

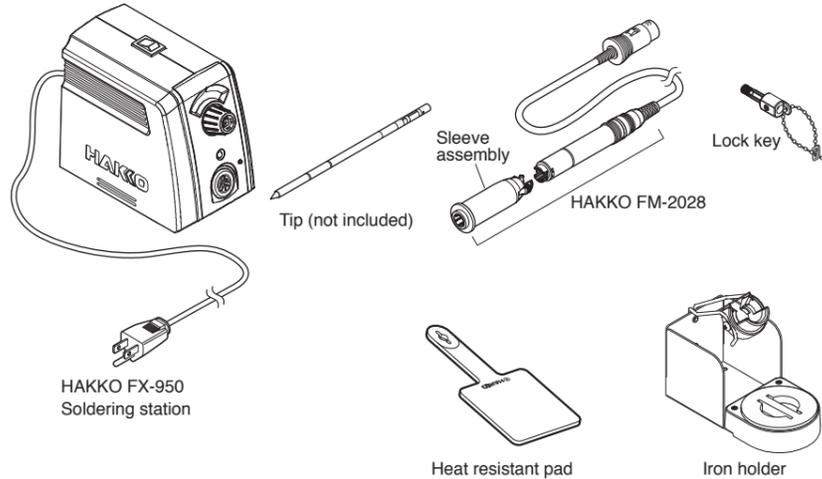
## Instruction Manual

Thank you for purchasing HAKKO FX-950 soldering station.  
Please read this manual before operating the HAKKO FX-950.  
Keep this manual readily accessible for reference.

### 1. PACKING LIST AND PART NAMES

Please check to make sure that all items listed below are included in the package.

HAKKO FX-950 soldering station	1	Heat resistant pad	1
HAKKO FM-2028 soldering iron	1	Iron holder	1
Lock key	1	Instruction manual	1



### 2. SPECIFICATIONS

#### HAKKO FX-950 soldering station

Power Consumption	75 W
Temperature Range	200 - 450°C (392 - 842°F)
Temperature Stability	±5°C (±9°F)

#### Station

Output	24 V
Dimensions	80 (W) x 118 (H) x 138 (D) mm
Weight	1.2 kg

#### NOTE:

The temperature was measured using the HAKKO FG-100 thermometer.  
This product is protected against electrostatic discharge.

#### CAUTION

This product includes such features as electrically conductive plastic parts and grounding of the handpiece and station as measures to protect the device to be soldered from the effects of static electricity. Be sure to observe the following instructions:

- The handle and other plastic parts are not insulators, they are conductors. When replacing parts or repairing, take sufficient care not to expose live electrical parts or damage insulation materials.
- Be sure to ground the unit during use.

Specifications and design are subject to change without notice.

#### HAKKO FM-2028 soldering iron

Power Consumption	70 W (24 V)
Tip to Ground Resistance	< 2 Ω
Tip to Ground Potential	< 2 mV
Length of Cord	1.2 m (4 ft.)
Length, (w/o cord)	188 mm (7.4 in.) with 2.4D tip
Weight, (w/o cord)	30 g (0.07 lb.) with 2.4D tip

#### 中國RoHS: 產品中有毒有害物質或元素的名稱及含量

部件名稱	有毒有害物質或元素						
	鉛(Pb)	汞(Hg)	鎳(Ni)	六價鉻(Cr(VI))	多溴聯苯(PBB)	多溴二苯醚(PBDE)	
焊鐵部	×	○	○	○	○	○	○
插頭	×	○	○	○	○	○	○
插座	×	○	○	○	○	○	○
電路板	×	○	○	○	○	○	○

○: 表示該有毒有害物質在該部件所有均質材料中的含量均在SJ/T 11363-2006標準規定的限量要求以下。  
×: 表示該有毒有害物質至少在該部件的某一均質材料中的含量超出SJ/T 11363-2006標準規定的限量要求。

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### 3. WARNINGS, CAUTIONS AND NOTES

#### WARNING

Warnings, cautions and notes are placed at critical points in this manual to direct the operator's attention to significant items. They are defined as follows:

**WARNING** : Failure to comply with a WARNING may result in serious injury or death.

**CAUTION** : Failure to comply with a CAUTION may result in injury to the operator, or damage to the items involved. Two examples are given below.

