



May 29, 2020

Nippon Avionics Co., Ltd.

<http://www.avio.co.jp/english/>

**Oscillation mode can be selected for different applications!  
Handheld welder which contributes to welding quality improvement  
and shortening of tact time will be released.**

Nippon Avionics Co., Ltd. (Avio) (Headquarters: Yokohama-shi, Kanagawa. President: Mr. TAKEUCHI, Masato) will release 【HW-D series, Ultrasonic Handheld Welder】 for which oscillation mode can be selected for different applications and incorporation into an automated system can be made in addition to manual operation.

In information devices and automobile industries, percentage of electronics in hardware is increasing constantly. As the hardware becomes more functional and components are miniaturized, manufacturing is becoming difficult, and manufacturing (or MONOZUKURI) with higher reliability is becoming extremely important. The product being released this time realizes stable welding, with the fastest speed among the handheld welders from Avio, and rich welding control functions are further improved. Furthermore, external interface features, strengthened comparing to our previous models, make this product compatible to automated systems, and it will contribute to manufacturing of high quality products in various manufacturing shops.

This time, 2 series (total 5 models), namely the standard model and the high-end model for world market based on multiple power supplies, will be released. High frequency model (60kHz, maximum output of 200W) is included in the series for the first time for Avio. This model is capable of welding fine boss or crimping of plastic rib which was difficult with the conventional ultrasonic welders. As a result, optimum welding capability is offered for various applications.



Ultrasonic Handheld Welder  
【HW-D Series】

**Major features:**

**1. Production tact time is shortened by high speed welding.**

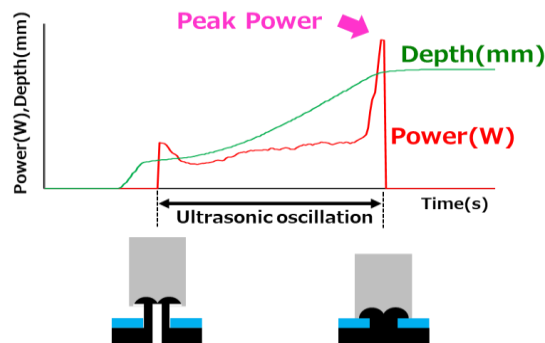
Digital ATHMOS (\*) control is equipped. Fast rise time, which is one of the features of Avio ultrasonic welder, enables fast rise even when the pressure is applied, and amplitude with the least loss realizes high speed welding.

## \*Digital ATHMOS control

ATHMOS (Automatic Tuning Hold Master Oscillator System), which is Avio proprietary ultrasonic oscillation frequency automatic tracking system, and digital circuits are combined. While maintaining high speed welding, which has been Avio's traditional feature, stability and multi-function are realized by digitalization.

## 2. Optimum welding is realized by selection of oscillation control mode.

As oscillation control function, 4 oscillation control modes are available, namely peak power control, energy control, and continuous oscillation in addition to the conventional timer control. Optimum mode can be selected as desired depending on the work shape, size and specification for finish.

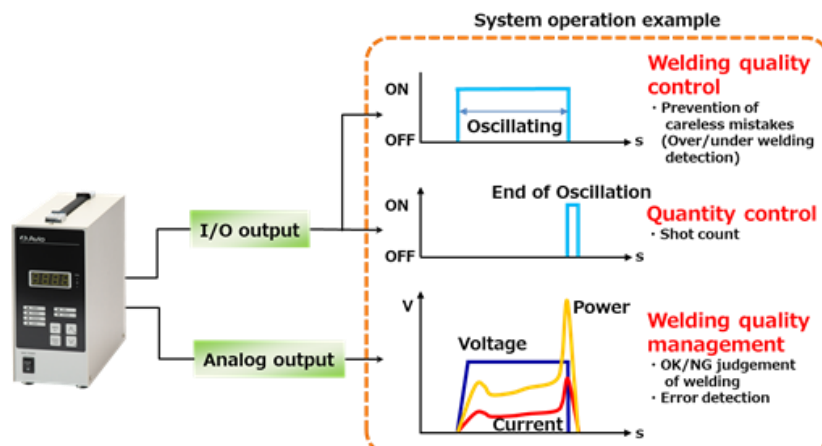


Example: plastic crimping, peak power control

By auto control of the peak power (a type of control where the oscillation is stopped when the power reaches the preset level as a result of sudden power (W) increase due to the increase of load resistance against ultrasonic oscillation when the boss is fully crushed), stable crimping quality can be obtained.

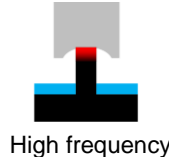
## 3. Rich interfaces contribute to automation and production control.

In addition to oscillation control by external signal, signal for oscillation on and oscillation end can be sent out. Furthermore, analog output is available for voltage, current and power, which is useful for production control and quality control.



## 4. High frequency/high output model is useful for miniature works.

A high frequency/high output model (60KHz frequency and 200W output) is offered to cope with welding of small boss or rib of  $\phi 2\text{mm}$  which used to be difficult to weld by conventional ultrasonic welding due to deformation or bending. Crimping of high strength can be realized by welding time of approximately one half comparing to the time required for heat crimping.



High frequency



Low frequency

Yield ratio can be improved by suppressing deformation or bending of thin diameter boss.

Weld start is faster because of the least loss of amplitude, and it contributes to productivity improvement.

## 5. Product lineup and supported applications

<Product lineup>

- HW-D250H-28 (28kHz、250W、high-end model)
- HW-D250H-40 (40kHz、250W、high-end model)
- HW-D200H-60 (60kHz、200W、high-end model)
- HW-D250S-28 (28kHz、250W、standard model)
- HW-D250S-40 (40kHz、250W、standard model)

<Major applications>

Welding and crimping of automobile interior trim, plastic crimping in electronic assembling, welding of unwoven cloth (mask), cutting of rubber (useful as a cutter as well), etc.

---

### For Further Information, Please Contact;

Nippon Avionics Co., Ltd.

Overseas Sales Department

Industrial Electronic Products Sales Division

4475, Ikonobe-cho, Tsuzuki-ku, Yokohama-shi, Kanagawa, 224-0053, Japan

Phone: +81-45-930-3596

E-mail: Product-mj@ml.avio.co.jp

### <Sample welding accommodated>

We will be pleased to accommodate sample welding so that customers can verify the performance of our new product with their own work.

If a sample welding is desired, please contact Overseas Department or local distributor near you.