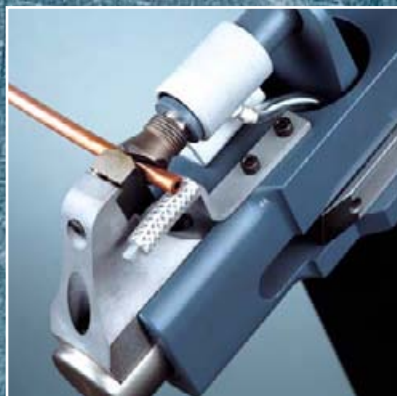
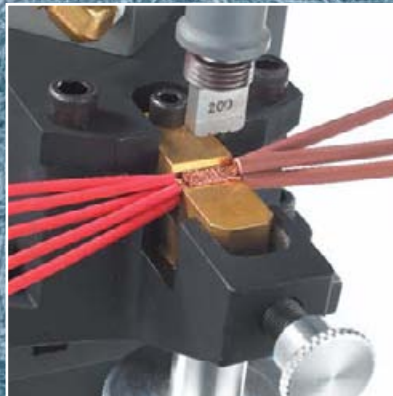


ULTRASONICS



FOR METALS

SONOBOND[®]
ULTRASONICS

The First Name in Ultrasonics for Metals

LEADING WITH INNOVATIVE TECHNOLOGY

When it comes to ultrasonic metal welding, nobody beats the unique performance advantages and the dependable results of Sonobond's line of equipment. From versatile hand-guided systems to state-of-the-art microprocessor controllers, Sonobond Ultrasonics® delivers precision welds for virtually every application.

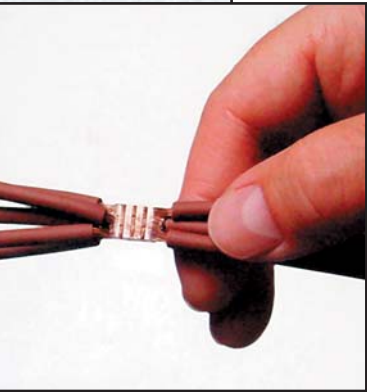


SpliceRite™ - Computerized system welds dissimilar metals with high conductivity results; welds tin-coated or oxidized wires without pre-treatment.

WeldMaster™ - The world's most powerful ultrasonic spot welding system performs wire-to-terminal welds, wire-to-wire welds, and wire welds up to 48mm² cross section.

Foil Splicer™ - Mill-installed systems splice aluminum and copper foils neatly and quickly to create true metallurgically bonded seam welds.

Tube Terminator™ - An innovative hand-guided tube closure system that crimps and seals copper and aluminum tubing without brazing, even if the tubes are charged with coolants or gases.



Sonobond (formerly known as AeroProjects) pioneered the application of ultrasonic welding and received the first patent for ultrasonic metal welding in 1960. Today, Sonobond Ultrasonics, headquartered in West Chester, Pennsylvania, has over 150 U.S. patents and is known worldwide as a leader in ultrasonic technology. Sonobond's equipment provides solid-state metallurgical bonding of

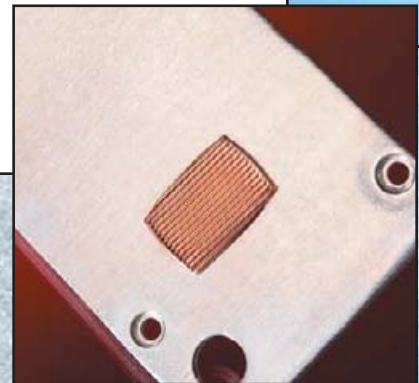
metals and wire for a variety of industries, including automotive, telecommunication, refrigeration and electronics. Our models include:

SonoWeld® - This multi-functional welder is the industry's only ultrasonic unit that can weld up to 10 stranded wires from a flat flexible circuit to a multi-connection terminal...in a single pulse.



Unique features provide high performance ... and help reduce operating costs

Sonobond's metal welders provide manufacturers with important benefits not available with other ultrasonic equipment. For example, Sonobond's welders utilize the patented Wedge-Reed



FOR SUPERB ULTRASONIC METAL WELDING

welding system that combines high vibratory force with low amplitude ultrasonics. This state-of-the-art technology provides the most reliable, repeatably accurate welds of any ultrasonic welder in the industry. And with tooling changes that can be completed in a minute or less, without recalibration, Sonobond's welders dramatically reduce downtime to help cut operating costs.

