

DESCRIPTION

CONTROL UNIT

The Weller® Model WSD161 and WSL2 microprocessor-controlled soldering stations are part of a family of units that have been developed for industrial manufacturing as well as for the rework and repair sector. The WSD161/WSL2 Soldering Systems offer digital microprocessor control as well as the use of a high-quality Platinum RTD (Resistance Temperature Detector) type sensor to provide precise, responsive temperature control at the soldering tip. The soldering tools are automatically recognized by the WSD161/WSL2 Control Units and the corresponding control parameters are designated.

A digital readout, grounded soldering iron tip, zero power switching and antistatic design of the control unit and iron, complete the high quality standards established by Weller®. The WSD161/WSL2 Soldering Systems also offer the capability of connecting an external calibration unit, which further increases the variety of functions of the soldering systems. With the optional WCB1 Calibration unit, it is possible to initiate a “Setback” feature (as well as an “Auto Off” function), a “Lockout” function, Factory Default settings, and a custom “Tip Offset” feature.

The temperature is adjustable in the range of 150°F and 850°F (66°C and 454°C) using the “UP” and “DOWN” Scroll Keys. The “SET” and the “READ” values are digitally displayed. A blinking LED (5 or 10) above the soldering iron receptacle (6 or 9) signals that the preset temperature has been reached. This serves as a visual indicator to monitor the heater control.

SOLDERING IRONS

WSP80: The WSP80 Soldering Pencil is characterized by its capacity for reaching soldering temperatures quickly and precisely. Its slim design and power rating of 80W allows for use in applications from extremely fine to high-temperature, high-mass soldering. Due to the extremely fast-heat up and recovery time of the WSP80 Iron, soldering may be continued very quickly, once the soldering tips are interchanged.

WMP: The “New” Weller® WMP Micro Soldering Pencil is ideal for work on professional SMT electronics. An improved “Tip to Grip” ratio between the handle and the soldering tip ensures improved handling of the 65W soldering iron when performing the finest of soldering tasks. The cartridge style tip consists of a hex coupling, stainless steel sleeve and the tip. There is no need to dispose of a functional “heater”, when the tip is exchanged.

See “Accessories” for additional tools.

SPECIFICATION

Dimensions in inches/mm:	6.5" / 166mm x 4.5" / 115mm x 4" / 101mm (L x W x H)
Supply Voltage (11):	120VAC - 50/60 Hz
Power Consumption:	150 Watts
Fuse (12):	T1.6 A - 50/60 Hz
Temperature Control Range:	150°F - 850°F (66°C - 454°C)
Absolute Accuracy:	Average tip temperature can be “Offset” to +/-9° F (+/-5° C) at no load
Stability:	± 10° F (± 6° C) per MIL-STD-2000
Control Setting Resolution:	1° F (1° C)
Ambient Temperature Range:	60° F to 110° F (16° C to 44° C)
Line Cord:	3 Wire; UL Recognized

The Weller® WSD161/WSL2 Soldering Systems are designed to meet all applicable standards: MIL-STD-2000 MIL-S-45743, W-S-570, as well as DOD-STD-1686.

The control unit housing and tool handles are made with electrostatic protective materials as required in MIL-B-81705.

The housing passes static decay test per Federal Test Method Std. No. 101, Method 4046.

OPERATING INSTRUCTIONS

Unpack the unit carefully. Place the station and the tool stand(s) on the appropriate area of the workbench. Check that the power supply corresponds to the specifications on the base unit label and that the power switch (1) is in the "OFF" position. Insert tool in holder and connect tool plug(s) to the receptacle(s) on the power unit (6 & 9). Rotate the plug housing Clockwise (CW) to lock the plug into the receptacle.

CHANNEL SELECTION

The digital display can be switched to channel 1 or 2 by operating the channel selection button (7). The currently displayed channel is identified by a red/orange LED (Light Emitting Diode) (5 or 10) over the receptacle.

The channel displayed can be switched "OFF" by depressing the "UP" and "DOWN" buttons (3 & 4) simultaneously. This is confirmed by the display with the word "OFF".

