

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:

Improper insertion of the tip will cause **[S-E]** to appear on the display.

The temperature accuracy of iron tips is $\pm 15^{\circ}\text{C}$ ($\pm 27^{\circ}\text{F}$) except for some tips, when using the default offset values.

If a higher temperature accuracy is required, use the following offset function:

● How to enter the tip offset value into the HAKKO FX-951

Example 1;

If the measured temperature is 410°C and the set temperature is 400°C , the difference is -10°C (need to decrease by 10°C). So, enter the figure which 10 is deducted from present offset value.

1. Insert the control card into the slot in the station.

- The station is in the temperature setting mode. The hundreds digit will begin to flash.

2. Press the **[⌂]** button on the front panel.

- This will set the station to offset value entry mode.

3. Enter the offset value

The allowable ranges for offset values are from -50 to $+50^{\circ}\text{C}$ (In $^{\circ}\text{F}$ mode from -90 to $+90^{\circ}\text{F}$).

NOTE:

During offset data entry mode with blinking, the tip temperature is controlled by present offset value.

a. Entering the hundreds digit

- Press the **[▲]** or **[▼]** button to set the desired figure. Only 0 (plus) or - (minus) can be selected. (In $^{\circ}\text{F}$ mode, it is the same as $^{\circ}\text{C}$ mode). When the 0 (plus) or - (minus) is selected, press the **[*]** button to enter. The tens digit will begin to flash.

b. Entering the tens digit

- Press the **[▲]** or **[▼]** button to set the desired figure. Any value from 0 to 5 (In $^{\circ}\text{F}$ mode, 0 to 9) can be selected. When the desired figure is displayed, press the **[*]** button to enter. The units digit will begin to flash.

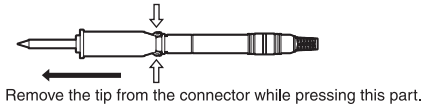
c. Entering the units digit

- Press the **[▲]** or **[▼]** button to set the desired figure. Any value from 0 to 9 (In $^{\circ}\text{F}$ mode, same value can be selected.) When the desired figure is displayed, press the **[*]** button to enter. The desired temperature is now entered into the system memory and heater control will begin with new offset value.

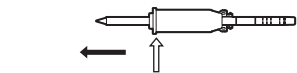
When the station is ON and the card is in the station, the offset entry procedure follows:

- Hold the **[⌂]** button down for at least one second. The current offset value will be displayed, then the hundreds digit will begin to flash. This indicates that the station has entered the offset value input mode. Continue with the procedure of a - c, above.

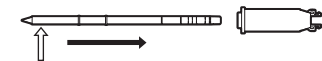
- When the **[⌂]** button is pressed for less than one second, the current offset value is displayed for two seconds, then returns to tip temperature.



Remove the tip from the connector while pressing this part.



Hold the front part of the sleeve assembly to remove the tip.



Hold this part to insert the tip into the sleeve assembly.

⚠ CAUTION

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



Hold this part to insert the tip into the connector.

6. PARAMETER SETTINGS

The HAKKO FX-951 comes from the factory with the following values preset.

Temperature scale	Celsius
Power save	0 min.
Low temperature alarm setting	150°C
Resetting the supervisor or operator control setting	4 0
Setting temperature	350°C
Buzzer setting (C-E sound, S-E sound)	ON
Buzzer setting (Set temperature alert)	ON

● Entering the parameter

1 $^{\circ}\text{C}$ or $^{\circ}\text{F}$ temperature display

2 Power save setting

Set the time from the placement of the soldering iron on the iron holder to the activation of the sleep function.

NOTE:

When not using the power save function, do not connect the iron holder and the soldering station with the connecting cable.

Power save example:

- 2 0 Sleep (immediately after the soldering iron is placed on the iron holder)
- 210 Sleep (10 minutes after the soldering iron is placed on the iron holder)
- 230 Auto-power shutoff (30 minutes after the soldering iron is placed on the iron holder)

NOTE:

The power save time can be set in steps of one minute (30 minutes max.)

- When the sleep function is activated, the temperature of the tip begins to drop.
- When the display shows **[SLP]**, pressing any button the power will be turned on again.

NOTE:

The sleep function does not work in case the setting temperature is less than $300^{\circ}\text{C}/570^{\circ}\text{F}$.

- When the auto-power shutoff function is activated and power to the heater is shut off, the buzzer sounds three times.
- When the display shows **[---**], and to begin soldering, cycle the power switch OFF, then ON.

3 Resetting the low temperature alarm tolerance setting

The unique function alerts the operator when the sensed temperature drops below a set limit. Should this occur, an error message will be displayed, and the buzzer will sound continuously. When the temperature returns within the allowable range, the buzzer will stop.

