OPERATING MANUAL

FOR

LF-2900

SOLDERING STATION

Please read the operating manual carefully to maximize the advantages of using your new LF-852D-ESD Hot Air rework station and keep this manual readily accessible for future reference.

CAUTION: Read the instructions before using the machine

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FEATURES

- Suitable for lead free soldering applications
- Variable temperature control via LCD touch screen
- Zero switching circuitry for spike suppression
- High idle stability
- Fast heat recovery
- Interchangeable handle
- Three channels for stored temperature presets

Introduction

Thank you for purchasing the Xytronic Lead-Free LCD touchscreen soldering station – the best solution for your soldering equipment needs especially for lead free applications! We believe that you will be more than satisfied with many features and the versatility of your new soldering station. Please carefully read the instruction manual prior to operation to maximize the advantages of using your new soldering station.

WARNING: This appliance is not intended for use by children or inform persons without assistance or supervision if their physical, sensory or mental capabilities prevent them from using it safely. Children should be supervised to ensure that they do not play with the appliance. Failure to observe this safety regulation could result in a risk to life and limb. The manufacturer or supplier shall not be liable for damage resulting from misuse of the unit or unauthorized alterations.

Caution:

- Always place the soldering iron in its original holder when not being used.
- Keep the soldering tip and heating element away from the body, clothes and flammable material when in operation.
- The soldering tip and the heating element remain hot for some time after being switched off. Ensure that you do not touch the soldering tip and the heating element.
- For your health, do not inhale solder fumes.
- You must not undertake work on live parts. Only a technician is recommended to undertake repairs. Use original replacement parts only.

Key Functions

HEATER/SENSOR FAILED DETECTION: If the sensor circuit fails the display read “S--E” and will automatically cut off the heater power. If the heater circuit fails the display will read “H--E” and will automatically cut off the sensor power.

ISOLATED IRON HOLDER WITH TIP CLEANER: Made from low abrasive brass shavings instead of conventional sponges. This meets RoHS requirements and cleans better with no water necessary.

LOW VOLTAGE OUTPUT FOR SAFE OPERATION: The power unit is isolated from the A.C. line by a transformer and allows 32Vac to drive the heating element. The solder handle runs on 32 Volts for safety, and with a 100W high power nichrome heater, you get a super-fast heat-up and quick temperature recovery. The solder handle is attached with a heat resistant, non-burning, flexible 6-wire cord, the jacket for which is made from a burn-proof silicone rubber material.

ESD SAFE AND SPIKE FREE CIRCUITRY: The “Zero Voltage” electronic switching design protects voltage and current sensitive components (CMOS devices, etc.) against damaging current and transient voltage spikes commonly produced by less efficient, mechanically switched stations.

TEMPORARY POWER DOWN MODE – Note this function is not timer automated on this model. It can only be activated and deactivated manually by the user when you press and hold the white button.

DETACHABLE AC POWER CORD: The station has an integrated AC outlet with a replaceable fuse, to support the AC power cord with plug and connector that are designed and approved for Australian electrical safety requirements.

EARTH JACK: A banana type grounding connector, is provided for grounding of an anti-static strap if required (sold separately).

Product Description:

The high power LF-2900 electronically temperature controlled soldering station with touchscreen incorporates a special intelligent chip microcomputer control design was developed to meet the present and future Lead-free soldering needs of the electronic production industry and suitable for work on professional SMD electronics. The ergonomic handle with a short distance between heating element and tip allows very fast heat up time and quick heat dispersion. The high-quality sensor and heat transfer technology ensure precise temperature regulation that is essential for making consistent, reliable soldering connections. The aluminium alloy housing has advantages of strong structure, good heat sinking, and effective resistance from electro-magnetic interference. It provides all the benefits of temperature regulation and connects via a highly flexible burn-resistant Silicone (rubber) lead.

The LF-2900 incorporates electronic circuitry which enables the user to alter tip temperature from 100 to 500°C without changing tips or heating elements. The LCD touchscreen on the front panel provides a user with a clear vision and convenient function setting controls. The temperature is maintained within +/-3° of its operating temperature by a thermocouple sensor placed in the head of the heating element, allowing the tip to rest against the sensor. The 100W high power output results in both a rapid heat-up and super-fast recovery.