To activate a channel that has been switched "OFF", the channel must be selected using the channel selection button, and switched "ON" by depressing the "UP" and "DOWN" buttons (3 & 4) simultaneously. The "SET" value will then be shown on the digital display (2), for approximately 2 seconds.

SETTING THE TEMPERATURE

The digital display (2) shows the actual ("READ") tip temperature. By depressing the "UP" or "DOWN" keys (3 & 4) the digital display (2) switches to the "Set" temperature. The set point may be changed by repeatedly depressing the "UP" or "DOWN" keys (3 or 4) or by continuously depressing the "UP" or "DOWN" keys (3 or 4) in the desired direction. Depressing either button and holding it down will change the set point quickly. The digital display (2) returns automatically to the "READ" value, approximately 2 seconds after releasing the "UP" or "DOWN" keys (3 or 4).

STANDARD "SETBACK"

The "Standard Setback" feature can be enabled or disabled during the initial "Powering Up" of the station (see instructions in paragraph two below). If the soldering tool is not used within a period of 20 minutes, the temperature will be automatically reduced to a standby temperature of 300° F (150° C). After the unit has reached the "Setback" mode, the station will continue to function at the reduced temperature (300° F/150° C), for approximately one (1) hour (60 min.). At this time, the "AUTO OFF" function will be activated and the soldering iron and power to the station, will be switched off. To "Reset" the station, toggle the "Power Switch" (1), "OFF" and then "ON" again to allow the station to power up.

Activating the standard "Setback" function: When switching the unit "ON", depress and hold the "UP" button until "ON" appears in the display. Use the same process to switch the unit "OFF". "OFF" will appear in the display (the station will be shipped in the "OFF" state). Certain applications may not be recognized by the "Loading Effect" or "Temperature Drop" on the tool and may require more frequent wiping of the tip on the damp sponge to recognize use.

MAINTENANCE

The interface between the heating element/sensor and the tip of the soldering iron should not be exposed to dirt, foreign materials or physically damaged, since this affects the precision of the temperature control.

INSTRUCTIONS FOR USE

During the initial heating of the iron, pre-tin the wettable surface of the tip with solder. This removes any oxidation or contamination from the working area of the tip, which may have occurred during storage or shipment. Always keep the tip tinned and wipe the tip clean before using. Once the tip has been cleaned on a damp soldering tool sponge, re-tin the tip with a light, fresh coating of solder. This will help to transfer the heat from the tip to the work. Do not use aggressive fluxing agents. To do so will greatly affect the working life of the tip.

Do not file or mechanically abrade the soldering iron tip. This will damage the iron plating of the tip and cause the tip to be rendered useless, much quicker than with normal cleaning practices.

WMP/WSP80 SOLDERING IRON SELECTION

The WSD161/WSL2 series of soldering stations are designed to allow either the WMP or WSP80 iron to be used without any required changes to be made to the stations. This is due to the high precision RTD (Resistance Temperature Detector) Sensor used in the Weller® family of electronic soldering stations.

USING THE WCB1 CALIBRATOR WITH THE WSD81 / WSL2 SOLDERING SYSTEMS

The following functions are possible when using the WCB1 Calibrator:

- Offset Mode:** The actual tip temperature of the soldering iron can be changed by $\pm 72^{\circ}\text{F}$ ($\pm 40^{\circ}\text{C}$) by use of the temperature "Offset" feature on the WCB1 Calibrator.
- Setback Mode:** A reduction of the set point temperature to 300°F (150°C) ("Setback" mode). The setback time can be controlled from 0-99 minutes after the soldering station has switched to standby mode. After a period equal to three times the setback time, the "Auto Off" function is activated. Power to the soldering iron and station are switched "OFF" (indicated by a flashing segment on the display).
- Lockout Mode:** Locking the set point temperature. Settings cannot be changed after the soldering station has been "Locked".
- $^{\circ}\text{F}/^{\circ}\text{C}$ Mode:** Switching the temperature display from $^{\circ}\text{F}$ to $^{\circ}\text{C}$, and vice versa.
- Window Mode:** Limitation of the temperature range to a maximum of $\pm 210^{\circ}\text{F}$ ($\pm 99^{\circ}\text{C}$) based on a locked temperature resulting from the "Lockout" function. The locked temperature represents the median point of the adjustable temperature range. This allows the station to be adjusted within a range of temperatures that are considered allowable for certain similar applications (i.e. 700°F Median Temperature $\pm 50^{\circ}\text{F}$ window, allows the station to be adjusted between the range/window of 650°F to 750°F).
- Cal Mode:** This function allows the soldering station to be Reset to "factory default settings".

