

## Technical Specification

### 【GENERATOR】

|                      |   |
|----------------------|---|
| Ultrasonic-frequency | Auto control 60KHz± 5KHz                |
| Ultrasonic-power     | Rating 15W (max)<br>Effective 10W (max) |
| Temperature range    | 200°C~500°C                             |
| Power setting        | Variable(multi-choice)                  |
| Power Requirements   | AC100V/240V, 50/60Hz, 150W              |
| Dimension            | W210 x H190 x D220                      |
| Weight               | app. 5kg                                |

### 【 IRON 】

|              |                                      |
|--------------|--------------------------------------|
| Transducer   | Langevin type<br>(P.Z.T.) 60 kHz     |
| Tip material | Stainless steel                      |
| Tip diameter | φ4.0mm (Std.) ※                      |
| Heater       | High performance sheathed heater 65W |
| Dimension    | φ36mm (max) x 250mm                  |
| Weight       | app. 210 g (with cord)               |

※The tip shape is supported nonstandard type.

## Accessories

|                          |   |
|--------------------------|---|
| Soldering iron stand     | 1 |
| Power source cord        | 1 |
| Spanner for changing tip | 1 |
| Fuse                     | 2 |

# SUNBONDER®

## ULTRASONIC SOLDERING SYSTEM

### USM-5



For operating the device, refer to the instruction manuals.  
Don't use near water, under conditions of high humidity,  
dust and soot filled places,  
to avoid electric shock, fire or breakdown.

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# ULTRASONIC SOLDERING SYSTEM

## SUNBONDER® USM-5

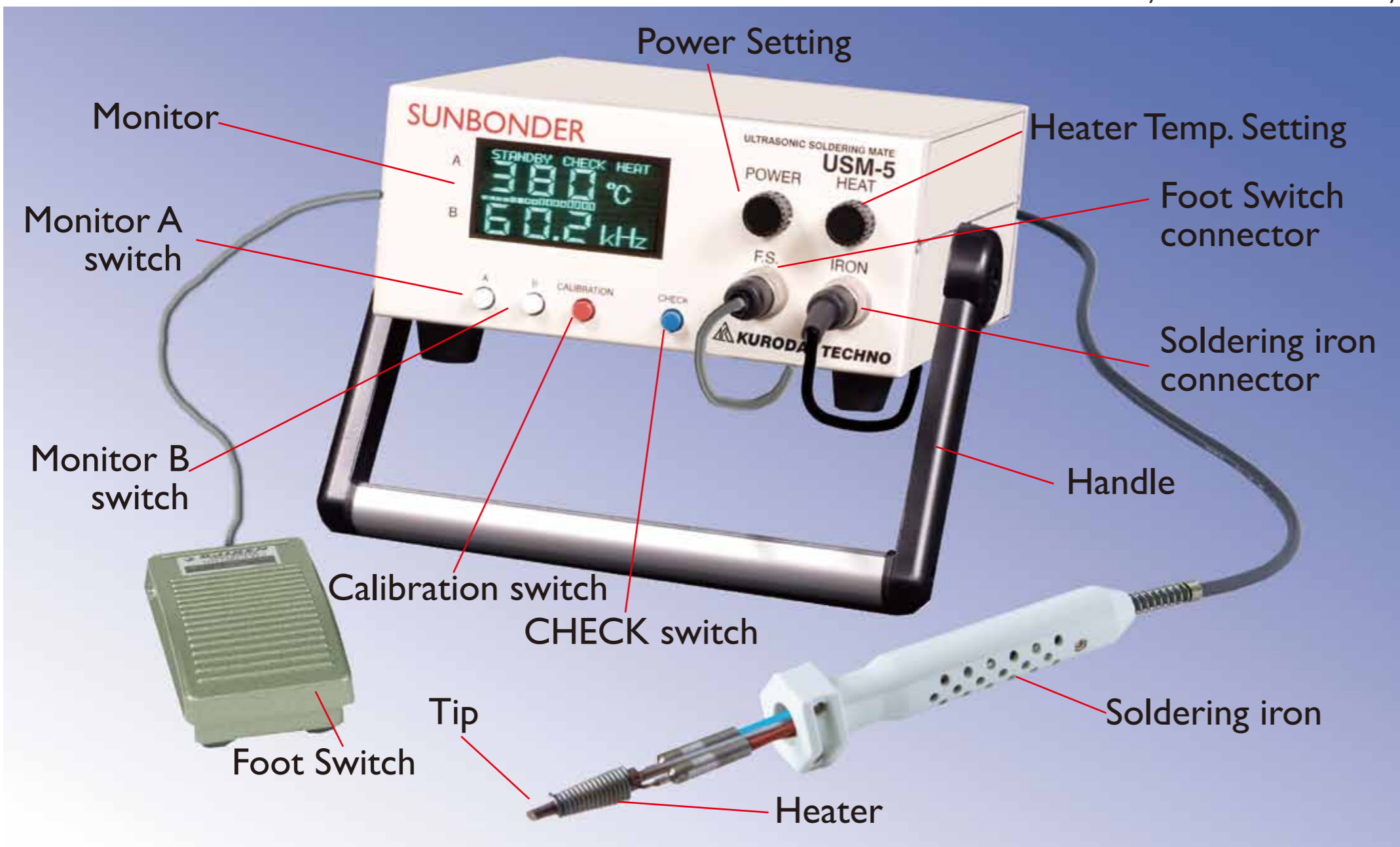
SUNBONDER is an ultrasonic soldering device that produces high quality soldered joints. The soldering iron consists of a high performance sheath heater and transducer, supplying heat and ultrasonic oscillations to the tip. Using CERASOLZER, a solder alloy especially formulated for use with the SUNBONDER, you can easily solder directly to glass, ceramics and other low solderability materials, such as Al, Mo, or stainless steel. The application field of ultrasonic soldering technology is large due to the fact that SUNBONDER and CERASOLZER can be used with a wide range of different materials, such as metals, semiconductors, glass and ceramic substrates.