**NOTE** : A NOTE indicates a procedure or point that is important to the process being described.

**EXAMPLE** : An EXAMPLE is given to demonstrate a particular procedure point or process.

#### CAUTION

When power is ON, tip temperatures will be between 200°C and 450°C. (392°F to 840°F.) To avoid injury or damage to personal and items in the work area, observe the following:

- Do not touch the tip or the metal parts near the tip.
- Do not allow the tip to come close to, or touch, flammable materials.
- Inform others in the area that the unit is hot and should not be touched.
- Turn the power off when not in use, or left unattended.
- Turn the power off when changing parts or storing the HAKKO FX-950.
- 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.

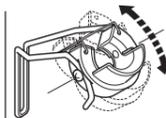
To prevent accidents or damage to the HAKKO FX-950, be sure to observe the following:

- Do not use the HAKKO FX-950 for applications other than soldering.
- Do not strike the iron against hard objects to remove excess solder. This will damage the iron.
- Do not modify the HAKKO FX-950.
- Use only genuine HAKKO replacement parts.
- Do not allow the HAKKO FX-950 to become wet, or use it when hands are wet.
- Be sure to hold the plug when inserting or removing the power cord from a wall socket.
- Be sure the work area is well ventilated. Soldering produces smoke.
- While using HAKKO FX-950, don't do anything which may cause bodily harm or physical damage.

### 4. INITIAL SETUP

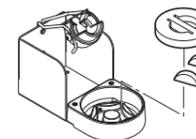
#### A. Iron holder

- Loosen the adjusting screws to change the angle of the iron receptacle as you like, then tighten the screws.



**CAUTION**  
Do not set up the iron receptacle too high. The temperature of the soldering iron will become very hot.

**CAUTION**  
Do not lay down the iron receptacle too much. It can be easy to fall down.



**CAUTION**  
Using the sponge without dampen with water may damage the tips.

- The sponge is compressed. It will swell when moistened with water. Before using the unit, dampen the sponge with water and squeeze it dry.
- Put the small cleaning sponge in one of the five holes in the iron holder base.
  - Add water to the iron holder base. The small sponge will keep the large sponge moist through capillary action.
  - Wet the large sponge, squeeze it dry and put it on the iron holder base.

#### B. Handpiece cord assembly

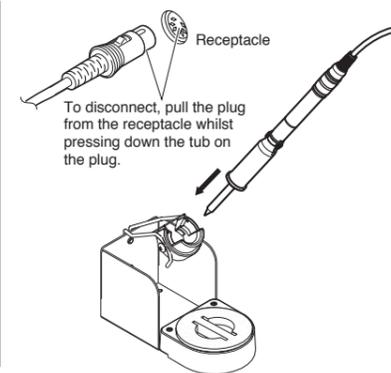
- Pass the iron cord through the hole in the heat resistant pad.



#### C. Soldering station

**CAUTION**  
Be sure the power switch is OFF before connecting or disconnecting the soldering iron cord. Failure to do so may result in damage to the circuit board.

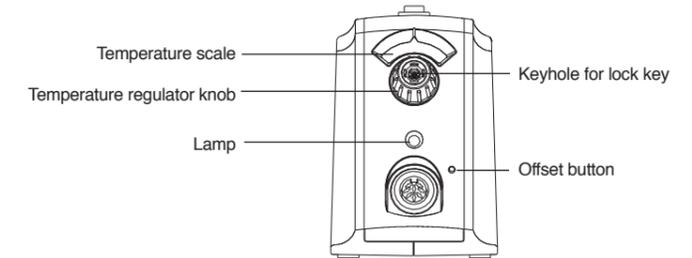
- Insert the power cord into the receptacle at the back of the station. Insert the soldering iron cord into the receptacle at the front of the station.
- Set the iron in the iron holder.
- Plug the power cord into a grounded wall socket.



To disconnect, pull the plug from the receptacle whilst pressing down the tab on the plug.