The revolutionary “Zero Voltage” electronic switching design also protects voltage and current sensitive components (CMOS devices. etc.) against damaging current and transient voltage spikes commonly produced by less efficient, mechanically switched stations. The power unit is isolated from the A.C. line by a transformer and allows only 32Vac to drive the heating element. The temperature “Lock-out” feature by “password” is convenient for production management. The many features of the LF-2900 make it the ideal tool for service and repair technicians as well as production line soldering operations. This unit is developed to meet the present and future lead-free soldering needs of the electronic production industry, and is ideal for use at any AC outlet.

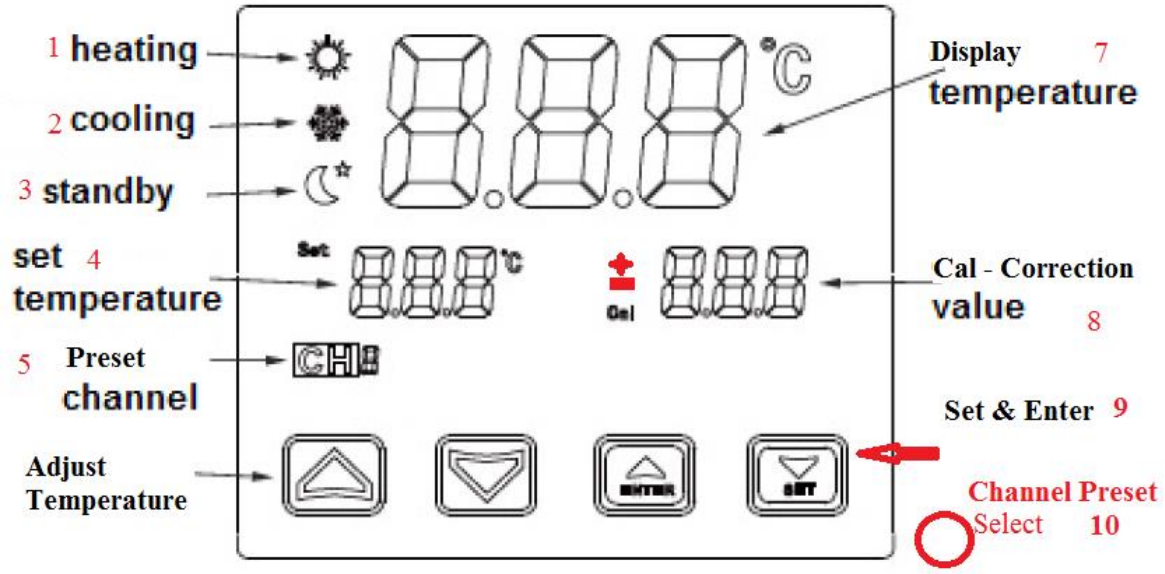

Photo of Soldering Station touch screen control panel *[BEN – I think we need a better drawn image or photo with better labels and arrows to make it more professional looking]*

No.	FUNCTION	DESCRIPTION
1	Heating	When lit, it shows that the element is heating up, temperature increase. When it flashes, it shows that the temperature is being maintained at the set temperature.
2	Cooling	When it appears on screen, it shows that they element is cooling down, decreasing temperature.
3	Standby	When it appears on screen it shows that they element is in standby mode, and the soldering iron tip is at or near room temperature. Press White button – temperature will rapidly increase to resume soldering.
4	Set Temperature	Use the arrow buttons to set the temperature to a desired level, which is displayed here. CH0 is the default operating mode, 100 – 500 °C
5	Channel Preset	CH1, CH2, CH3 preset temperature setting accessed by pressing the white button beside the touchscreen. CH0 is default operating mode.
6	Adjust Temperature	Press Up arrow ▲to increase set temperature, down arrow ▼ to decrease.
7	Display Temperature	When soldering, this temperature may vary slightly from the set temperature. Display Temperature.
8	'Cal' - Correction Value	Used to calibrate the heating element. The 'Cal' function is accessed from the SET button. This requires a soldering iron thermometer. ^
9	Set & Enter	Press SET to activate Channel presets, and activate Cal function, and press ENTER to confirm the temperature once set.
10	Channel Preset Select	Press the white button to select which CH you wish to use or adjust. Button scrolls through the Channels CH1 – CH3 in a loop.

**From any preset CH setting, just tap the adjust temperature arrows and the CH0 default activates and remains the default channel for temperature control unless a channel preset is again activated by pressing the white button.

WORKING TEMPERATURE

If you are manufacturing to RoHS requirements, the 60/40 solder alloys are not allowed in the production process. For lead free solder alloys, a working temperature of 30° higher than leaded electrical soldering is required. The working temperature of lead-free solder is detailed below, but can vary from manufacturer to manufacturer.

