

BRANSON

LPX Platform

Ultrasonic Welding Systems
for Low Power Applications

Advanced-Performance Features for Process Control and Reliable Power

User Interface/Process Controls

- **Digital parameter entry** for precise, easy setup.
- **1 ms sampling rate** of all data provides superior performance.
- **Digital amplitude control** allows fine-tuning for critical applications (ranges from 10% to 100% in 1% increments).
- **LCD interface** with straightforward icons provides improved navigation, easier configuration, and shorter setup time.
- **Self-diagnostics and monitoring** provide visual, audible, and logic output alarms.
- **Selectable auto reset conditions available for all alarms.**
- **Save and recall presets** provide up to ten presets for aid in setup.
- **Optional ground detect** can be used to detect horn-to-anvil contact or can be utilized as an “ultrasonic cut-off” signal/safety override in all available welding modes. (This is optional and must be factory installed).

Power Supply Key Features

- **Line/load regulation** – Branson’s patented closed-loop amplitude control corrects for variations due to power line fluctuations ($\pm 10\%$) and varying load conditions.
- **LCD interface** displays weld mode and weld parameter settings with straightforward icons to ease configuration and shorten setup time.
- **Visual and audible alarms and external outputs** identify overload, machine faults, and setup errors.
- **Last weld results** including peak power, time, energy, and amplitude are available for viewing on the LCD interface.
- **System Protection Monitor (SPM)** – Five levels of power supply protection are provided to reduce equipment failures and improve weld accuracy and repeatability.
- **Autotune Plus Memory (AT/M)** – Provides fully-automatic horn frequency tuning by storing the horn frequency at the end of each weld for consistent and reliable horn starting.
- **Timed seek** tracks the operating frequency of the stack when the system is idle.
- **Sequence of operation** is viewable through the LCD interface during the welding cycle.
- **Non-volatile storage of setup parameters** provides storage of setup parameters if system is shut off or a power loss occurs.
- **Power measurement** is displayed when depressing the “test” key, which is helpful for diagnostics of acoustic tooling.
- **High cycle rate** – The power supply is capable of more than 200 welds per minute. Actual cycle rate is dependent upon the application and controls.
- **User I/O interface** provided for direct hookup with +24V DC programmable controllers.
- **Preset weld setup** – The power supply can save and recall up to ten preset configurations, allowing consistent and repeatable setup.



Application Flexibility with Maximum Process Control



Available in Three Frequencies with Multiple Weld Modes

The LPX platform of low power ultrasonic systems is Branson's latest offering for applications with power requirements of 550 Watts or less. The LPX utilizes Branson's patented circuitry with closed-loop amplitude control to provide maximum process control.

The LPX units can be used with their appropriate hand-held welder or can be connected directly to a converter/booster/horn stack for use in automation. The LPX provides the user multiple weld modes: continuous, time, and energy. The LPX is also available with an optional factory-installed ground detect.

Three frequencies are available:

- 20 kHz at 150 and 550 Watts
- 30 kHz at 550 Watts
- 40 kHz at 150 and 550 Watts

Hand-Held Welders with Pistol or Barrel Grip

The LPX series hand-held ultrasonic welders are compact, lightweight tools used to spot weld or stake large, complex parts and those with hard-to-reach joint areas. Two types of hand-held welders are available, pistol grip (PT) and barrel grip (HT).

With pistol grip (PT) models, the trigger switch is located on the grip; barrel grip (HT) models have the trigger switch located on the side of the barrel. All units may be operated utilizing a remote trigger, a start signal, or by the start/stop switch located on the front panel.

With the HT-215 model, a spring-loaded sleeve automatically triggers the ultrasonic welding cycle when the operator applies pressure against the part. An adjustment screw is used to vary the force required before ultrasonic triggering occurs.



