

VOLTA 2

Portable, high-power, 2-channel, ultrasonic instrument

Equipment Highlights

- 2 Ultrasonic Channels for EMAT applications ranging from 20 kHz to 8 MHz.
- 1,100 Vpp and 6 kW of peak power per channel, 1 to 10 cycles.
- Standard software permits running any EMAT application including normal beam, angled beam, and guided waves.
- Custom software for MRUT (Medium Range UT), LRUT (Long-Range UT), Rail Heads, Thin Welds, and other unique applications.
- NDT-WEB user interface and seamless integration with NDT-LINK portal.
- Complete suite of productivity tools for Asset Management, Remote Support, Data Sharing, and Reporting.



VOLTA 2 is a high-power 2-channel portable ultrasonic instrument custom-designed for Electro Magnetic Acoustic Transducer (EMAT) applications.

- Guided Waves
- Medium Range UT
- Long Range UT
- Weld Inspection
- Surface Inspection
- Thickness Measurement

VOLTA 2 features Innerspec's proprietary technology to satisfy the most energy-demanding EMAT applications in a compact and rugged package. Standard software built on Innerspec Technologies Operating Platform (ITOP) includes an intuitive menu to set up any EMAT application using standard sensors from Innerspec's catalog for normal beam, angled beam, and guided waves.

Advanced application software is available with easy-to-use wizards to facilitate setup and analysis for MRUT (Medium-Range UT / 0-3 m), LRUT (Long-Range UT / 1-100 m), Rail Heads, Thin Welds, and other exclusive solutions.

The NDT-WEB graphical interface permits real-time control of the instrument using the detachable ruggedized tablet provided with the instrument, or any other wireless device (MS Windows, iOS, Android). The user software integrates seamlessly with Innerspec's NDT-LINK portal to provide a complete suite of productivity tools including Asset Management, Remote Support, Data Sharing, and Reporting.

Custom ergonomic backpacks and MOLLE pouches permit transporting the instrument and all the necessary sensors and accessories to the worksite, and to comfortably carry the equipment while performing the inspection.

VOLTA 2 is the second generation of VOLTA with completely new hardware and software. The new hardware includes Innerspec's patented pulser-receiver and a new patent-pending automatic built-in tuning that permits optimizing the performance of any EMAT sensor without plug-in modules or external components.

VOLTA 2 - Technical Specifications

Ultrasonic Channels	2
Bandwidth	20 kHz to 8 MHz – (All Normal Beam, Angled Beam, Guided Waves: LRUT, MRUT,)
Pulse Repetition Rate	up to 1,000 Hz
RF Pulser	1-8 cycles, fixed and variable frequency tone-bursts 6 kW Power Output 1,000 Vpp @ 24 Amp pk-pk into 50 Ohms 1% Maximum Duty
Receiver	LEMO Inputs: 1 k Ω Input Impedance 16 dB to 100 dB Gain <0.1 dB Gain Resolution BNC Inputs: 1 k Ω Input Impedance -14 dB to 60 dB Gain <0.1 dB Gain Resolution
Pulse / Receive Modes	Pulse Echo (Uni- & Bi-Directional) Pitch-Catch (Uni- & Bi-Directional)
Analog / Digital Converters	14-bit, 100Msps
Rectification	Full-Wave +/- Half Wave RF Mode
Filtering	FIR Digital Filters, Analog Bandpass filters
Evaluation Gates	Auto-set gates (based on Wizard), User Adjustable
Encoder Interface	2x A/B Quadrature
PC Communication	Wi-Fi 2x802.11ac/ax dual band Bluetooth 5.0 USB 3.0, Ethernet
Software	ITOP with NDT-WEB
Internal Storage Capacity	500 GB SSD
Internal Memory	8 GB RAM
Probe Connector	Lemo, BNC, Thermocouple
Operating Temperature	32°F to 105°F (0°C to 40°C)
VOLTA USB Type-C power adapter input	100-240 VAC, 50-60 Hz
VOLTA USB Type-C power adapter output	USB-PD 20V @ 5A, 100 W Max
VOLTA Rechargeable Battery	Li-Ion 14.4 V @ 6.8 Ah, 98 Wh, 4 – 8 hours, Hot-Swappable
Other I/O	HDMI, Bluetooth, Thermocouple
Dimensions	16 W x 12 H x 6 D (in.) 406 W x 305 H x 152 D (mm)
Weight	20 lbs (9.1 kg)