**CAUTION**  
The HAKKO FX-950 is protected against electrostatic discharge and must be grounded for full efficiency.

### 5. OPERATION



**Temperature scale**  
Shows the set temperature.

**Keyhole for lock key**  
To change the set temperature, insert the lock key in the keyhole.

**Temperature regulator knob**  
Used to change the set temperature. Turn the knob counterclockwise to raise the set temperature. Turn it clockwise to lower the set temperature.

**NOTE:**  
You cannot change the set temperature by turning the temperature regulator knob unless you insert the lock key.

**Offset button**  
Used to adjust the tip temperature.

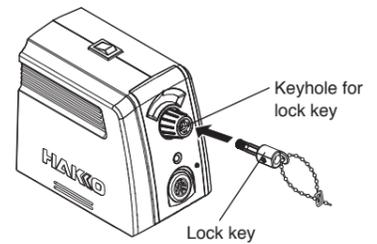
**Lamp**  
Indicates the operation mode by its color and flash speed.

- Turn the power switch ON. The lamp lights red.
- When the temperature reaches the set temperature, the lamp flashes about once per second.

**CAUTION**  
Place the iron on the iron holder when not in use.

#### Setting/changing the temperature

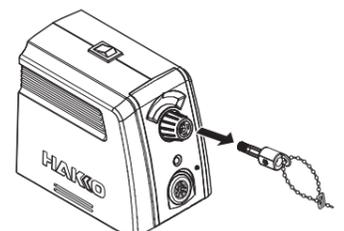
- Insert the lock key into the keyhole in the temperature regulator knob.



- Turn the temperature regulator knob to set the desired temperature.



- Pull out the lock key to fix the temperature setting.



## 5. OPERATION

### ● Replacing the tip

#### ⚠ CAUTION

The tip may be hot. Avoid holding the hot tip for a long time even if using the heat-resistant pad. Otherwise burns may result.

#### Removing the tip:

- Hold down the lock release buttons in the sleeve assembly, pull out the tip together with the sleeve assembly from the connector.

#### ⚠ CAUTION

- Be sure to keep the lock release buttons hold down while pulling out the sleeve assembly. Failure to do so will damage the locking mechanism.
- Be sure to pull out the tip only after separating the sleeve assembly from the connector. Otherwise, the sleeve assembly may fall down and break.

- Holding the front end of the sleeve assembly, pull out the tip.

#### Inserting the tip:

Holding the front end of the tip, insert it into the sleeve assembly.

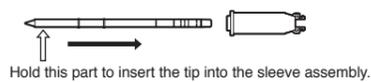
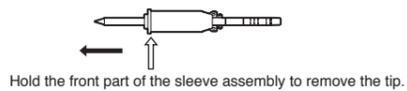
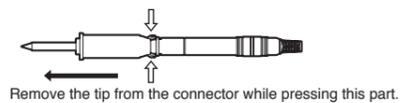
#### ⚠ CAUTION

Insert the tip into the sleeve assembly until it clicks into place. When you hear it clicks, avoid forcing the tip into the sleeve assembly.

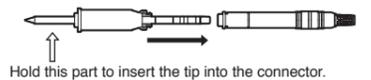
- Insert the tip securely into the connector.

#### NOTE:

If the tip is not inserted correctly, the lamp flashes red rapidly (about once every 0.2 second).



⚠ CAUTION  
When holding the head of the tip, there is a danger of burn. Be sure to use the heat-resistant pad.



### ● Tip temperature offset

#### Example :

When the measured temperature is 390°C and the set temperature is 400°C

1. Insert the lock key into the keyhole in the temperature regulator knob.

2. Adjust the temperature regulator knob to a setting of 350°C.

3. Press and hold the offset button until the lamp lights green.  
The station is now in offset mode.

#### NOTE:

The station will not enter offset mode under any of the following conditions:

- The set temperature is less than 250°C or more than 400°C.
- The set temperature has not been reached yet (the lamp remains red) after turning the power ON, after changing the set temperature, or after returning from an error.

