit the soldering iron against the work surface to remove flux residues (Can be cleaned by the cleaning device of the product), as doing so may seriously damage the soldering iron.
- Soldering produces fumes, ensure there is adequate ventilation.
- After used, remember that cooling the unit, the handle should be placed on the handle holder.
- Longer detachable power-supply cords are available and may be used if care is exercised in their use.
- If a long detachable power-supply cord is used:
 - The marked electrical rating of the detachable power-supply cord or extension cord should be at least as great as the electrical rating of the appliance;
 - The extension cord should be a grounding type 3-wire cord;
 - The longer cord should be arranged so that it will not drape over the countertop or tabletop where it can be tripped over, snagged, or pulled on unintentionally (especially by children).
- A short power-supply cord (or short detachable power-supply cord) is provided to reduce the risks resulting from becoming entangled in or tripping over a longer cord.
- When using the brass wool tip cleaner (rosin-inside), DO NOT inhale the fume generated or consume the solid-state rosin, DO NOT allow your skin and eyes to get in direct contact with the rosin.

SAVE THESE INSTRUCTIONS

Please read Operation Instruction in Part Two.