Configurations to Match Your Needs

Frequency	Power Supply	Power Output	Line Voltage	Hand-Held Systems		Automation Components		
				Hand-Held Welder	Converter Req'd	Converter	RF Cables	Start Cables
20 kHz	20:0.15	150 Watts	100-120V AC NRTL 50/60 Hz, 1Φ, 2 A (or) 200-240V AC CE or NRTL 50/60 Hz, 1Φ, 1 A	HT-215	TW-1/TW-2/TW-3	2CH1	J934C (8')	J913/J911 (PLA "req'd")
				HK-215	TW-1/TW-2/TW-3	2CH2	J934C (8')	J913/J911 (PLA "req'd")
						2CH3	J934C (8')	J913/J911 (PLA "req'd")
20 kHz	20:0.55	550 Watts	100-120V AC NRTL 50/60 Hz, 1Φ, 10 A (or) 200-240V AC CE or NRTL 50/60 Hz, 1Φ, 6 A	PT-250	402	902R	J931/J31C	J913/J911 (PLA "req'd")
30 kHz	30:0.55	550 Watts	100-120V AC NRTL 50/60 Hz, 1Φ, 10 A (or) 200-240V AC CE or NRTL 50/60 Hz, 1Φ, 6 A	PT-350	Converter built in	CR30S	J934C	J913/J911 (PLA "req'd")
				HT-350	Converter built in	CS30S	J934C	J913/J911 (PLA "req'd")
						CP30S	J934C	J913/J911 (PLA "req'd")
40 kHz	40:0.15.4C	150 Watts	100-120V AC NRTL 50/60 Hz, 1Φ, 2 A (or) 200-240V AC CE or NRTL 50/60 Hz, 1Φ, 1 A	PT-415	KTJ	4C	built in (8')	J913/J911 (PLA "req'd")
				HT-415	KTJ	KTR	built in (8')	J913/J911 (PLA "req'd")
40 kHz	40:0.15.4T	150 Watts	100-120V AC NRTL 50/60 Hz, 1Φ, 2 A (or) 200-240V AC CE or NRTL 50/60 Hz, 1Φ, 1 A	PT-480	Converter built in	4TR	J934	J913/J911 (PLA "req'd")
				HT-480	Converter built in	4TH	J934C	J913/J911 (PLA "req'd")
						4TP	J934C	J913/J911 (PLA "req'd")
40 kHz	40:0.55	550 Watts	100-120V AC NRTL 50/60 Hz, 1Φ, 10 A (or) 200-240V AC CE or NRTL 50/60 Hz, 1Φ, 6 A	PT-480	Converter built in	4TR	J934	J913/J911 (PLA "req'd")
				HT-480	Converter built in	4TH	J934C	J913/J911 (PLA "req'd")
						4TP	J934C	J913/J911 (PLA "req'd")

**Receptacle required: 100-120V AC models: NEMA 5-15R;
200-240V AC models: *NEMA 6-15R or equivalent; 200-240V AC,
CE Certified: *CEE 7/7**

*User must supply power cord ends for all 200-240V systems

*Product Liability Agreement (PLA) required



Mechanical Specifications

Height: 9.54" (242.3 mm)
 Width: 8" (203.2 mm)
 Depth: 13.7" (348.2 mm)
 (Add 3" (76.2 mm) for cable clearance)
 Depth Including Handle: 15.32" (389.2 mm)
 Weight: lbs. 14.5 lbs (6.5 kg)

Connections to the LPX Platform Power Supply

Item	Name	Function
1	Power Switch	Turns the unit on/off.
2	IEC/C14 Power Connector	To connect the power supply to a grounded electrical power source using the provided detachable line cord.
3	Fuse Holder	Provides access to a replaceable protective fuse.
4	User I/O J2 Connector	Connects the power supply to a PLC controller for remote control.
5	Ground Detect Terminal (Optional)	Factory installed option used to detect contact between the horn and an anvil that has been isolated from ground.
6	3 Pin RF Connector	Connects the power supply to the ultrasonic converter.

All units are NRTL certified by Curtis-Straus and comply with FCC rules and regulations governing radio frequency interference. CE compliant models are indicated.



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All specifications subject to change without notice. All dimensions are nominal. All units are CE compliant and comply with FCC rules and regulations governing radio frequency interference. Note: All sales shall be subject to the Supplier's terms and conditions of sale as described in Branson's quotations and sales contracts.