4. Measure the tip temperature with the tip thermometer (FG-100), and turn the temperature regulator knob so that the tip temperature will be 350°C.

#### NOTE:

If the lamp flashes green rapidly (about once every 0.2 second), the offset value is out of range (±50°C) (offset error).

5. Press the offset button.

The station returns to normal mode.

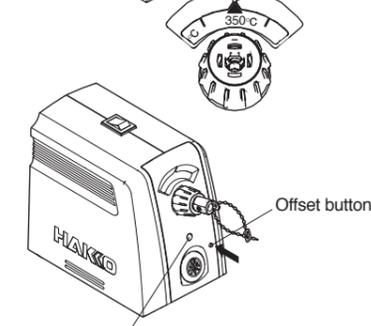
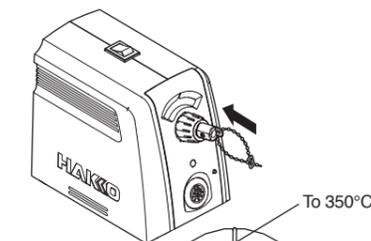
#### NOTE:

The station returns to normal mode after being left in offset mode for 3 minutes.

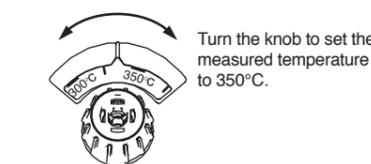
6. Return the temperature regulator knob to 400°C.

#### NOTE:

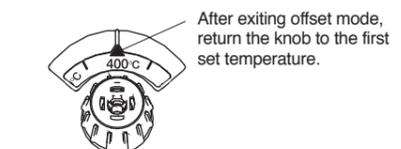
The offset value is retained even after the power is turned off. However, replacing the tip or grip may change the temperature. Adjust the temperature in offset mode when you replace the tip or grip.



The lamp lights green in offset mode.



NOTE:  
The lock key must be inserted when adjusting the temperature in offset mode.

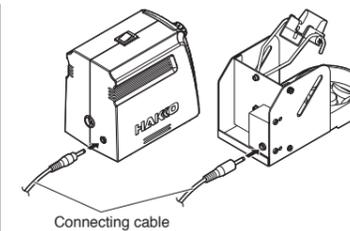


## 6. USE OF THE SLEEP FUNCTION

The iron holder (FH200-01 or FH200-02, sold separately) has a sleep function. Use the connecting cable to connect the iron holder (FH200-01 or FH200-02) to the jack at the rear of the station.

#### ⚠ CAUTION

Be sure to turn off the power before connecting or disconnecting the connecting cable.

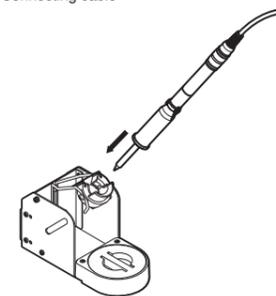


When the soldering iron has been in the iron holder (FH200-01 or FH200-02) for 6 minutes, the sleep function operates to start lowering the tip temperature.

When the sleep function operates, the lamp lights orange. To resume soldering, remove the soldering iron from the iron holder and then wait for 10 seconds.

#### NOTE:

The amount of time it takes the sleep function to start operating can't be changed.



## 7. ERROR MESSAGES

### ● Sensor error

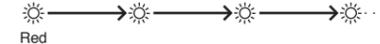
0.2 second



Red

### ● Soldering iron error

0.5 second



Red

### ● Heater terminal short-circuit error

0.2 second



Red Green Red Green

When a failure may have occurred in the sensor (including the sensor circuit) or heater, the lamp flashes red rapidly (about once every 0.2 second), and the power shuts off.

#### ⚠ CAUTION

A sensor error also occurs if the tip is not inserted properly.

The lamp flashes red slowly (about once every 0.5 second) if the iron's connecting cable is disconnected from the station, or if the wrong soldering iron is connected.

The lamp flashes alternately red and green rapidly (about once every 0.2 second) if the iron is inserted in the wrong direction, if an incompatible tip for this model is inserted, or if a foreign substance has entered the connection between the station and connector.

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## MEMO: