

856AE
PROGRAMMABLE SMD REWORK STATION

Instruction Manual

Thank you for purchasing our SMD Rework station. The unit is exclusively designed for reworking and soldering SMD component. Please carefully read this manual before operating the unit. Store this manual in a safe, easily accessible place for future reference.

XII. NOZZLES

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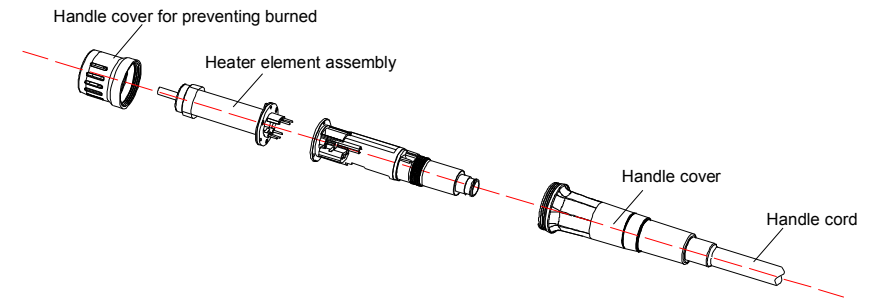
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NK NOZZLE SERIES						
NOTE						
The size in Name Specification indicates the size of IC package						
mm (inch)						
NOZZLES	QFP	SOP	PLCC	SOJ	BGA	
NK3125 QFP 10x10 (0.39x0.39)	NK3126 QFP 14x14 (0.55x0.55)	NK3127 QFP 17.6x17.6 (0.69x0.69)	NK3128 QFP 14x20 (0.55x0.78)	NK3129 QFP 28x28 (1.1x1.1)	NK3131 SOP 4.9x1.0x0.39 (0.19x0.04x0.015)	NK3132 SOP 5.6x2.2x0.51 (0.22x0.085x0.02)
NK3133 SOP 7.6x2.8x0.71 (0.29x0.11x0.028)	NK3134 SOP 7.6x2.8x0.71 (0.29x0.11x0.028)	NK3135 PLCC 17.5x17.5 (0.68x0.68) (44 Pins)	NK3136 PLCC 20x20 (0.78x0.78) (52 Pins)	NK3137 PLCC 25x25 (0.98x0.98) (68 Pins)	NK3138 PLCC 30x30 (1.18x1.18) (84 Pins)	NK3139 PLCC 12.5x7.3 (0.49x0.29) (91 Pins)
NK3140 PLCC 11.5x11.5 (0.45x0.45) (28 Pins)	NK3141 PLCC 11.6x13.9x0.55 (0.46x0.55x0.022) (32 Pins)	NK3180 BQFP 17x17 (0.67x0.67)	NK3181 BQFP 19x19 (0.75x0.75)	NK3182 BQFP 24x24 (0.94x0.94)	NK3183 SOJ 15x8 (0.59x0.31)	NK3184 SOJ 18x8 (0.71x0.31)
NK3185 TSOJ 13x10 (0.51x0.39)	NK3186 TSOJ 18x10 (0.71x0.39)	NK3187 TSOJ 18x10 (0.71x0.39)	NK3188 PLCC 9x9 (0.35x0.35) (20 Pins)	NK3189 PLCC 34x34 (1.34x1.34) (100 Pins)	NK3191 SIP 2x4 (0.98)	NK3192 SIP 2x4 (0.98)
NK3203 QFP 35x35 (1.38x1.38)	NK3214 SOJ 10x26 (0.39x1.02)	NK3215 QFP 12.5x12.5 (0.49x0.49)	NK3257 SOP 11x21 (0.43x0.83)	NK3258 SOP 7.6x12.7 (0.3x0.5)	NK3259 SOP 13x28 (0.51x1.1)	NK3260 SOP 8.8x18 (0.34x0.71)
NK3261 QFP 20x20 (0.78x0.78)	NK3262 QFP 12x12 (0.47x0.47)	NK3263 QFP 28x40 (1.1x1.57)	NK3264 QFP 40x40 (1.57x1.57)	NK2055 QFP 32x32 (1.26x1.26)	NK2054 Single 6.4 (0.25)	NK2084 Single 8.4 (0.33)
NK2127 Single 12.7 (0.5)	NK1120 Single 4 (0.16)	NK1124 Single 2.5 (0.09)	NK1130 Single 4.4 (0.17)	NK2280 BGA 24x24 (0.94x0.94)	NK2281 BGA 26x26 (1.02x1.02)	NK2282 BGA 31x31 (1.22x1.22)
NK2283 BGA 38x38 (1.5x1.5)	NK2284 BGA 41x41 (1.6x1.6)	NK2285 BGA 44x44 (1.7x1.7)	NK2286 BGA 15x15 (0.6x0.6)			

I . SAFETY INSTRUCION

To prevent accidents, be sure to observe the following precautions:

1. Use the unit only in the described manner as the manual.
2. The air outlet and its surrounding area maybe very hot. Please take great care and not to be burned.
3. After work, the handle must be placed on the holder and never place the handle on the workbench or other places. The unit can be turned off only after it cools below 100°C(sleeping mode) automatically.
4. Please keep the air outlet clear and not be blocked.
5. Do not place the sharp object besides or on the tube.
6. Keep the air outlet at least 2mm from the object.
7. Select the appropriate nozzle according to demands. Differences in temperature may exist when different nozzle is used.
8. Turn off the power switch if not using in a period of time. Disconnect the power cord when not in use for a long time.
9. Handle with care not to shock the unit sharply.
10. A periodically maintenance of the unit is necessary.
11. Don't operate the unit with wet hand or when the power cord is damp to avoid short circuit or electric shock.
12. Never use this unit in flammable gases or near other flammable materials. After using, don't put it near the flammable gases or materials.
13. Some areas such as behind walls, ceilings, floors, and other panels may contain flammable materials which may not be found. The ignition of these materials could result in property damage and injury to persons. When working in these locations, move the handle back and forth and not pause at one point for protecting the flammable materials from ignition and other things from damage.
14. Children cannot recognize the danger of the electrical appliance and keep the unit out of reach from children.



XI. PARTS ASSEMBLE AND DISASSEMBLE

11.1 Nozzle Assemble and Disassemble

1. **Assembly** :Select one befitting nozzle and insert it into the outlet's steel pipe.
Press it with hand until the nozzle has been locked. It can be used after the nozzle has been fixed reliably.
2. **Change**: Take the handle down from the holder after the nozzle has cool down. There is a slot between the nozzle and the outlet's steel pipe. By the slot, put the handle on the disassembly plate of the nozzle that is fixed at the holder. After that, fix the holder with one hand and pull out the nozzle. Change another nozzle.

Note:

- * The nozzle can be ordered by the custom.
- * Change the nozzle after it has cool down.

11.2 Replacing Heating Element

Note: Replace the heating element assembly after it has cooled down.

1. Revolve the handle enclosure down from the handle.
2. Loosen and take down the three fixation screws fixing the steel tube and then take out the heater element assembly.
3. Change a new heater element assembly. Note: the heater and sensor are designed in together with the steel tube.
4. When changing new heater element assembly, the heater element pins must insert into heater localizer and the sensor pins into the sensor localizer.

II . CHARACTERISTIC

1. There are three programmable channels CH1&CH2&CH3, and it can set the working time, airflow and temperature of each channel.
2. With the function of password protection and locking buttons, protecting from changing the parameters without admitted.
3. The handle with magnetic switch can work in with the pedal switch (option), and it is easy to operate.
4. With automatically sleeping function and digital calibration function etc.
5. Closed loop sensor, temperature can be controlled by zero voltage triggering mode. Large power designs and the heating speed are rapid. The temperature can be conveniently adjusted and the temperature is accurate and stable and not affected by airflow.
6. It is with a brushless whirlpool motor and the airflow is adjustable with a wide range but no level.
7. Automatic cooling unit can prolong the heating element's life and protect the handle.

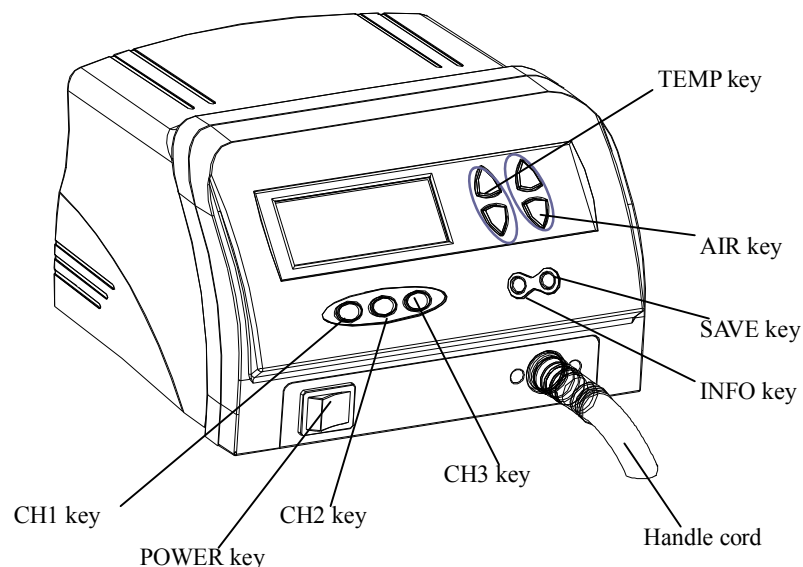
III. USAGE

1. It is suitable to the de-soldering of the SMD components, such as SOIC, CHIP, QFP, PLCC, BGA and so on.
2. It is suitable to hot shrink, drying, remove lacquer and mucosity, thaw, preheating, disinfect and so on.
3. It is suitable to the situation with different grade airflow.
4. It is suitable to the hot air lead free de-soldering.

IV. SPECIFICATIONS



Power	1300W
Voltage Range	200V~240V 50HZ/60HZ
Temperature range	100°C~500°C
Work time	000~999seconds/--- (“---” means the unit will work continually)
Airflow range	6~200 Level
Size (L*W*H)	250*230*150mm
Weight	5kg

V. KEYS AND LCD ILLUMINATE



7. **Change the password:** in the menu setting mode, press “CH1” key and “CH2” key simultaneously, the system will run into the password setting mode.

The method of the password setting is as following:

- When in the password setting mode, the LCD will display “ Password” and “”, the left hundred will flash.
 - Press AIR “▲” or “▼” key to change the hundred digital and then press “SAVE” key to ten digital set. Tens digital and one digital setting method is the same as the hundreds digital setting. The setting method refers to “6.1 temperature setting”. After finishing the first time password inputting, press “SAVE” key to the secondary password input.
 - If the secondary inputting password is not same with the first inputting password, the password setting is not successful and it will exit the password setting and return to the menu setting.
 - If the secondary inputting password is same with the first inputting password, the password setting is successful. The new password will flash three times and the system will sound “di-di-” and then return to the menu setting.
8. After finishing menu setting, press “SAVE” key to the work state.

X. ERROR MESSAGES




The unit will give error information when there is something wrong with it and alarms continually before cutting off the power supply. If the “LCD” display error marks as following, please solve them as the troubleshooting.

Sensor error: If there is some malfunction in the sensor or in the sensor circuit, the temperature parameter of LCD will display “S-E” and the power supply to the handle will be cut off.

Heater error: If there is some thing wrong with the heating element, the temperature parameter of LCD will display “H-E” and the power supply to the handle will be cut off.

Motor error: If there is some malfunction in the motor or in the motor circuit, the airflow parameter of LCD will display “ERROR” and the power supply to the motor will be cut off.

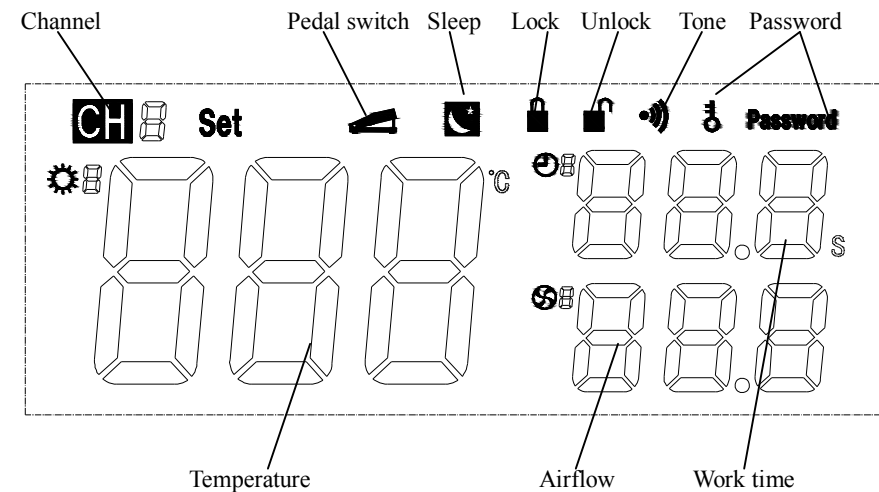
IX. Menu Setting

1. The system has menu-setting function. For into the menu-setting mode, it must input right password. The initial password is “000”.
2. In the menu-setting mode, the handle does not work. And it can set channel, locking or unlocking, magnetic switch controlling or with pedal switch controlling, with key tone or not and so on.
3. The operation steps of menu-setting are as followings:
 - (1) **Into the menu setting mode:** Turn off the power switch. Press “INFO” key and “SAVE” key at the same time not loosely, and then press “POWER” key to turn on the power supply.
 - (2) Press any operation keys in five seconds when the LCD displaying , and then the LCD will display **Password** and , or else, the system will turn back to work state. The hundred of  will flash, what means in the password-inputting mode and it must input the right password. The initial password of system is 000.
 - (3) **Password inputting method:** Press AIR “▲” or “▼” key to change the hundreds digital and then press “SAVE” key to tens digital set. Ten digital and one digital setting method is the same as the hundred digital setting. The setting method refers to “6.1 temperature setting”. There are three times to input the password, only when the inputting password is right, the system runs into the menu setting process. Or else, if the inputting passwords are all error in the three times, the system will exit the password setting mode and come into the work state.
 - (4) If the system runs into the menu setting, the LCD will display “Set”.
4. Press “INFO” key and “CH1” key simultaneously, which can set the system with key tone or not.
5. Press “INFO” key and “CH2” key simultaneously, which can set the system controlled by the magnetic switch or by magnetic switch and pedal switch.
6. Press “INFO” key and “CH3” key simultaneously, which can set the system in locking mode or unlocking mode.

5.1 Keys Instruction


POWER key:	Power supply switch
CH1 key:	Click to CH1 channel
CH2 key:	Click to CH2 channel
CH3 key:	Click to CH3channel
TEMP ▲/▼ key:	Set the temperature
AIR ▲/▼ key:	Set the airflow
INFO key:	Press “INFO” key and TEMP “▲” or TEMP “▼”key to set time
SAVE key:	Click to CH0 channel, press “SAVE” key and CH1 or CH2 or CH3 key simultaneously to save the parameter values to channel CH1 or CH2 or CH3.


5.2 LCD Illuminates




: The current work channel.


Set: When the LCD displays “set”, it means the unit is in the menu setting state and the handle and suction pen cannot work at the state.

: When LCD displays this mark, it means the pedal switch can control the unit in work state or sleeping state after taking down the handle from the holder.


: It means the unit is in the sleeping state.

: Lock the parameter values setting and only can work in the current channel and parameters.

: Switch the work channels and setting parameter values.

: When LCD displays this mark, it will give sound when pressing keys.

Password : When LCD displays this mark, it means the unit is in the password inputting state.

 **Password**: When LCD displays this mark, it means the unit is in the password changing state.

VI. OPERATION INSTRUCTION


Firstly, place the SMD rework system on the workbench. And then connect well the power cord and other connection lines. Place the handle on the handle holder before switching on the power supply.

6.1 Temperature Setting

Raise temperature: Click “TEMP ▲” key and then the temperature will rise 1 °C, and the LCD displays the current setting temperature. If pressing “TEMP ▲” not loosely at least one second, the setting temperature will rise rapidly. Loose the “TEMP ▲” key until up to the needed temperature.


Reduce temperature: Click “TEMP ▼” key and then the temperature will drop 1 °C, and the LCD displays the current setting temperature. If pressing “TEMP ▼” key not loosely at least one second, the setting temperature will drop rapidly. Loose the “TEMP ▼” key until down to the needed temperature.

7.2 Resume



1. When the handle is putting on the handle, it cannot be resumed from sleeping.
2. If the unit is in sleeping when the handle on the holder, take down the handle from the holder. At the time, it will work at once if it is controlled by the magnetic switch. Or else, it will work after click the pedal switch.
3. **If the handle is not on the holder in sleeping:** If the unit controlled by the magnetic switch, click any keys except “POWER” and “INFO” keys to work. Or else, click the pedal to. In work state,  will not display.

VIII. Calibration


Methods of recalibrating the temperature are as followings:

1. In work state, set the calibration temperature 300°C.
2. When the temperature is stable, test the outlet temperature of the handle with thermometer and write down it.
Into the calibration mode: Press TEMP “▲”, “▼”, “INFO” 和 “SAVE” four keys at the same time, the system will enter into the temperature calibrating mode and the LCD will display “ ---”.
3. And then the hundreds digit twinkle, press “▲” or “▼” key to input the temperature testing by the thermometer. Inputting method refers to “6.1 temperature setting”.
4. In the work mode, when the temperature is stable (300°C), test the outlet temperature again with the thermometer. If the temperature still has some departure, you can repeat calibration according with the above steps.

Note: * Suggest using 191 or 192 thermometer to measure the temperature.


7. When working in the unlock state, the LCD displays “”. At the moment, whatever is in the work state or in the sleeping state, the system can switch channel and change parameter values, and work in the different channel “CH0” or “CH1” or “CH2” or “CH3” with different parameter values. The setting method refers to “6.4 magnetic switch control”.
8. If the LCD displays “”, means it has set the sound. And the system will sound “di-di-” at the last 5 minutes before finishing the work.

⚠Note:

- **When the time parameter window displaying “---”, it means the system will be in the work state and without work time limited.**
- **Base on the system can fulfill the soldering or desoldering, using as low temperature as possible and as big airflow as possible for prolonging the heater’s life and protecting the element.**
- **It must switch off the power supply if not using in a period of time.**
- **When the unit can be controlled by the pedal switch, it must do set “” in the menu setting.**

VII. Sleeping

7.1 How into the Sleeping State

1. When the work time counting down finishes, the system will come automatically to the sleeping state.
2. Put the handle on the handle holder, the system will come automatically to the sleeping state.
3. If the system is controlled by pedal switch, when springing the pedal switch in the work state, the system will come to the sleeping state.
4. During the system from work state to sleeping state, the time parameter window will display “OFF”. and then when the temperature cooling down to 100°C, the unit comes into the sleeping state. In the sleeping state, the LCD will display “” and “---”.

6.2 Airflow Setting

Raise Airflow: Click “AIR ▲” key and then the airflow grade will rise 1, and the LCD displays the current setting airflow grade. If pressing “AIR ▲” not loosely at least one second, the setting airflow grade will rise rapidly. Loose the “AIR ▲” key until up to the needed airflow grade.

Reduce Airflow: Click “AIR ▼” key and then the airflow grade will drop 1, and the LCD displays the current setting airflow grade. If pressing “AIR ▼” not loosely at least one second, the setting airflow grade will drop rapidly. Loose the “AIR ▼” key until down to the needed airflow grade.


6.3 Work Time Setting

Raise Time: Click “INFO” key and “TEMP ▲” key at the same time and then the work time will rise 1 second, and the LCD displays the current setting work time. If pressing “INFO” key and “TEMP ▲” key not loosely at least one second, the setting work time will rise rapidly. Loose the “INFO” key and “TEMP ▲” key until up to the needed time.

Reduce Time: Click “INFO” key and “TEMP ▼” key at the same time and then the work time will drop 1 second, and the LCD displays the current setting work time. If pressing “INFO” key and “TEMP ▼” key not loosely at least one second, the setting work time will drop rapidly. Loose the “INFO” key and “TEMP ▼” key until down to the needed time. If pressing “INFO” key and “TEMP ▼” key not loosely until the LCD displays “---” at the time parameter, it means the system is not controlled by work time and will continually work until the system is forcible into the sleeping state.


⚠Note: Only in the unlocking state, the system can change the values of temperature, airflow and work time. The parameter values cannot be set when displaying “OFF” or in the lock state.

6.4 Magnetism Switch Control

1. Press the “POWER” key and switch on the power supply to the SMD rework system.
2. If the LCD does not display “- a) Press “CH1” or “CH2” or “CH3” key to switch the current work channel. Press any key (except “POWER” or “INFO” or “CH1” or “CH2” or “CH3” key) to the “CH0” channel with current parameter values. For example, if pressing “CH0” key, the system will work at the “CH0” channel.
- b) The system can work at the different channel with different parameter values which including temperature, time and airflow. The setting methods are as followings:
 - Press TEMP “▲” or “▼” key to set the temperature and the temperature range is 100°C~500°C. The setting method refers to “6.1 temperature setting”.

- Press AIR “▲” or “▼” key to set the airflow and the airflow range is 6~200. The setting method refers to “6.2 airflow setting”.
 - Press “INFO” and AIR “▲” or “▼” keys at the same time to set the work time and the time range is 1~999seconds. The setting method refers to “6.3 work time setting”.
- c) All the parameter settings work in the “CH0” channel. When setting the values of temperature or time or airflow, the “CH0” will be the current channel and the setting values will be saved into the “CH0” channel.
 - d) If need to set the channel “CH1” or “CH2” or “CH3” with different parameter values, press “SAVE” key not loosely and then press “CH1” or “CH2” or “CH3” key about one seconds to save the parameter values in the “CH0” channel to the corresponding channel “CH1” or “CH2” or “CH3”.

6.5 Pedal Switch Control

1. Press the POWER key and switch on the power supply to the SMD rework system.
2. If the LCD displays “

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