• Melting point 227°
• Normal operation 300-360°
• Production line operation 360-410°

When the iron's working temperature is set within the parameters suitable for the type of solder being used, a good joint is assured. Too low a temperature will slow the rate of solder flow while a high temperature setting might burn the flux in the solder and emit a heavy white smoke resulting in a dry joint or permanent damage to the printed circuit board (P.C.B). This may also shorten the tip life.

IMPORTANT: The temperature above 410°C is not recommended for normal soldering functions, but can be used for short periods of time when high temperatures are required. Please note that the lead free solder alloys require a higher soldering temperature which shortens tip life.

Operating Instructions

Ensure that the mains input voltage is between 220-240V before beginning use. Check carefully for any damage during transportation.

This unit contains:

1. Solder handle.
2. Iron holder with brass tip cleaner.
3. AC power cord with plug.

Operating Procedures:

1. Ensure that the base unit power switch is in the "OFF" position.
2. Plug in solder handle and connect AC power cord.
3. Turn mains power switch to "ON" position. The LCD touchscreen will illuminate many icons, most of which are non-functioning indicators. Those described in the table are the symbols for functions that are enabled on this model. Other icons may be relevant for future models. *[BEN - insert photo of start screen with all icons]*
4. Press the ▲ key up until the temperature reaches 250° with CH0 displayed as the default channel. Then tin the surface of the tip by applying a new covering of solder after being warmed to protect tip and extend its life. (CH0 is NOT a preset channel and has no memory storage.)
5. When the Display temperature reaches the desired Set temperature, the heating indicator light / symbols (sunlight icon) will flicker and flash and maintain the set temperature. The unit is now ready for normal operation.

TEMPERATURE CHANNELS STORAGE

This touchscreen model has a memory channels for three pre-set temperature levels – CH1, CH2, CH3. These channels are accessed by pressing the white button on the right side of the screen. Each time you press this button, the screen with scroll to the next CH number in sequence, and eventually loops back to CH1. If you leave the channel memory on a certain number, the set temperature will change to that level, and the display temperature will begin to adjust to match the set temperature.

To set the value for any channel memory, follow these steps in order:

1. Press and hold the 'SET' button on the touchscreen for 3 second, regardless of which CH is currently allocated. When the SET button is released, the CH0 number will be flashing.
2. Press the SET button again. The CAL icon will be flashing. (Temperature adjust buttons to set CAL temperature correction value! ^)
3. Press SET again to move to CH1, and again for CH2, CH3. Choose any one you wish to set. (The SET order progression through the channels is: CH0 > CAL > CH1 > CH2 > CH3 >…in a loop.)
4. Adjust the temperature using the arrow buttons on the touchscreen to a desired value.
5. Press ENTER to confirm the temperature for that CH number. The CH number will stop flashing to indicate that it has been stored in memory.
6. Repeat the process for the other channels as required.
7. If you press any temperature adjust button while using a preset channel memory, the unit will cancel that pre-set and revert to the default CH0. To return to a channel memory of your preference, just press the white button and scroll to that CH number.

^ **NOTE**: To set the CAL temperature correction value, follow steps 1 and 2 first, and then step 4 to adjust the value in degrees Celsius, ending with step 5 to ENTER the determined value, whether it be positive or negative. The CAL range is -99 to zero to +99 and once set for a correct value, it applies to all preset channels and CH0 i.e. always on.
NB: This function requires a special soldering iron thermometer to work correctly. This thermometer is not currently one of the optional accessories for this model.

TEMPORARY POWER DOWN MODE

Press the white button on the right side of the touchscreen for at least 3 seconds. The screen will look like this: *[BEN insert photo 1]*

In this state the heating element is manually disengaged and cooling begins, as indicated by the presence of the 'snowflake' icon *[BEN – Snowflake screen photo 2]* on the left of the screen. As the iron cools down, once it reaches below 100°C, the icon will change to this [BEN - *half moon icon for sleep screen photo 3]* and the station will be idling. It will remain in this temporary power down state indefinitely, until the user presses the white button or any other arrow button, at which point the heater will reactivate and return to the previous temperature setting.