Compare Sonobond's equipment to other ultrasonic units. You'll find Sonobond offers the only ultrasonic welders that can...

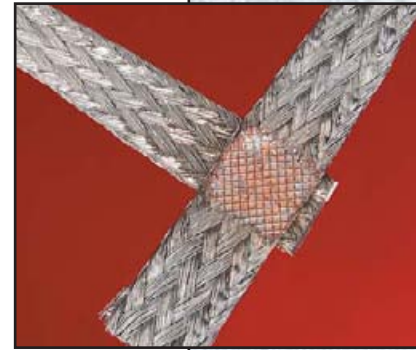
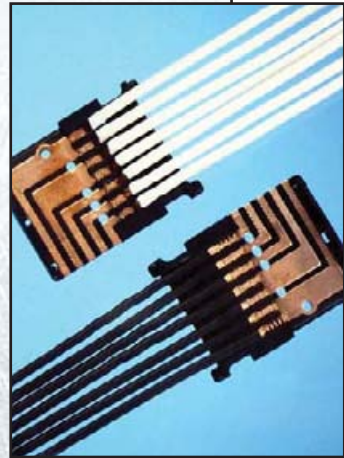
- Process tin-coated wire and terminals – as well as aluminum, copper, nickel alloys, precious metals, and dissimilar metal combinations.
- Weld up to 10 stranded wires from a flat flexible circuit to a multi-connection terminal – all in a single pulse.
- Cut operating costs by allowing replacement of just the tips...not the entire horn.
- Weld wire cross section up to 48mm².
- Deliver precision welds with our unique, patented Wedge-Reed bonding system that combines high vibratory force and low amplitude sonics, and permits

shear mode vibration to the welding surface. This system is essential for optimum ultrasonic metal welding.

Expertly engineered for maximum flexibility, durability and ease of operation

Sonobond's superior engineering allows for a wide range of weld capabilities...more than any other ultrasonic system. Tough Taper lock tips can perform up to 300,000 welds before replacement. Set-up problems are eliminated because tips and parts can be aligned without rotating the entire sonic system. As a result, Sonobond's metal welders have earned an exceptional reputation for performance and versatility, and offer a number of outstanding benefits:

- Store and recall over 250 weld protocols using micro-processor controls.
- Perform spot welds, wire-to-terminal welds, and wire-to-wire welds.
- Offer welding modes by time, energy or distance.
- Provide digital displays, automatic frequency control, and overload protection.



- Produce solid state metallurgical bonds with the lowest voltage drop and energy consumption.
- Eliminate bending stress by positioning the line of force directly over the welding surface.



"A set of Sonobond tooling costs under \$1,000, whereas others can cost 3 or 4 times that amount. The tooling wear with Sonobond's equipment is much less than with other welders. Sonobond's equipment costs less and runs a lot longer."

Tibor Maknyik, Manufacturing and Tooling Manager, Electro-Canada

Our customers say Sonobond outperforms other brands

Manufacturers prefer the reliability and precision performance of Sonobond's ultrasonic metals welders. But don't take our word for it! Read what our customers say.

"...Sonobond's one-step welding process has produced strong airtight welds that result in fewer defects and help reduce production time."

Dick Steinfeldt, Manufacturing Engineer,
Sub-Zero Freezer Company

"Your metal welding equipment is now integral to the assembly of our automotive components. Your quality products ... have helped us surpass customer expectations."

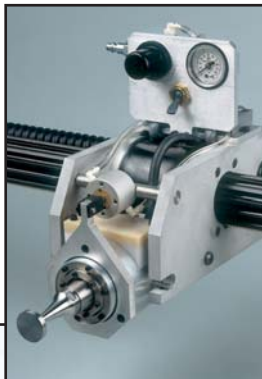
John Cresnik, General Manager,
1999-2002, Axiom Group of
Companies

FREE sample welds of your specific application

Sonobond's engineers can help you determine if ultrasonics is suitable for your manufacturing process by furnishing a sample weld of your particular application ... absolutely FREE OF CHARGE!

Just provide us with the metal components; we'll weld them in our test lab, and recommend the metal welder that suits you best. Whether you require splicing equipment, spot welders, tube sealers, or customized systems, Sonobond offers the most dependable welders for the widest spectrum of welds. And, every unit is

backed by exceptional customer service and outstanding technical support.



SONOBOND®
ULTRASONICS

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