SAFETY INSTRUCTIONS

The manufacturer assumes no liability for uses other than those described in the operating instructions or for unauthorized alterations.

These operating instructions and warnings should be read carefully and kept in an easily visible location near the soldering station. Non-observance of these warnings can result in accidents, injury or risks to health.

ACCESSORIES

Part Number	Description
WSP80	WSP80, 80W Soldering Iron
WSP80AP	Soldering Iron w/Stand
WMP	WMP 65W Soldering Iron
0051317099	WTA50 Thermal Tweezer WTA50
0053313399	Thermal Tweezer w/AK51 Stand
0052503099	WST20 Thermal Stripper
0053118199	External input unit WCB1
WMPH	Iron Holder for WMP Iron
WPH81	Iron Holder for WSP80 Iron
WSL2PU	Control Unit Only, WSL2
WSD161	Control Unit Only

REPLACEMENT PARTS

Part Number	Description
0052241999	Sponge for WMPH/WPH81
WS104	Power Supply Cord 120VAC
WS101	Heater/Sensor for WSP80
WS102	Tip Retainer for WSP80
WS103	Handle/Cord for WSP80
0058751717	Tip Removal Pad for WMP (Not Shown)
0058751710	Tip Removal Tool for WMP

ITEMS SUPPLIED

WSD 161

WSD161 Control Unit Only
Power Cord 120 VAC
Operating Instructions

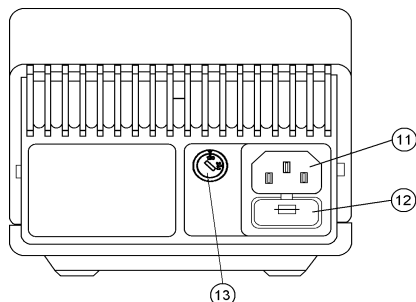
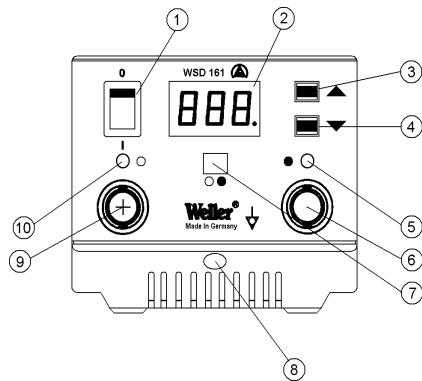
WSL2

WSL2PU Control Unit
WSP80 Soldering Iron
WPH81 Soldering Iron Holder for WSP80 Iron
WMP Soldering Iron
WMPH Soldering Iron Holder for WMP Iron
Power Cord 120 VAC
Operating Instructions

Exploded diagram WSD161 - see page 7.

Exploded diagram WSL2 - see page 8.