### Soldering to glass, ceramics and low solderability metals

CERASOLZER is used for soldering to glass, ceramic and low solderability metals. CERASOLZER is a special solder alloy with addition of Zn, Sb, Al, Ti, Si, In, and Cu. A strong chemical bond of Zinc and Oxygen is achieved between the substrate and CERASOLZER by applying ultrasonic oscillation with SUNBONDER device to the melting CERASOLZER solder alloy. This superior bonding technique provides an excellent airtight, weatherproof, humidity resistant seal as well as joints with good electro-conductivity between interconnected layers.

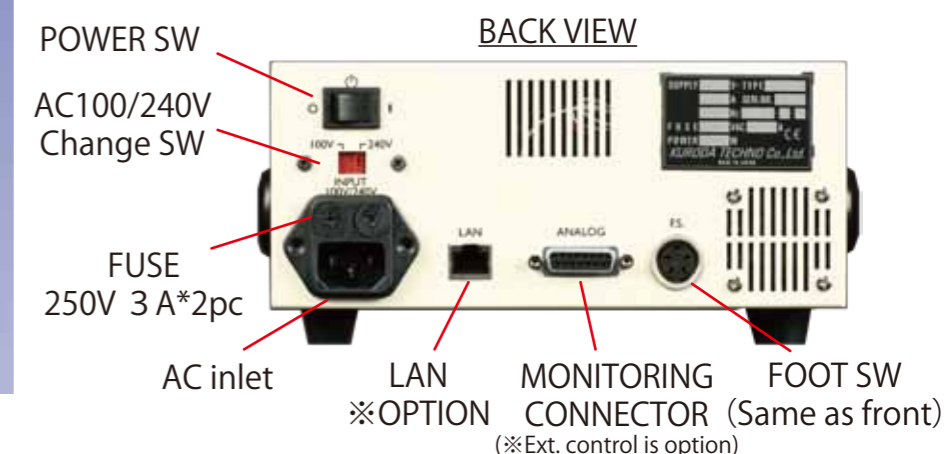
### SUNBONDER features

- (1) Direct soldering to glass, ceramics, low solderability metals
- (2) Stable ultrasonic frequency with constant amplitude control and new feedback system for automatic-adjustment of resonance frequency.
- (3) Adjustable ultrasonic-power output.
- (4) Heater temperature is possible to adjust between 250-500°C at intervals of 10°C.
- (5) Soldering condition is possible to reproduce by display ultrasonic-frequency, ultrasonic-power and heater temperature.
- (6) Compact handy type, portable hand and space-saving.
- (7) Easy to operate.
- (8) Variable power supply with AC 100V/240V switch.



### Applications

- Soldering to glass or ceramics
- Soldering to low solderability metals
- Lead bonding for superconductive materials
- Lead bonding for solar cells or modules
- Lead bonding on the surface of display



Ultrasonic soldering makes it possible to solder glass, ceramics and low-solderability metals, such as Al, Mo, stainless steel etc.