Range of allowable low temperature alarm tolerance
for $^{\circ}\text{C}$: 30 - 150°C
for $^{\circ}\text{F}$: 60 - 300°F

Example:

When the setting temperature is 350°C and the low temperature alarm tolerance is 100°C , buzzer will sound when the tip temperature will drop over 250°C .

4 Resetting the supervisor/operator control setting

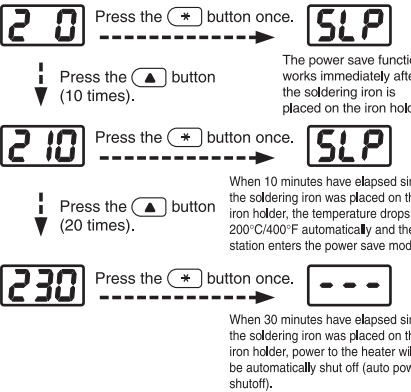
The HAKKO FX-951 has the following six parameters:

- $^{\circ}\text{C}$ or $^{\circ}\text{F}$ temperature display selection
- Power save
- Low temperature alarm setting
- Resetting the supervisor/operator control setting
- Buzzer setting (C-E sound, S-E sound)
- Buzzer setting (Set temperature alert)

Once the station enters parameter mode, set the parameters in the order shown below. After all the parameters have been set, normal operation will be resumed.

- Turn power OFF.
- Insert the control card into the card slot in the front of the unit.
- Press and hold down the **[▲]** and **[▼]** buttons simultaneously, and then turn power ON.
- Hold **[▲]** and **[▼]** buttons down until the display shows **[1 C]** (Celsius) or **[1 F]** (Fahrenheit).
When either the display shows either **[1 C]** or **[1 F]** the station is in parameter input mode.
 - Pressing either the **[▲]** and **[▼]** button will cause the display to alternate between **[1 C]** or **[1 F]**.
 - When the desired scale is displayed, select by pressing the **[*]** button. The system will automatically sequence to power save mode.

When the station enters the parameter input mode, the procedure is as follows.



- When the station enters low-temperature alarm tolerance setting mode, the hundreds digit begins flashing. Enter and store the value in the same manner as described in "Changing the temperature setting."

- If you enter a value exceeding the allowable range shown to the left, you will be brought back to entering a value in the hundreds digit. If this occurs, reenter a correct value.

- Once the value is stored, the system will automatically sequence to resetting the supervisor/operator control setting mode.

To change the supervisor/operator control settings, the procedure is as follows.

- The display will show **[4 0]** or **[4 1]** when this mode is entered.

[4 0] : No offset value can be entered without inserting the card.

[4 1] : An offset value can be entered without inserting the card.

Pressing the **[▲]** or **[▼]** button will change **[4 0]** and **[4 1]**.

When the desired setting is displayed, select by pressing **[*]** button.

5 Buzzer setting (C-E sound, S-E sound)

- In the buzzer sound setting mode, which sets whether to sound the buzzer when a sensor error or soldering iron error occurs, either **[5 0]** or **[5 1]** is displayed.

[5 0] : The buzzer does not sound.

[5 1] : The buzzer sounds.

Select **[▲]** or **[▼]** and press the **[*]** button.

6 Buzzer setting (Set temperature alert)

- In the set temperature alert setting mode, either **[6 0]** or **[6 1]** is displayed.

[6 0] : The buzzer does not sound.

[6 1] : The buzzer sounds.

Select **[▲]** or **[▼]** and press the **[*]** button. The system will exit the parameter setting mode and begin heater control. It is now ready for normal operation.

7. ERROR MESSAGES

● Sensor Error



When there is the possibility that a failure has occurred in the sensor or heater (including the sensor circuit), **[S-E]** is displayed and the power is shut down.

⚠ CAUTION

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

● Low-temperature alarm tolerance error



EXAMPLE:

350°C ($400^{\circ}\text{C} - 50^{\circ}\text{C}$)
Set temperature Low-temperature alarm tolerance
OR
 650°F ($750^{\circ}\text{F} - 100^{\circ}\text{F}$)
Set temperature Low-temperature alarm tolerance

EXAMPLE:

Assume that the temperature setting is $400^{\circ}\text{C}/750^{\circ}\text{F}$ and the tolerance $50^{\circ}\text{C}/100^{\circ}\text{F}$. If the temperature continues to decrease and finally falls below the value indicated below while the heating element is on, the displayed value starts blinking to indicate that the tip temperature has dropped.

● Heater terminal short-circuit error



[HSE] will flash, and the buzzer will sound continuously, when the tip is inserted wrong way round, an incompatible tip is inserted, or a foreign object has found its way into the connector.

● Soldering iron error



[C-E] will be displayed if the connector cord is not attached to the station OR the wrong soldering iron is connected.

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