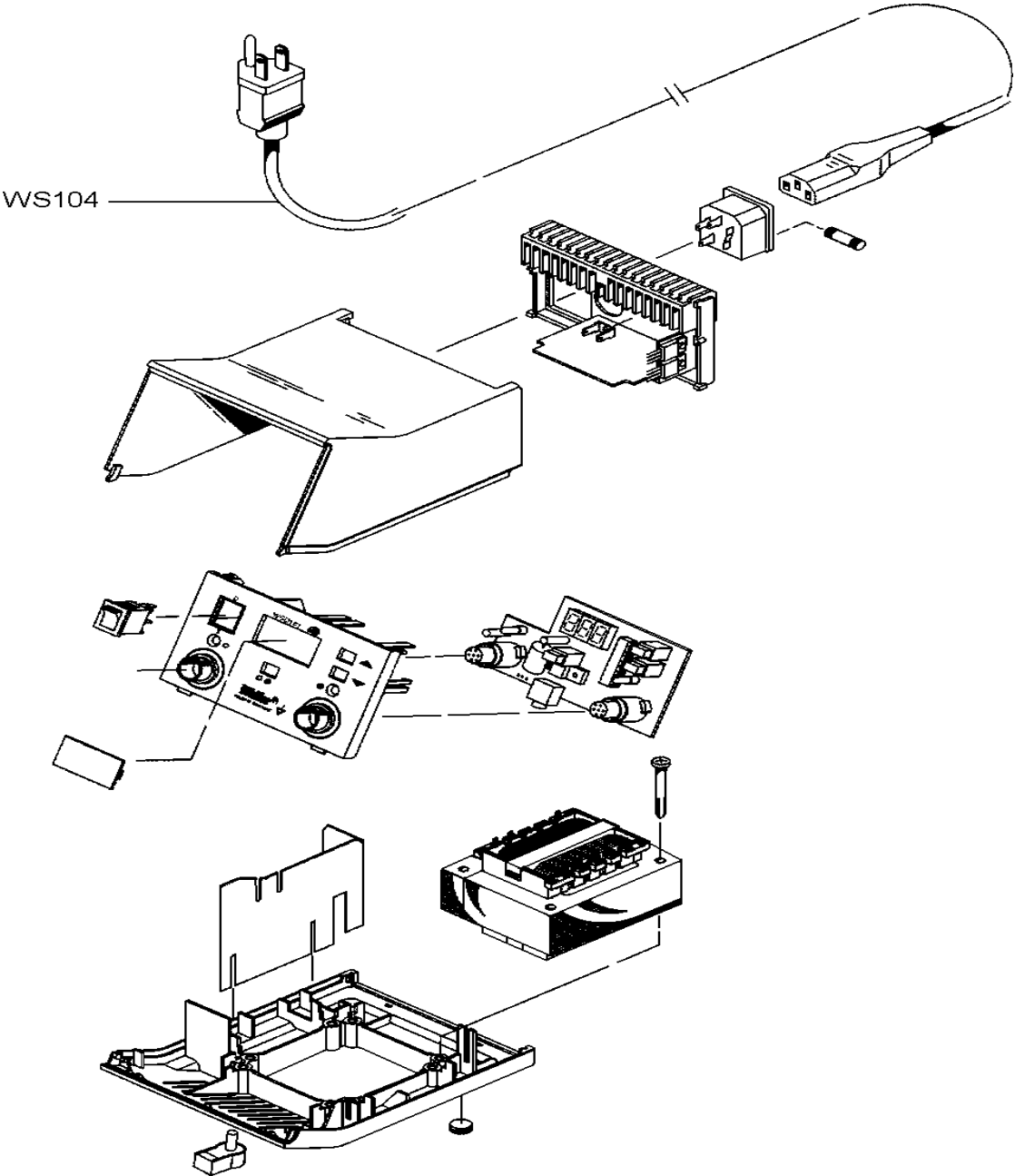
WSD161/WSL2 SOLDERING STATIONS



FEATURES

1. Power Switch
2. Digital Display
3. "UP" Scroll Key
4. "DOWN" Scroll Key
5. LED Right Hand Port - Heat Control Indicator / Channel Selection Monitor
6. Right Hand Port - Soldering Iron Receptacle
7. Channel Selection Button
8. Equipotential (Ground) Connection Port (not for US Products)
9. Left Hand Port - Soldering Iron Receptacle
10. LED Left Hand Port - Heat Control Indicator / Channel Selection Monitor
11. Power Supply Connector
12. Fuse / Fuse Holder
13. Voltage Selection Switch (Not for US Products)

EXPLODED VIEW WSD161



EXPLODED VIEW WSL2