CAUTION: REMEMBER, THE TIP IS HOT. The tip and barrel of the solder handle will cause serious burns if they are allowed to contact the skin. Always return the solder handle to the safety holder after each use. Soldering irons operate at high temperatures and can easily burn people or objects. Do not touch the tip and heater at any time and keep it a safe distance from flammable materials while the unit is on or while it's cooling. Please allow a sufficient time for the unit to cool before changing tips or handles!

DO NOT WORK ON LIVE CIRCUITS. Before working on any mains powered equipment, make sure thatit is turned off, and the mains plug is removed from the power point.

DO NOT USE IF DAMAGED. If the power lead becomes damaged or the soldering station becomes faulty, discontinue use immediately.

COMMON CAUSES OF TIP UNWETTING

1. Tip temperature higher than 410°.
2. Tip has not been tinned before extended periods of idling.
3. Lack of flux in soldering, wicking, repairing, and touch-up operations.
4. Wiping the tip on a high sulphur content, dirty or dry sponges and rags.
5. Use with organic substances such as plastic, resin, silicone, grease or other chemicals.
6. Impurities in solder and/or low tin content.

CARE OF TIPS

Caution: The soldering iron can reach very high temperatures. Be sure to turn the unit off prior to carrying out any maintenance or trouble shooting steps listed below.

IMPORTANT: Remove the tip and clean after moderate to heavy use or at least daily for light usage. Remove any loose build up in the tip retaining assembly to prevent tip freezing. The solder tips supplied are iron clad copper, and if used properly, they should maintain optimum life.

1. Always tin the tip before returning it to the holder, turning off the station, or storing it for long periods of time. Wipe the tip on a brass cleaner prior to use.
2. Keeping the iron set at high temperatures (more than 400°C) will shorten tip life.
3. Do not use excessive pressure on the tip or rub the solder joint with the tip while soldering; this does not improve the heat transfer and may damage the tip.
4. Apply solder to the joint, not the tip when soldering. The flux is naturally caustic and will corrode the tip.
5. Never clean the tip with a file or abrasive material.
6. Do not use fluxes which contain chloride or acid. Use only rosin or resin activated fluxes.
7. If an oxide film forms on the tip, it can be removed by careful buffing with a 600-800 grit emery cloth, isopropyl alcohol or equivalent and then wrapping rosin core solder around the newly exposed surfaces. Coat the tinned areas with rosin-core solder after the resin-core has melted.

NEW TIPS

Applying the following steps will lead to optimum life.

1. Set temperature to min. then turn the main power switch to the “ON” position.
2. Set temperature to 250°C.
3. Coat the tinned surfaces with rosin-core solder after reaching 250°C.
4. Set to desired temperature after allowing the unit to idle at 250°C for 3 minutes.
5. The iron will be ready for use once it reaches the preset temperature.

IMPORTANT: Remove and clean the tip daily. If a new tip is installed, remove any loose build up in the barrel assembly, otherwise the tip may fuse to the heating element or retaining barrel.

Maintenance

TIP MAINTENANCE AND DRESSING

Tips can be changed or replaced simply by unscrewing the knurled nut barrel assembly. The station must be switched off and allowed to cool before this operation as damage may result if the system is left on without the tip in place!

After removing the tip, blow out any oxide dust that may have formed in the tip retaining area of the barrel. Be careful to avoid getting this dust in your eyes. Replace the tip and screw back the knurled nut barrel assembly using only firm hand pressure to tighten. Pliers should only be used to tighten the nut to avoid burning your fingers, but care should be taken not to over-tighten as this could damage the element.

GENERAL CLEANING

The outer cover of the iron and station may be cleaned with a damp cloth using small amounts of liquid detergent. Never submerse the unit in liquid or allow any liquid to enter the case of the station. Never use any solvent to clean the case.

IMPORTANT SERVICE NOTE:

There are no user serviceable parts inside the unit. Do not open the unit. If the fuse blows, only replace with an equivalent 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 they do not play with the appliance.

If the iron or station should become faulty or, for some reason not operate normally, the system should be returned to the service department of your authorized dealer or service agent, or a similarly qualified person, in order to avoid a hazard.

SPECIFICATIONS:

Model	**LF-2900**
Input	220 - 240 VAC ~ 50 Hz
Output	32 VAC / 100 W
Fuse (Fast type)	1A
Temperature Range	100°C - 500°C
Temperature correction Range:	+99°~ -99°C
Default Set:	200°C
Temperature correction value:	“00”
Soldering iron	306 K
Figure Dimension	150 x 145 x 102 mm (W x H x D)
Weight (Unit only)	2.5 kg

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PJS