



Pocket UT™ Ultrasonic Portable C-Scan Imaging System *Plus a Thickness Gauge • Plus a Flaw Detector*

NDT Automation offers an innovative Pocket UT™ battery-operated, hand-held, stand-alone, full C-Scan data acquisition system. With its portability and ease of use, coupled with its full A, B & C-Scan capability, the Pocket UT™ System (along with available companion scanners - or other compatible devices) is ideal for on-site inspection applications. It quickly assesses the presence, depth, shape and orientation of cracks, flaws, corrosion/erosion, delaminations, and internal anomalies in a variety of structures, materials and surfaces.

The Pocket UT™ can operate as a conventional thickness meter (for spot readings), a basic flaw detector - with RF display and alarm gates, or in either active B-Scan or full C-Scan data acquisition, display and analysis. It can be integrated with virtually any available single or dual-axis scanner (with standard interfaces) - manual or automated (with conventional or dry-coupled UT transducers).



Dual-axis, dry-coupled scanner connects directly into the hand-held Pocket UT System for full C-Scan data acquisition.

The system has an easy-to-use keypad for fast entry of common commands for detailed data entry and a bright, back-lit LCD screen color data presentation user interface.

Weighing approximately 2 lbs. (.9 kg), the Pocket UT™ uses Windows-CE™ operating system. All ultrasonic components are integrated together in a rugged, rubber-encased enclosure. With a user-replaceable, rechargeable battery pack, the system can also be operated via the included 90 - 240 Volt AC/DC adapter/charger.

Companion scanners include automated or manual X-Y scanners (using a variety of transducers), or a singles axis "R-Scan". This incorporates a unique dry-coupled rolling sensor and encoders that enable full C-Scan data acquisition in a hand held scanner. The rolling sensor permits the scanner to be used without messy couplant on most surfaces encountered in an industrial or field environment.

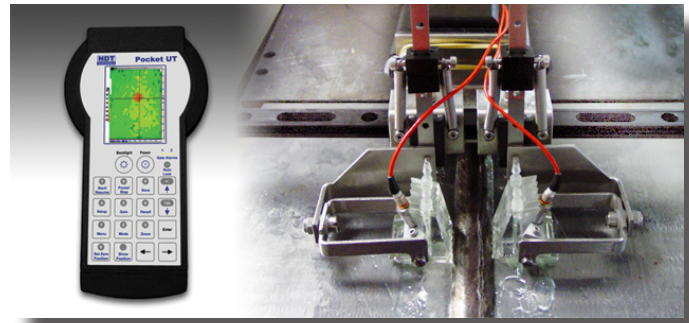
The Pocket UT™ System includes an internal ultrasonic pulser/receiver, data acquisition software, motion control hardware and software for scanning, signal capture, display, analysis, replay, transfer or storage.

Key Features

- ◆ Data Logo
- ◆ Complete C-Scan Mode
- ◆ Thickness Testing Digital Display w/A-Scan
- ◆ Thickness
- ◆ Flaw Detector w/A and B-Scan
- ◆ Real Time FFT Spectrum Analysis
- ◆ Field Auditing Tool (meets any UT testing need)
- ◆ 2-axis manual or automated scanner interface for immersion testing or contact testing
- ◆ Easy hand-held operation
- ◆ Up to 4-hour, integrated battery pack
- ◆ Shortcut keypad and LCD for data entry, analysis and review of results, touch screen pendant control
- ◆ Windows CE software, familiar and easy to operate
- ◆ Optional rolling sensor provides continuous area scan rather than point readings as with other NDT devices
- ◆ C-Scan resolution up to full capability of the scanner
- ◆ Dual gates with IP or first ECNO synchronization for contact or immersion testing
- ◆ Permanent digital record of the test results
- ◆ Compact Flash card and USB port for data transfer to laptop or desktop PC

The complete system also includes an integrated compact flash disk capability. All data can be directly transferred to laptop or desktop computers using the flash memory or USB port. The data can be off-loaded and further processed (if desired) in a more office type environment.

In addition to the connection to many single and dual-axis manual scanners, software is included to directly operate and control many automated dual-axis scanning systems - such as our own LSI (Large Structure Inspection) System - or other portable X-Y and Pipe Scanning Systems.



Pocket UT™ and TOFD Scanner

Pocket UT™ System

Pocket-UT™ Hand Held Ultrasonic Full C-Scan Data Acquisition System comes complete with Windows CE Operating System, Pocket UTwin™ with A,B, & C-Scan and the following accessories:

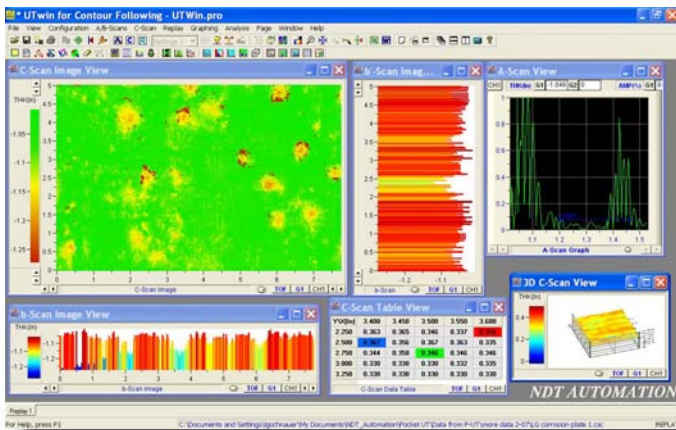
- 1 - NiMH Battery Pack
- 1 - 100-240 VAC, 50/60 Hz, Pocket DC Adaptor
- 1 - 5 MHz, general Purpose Contact Transducer
- 1 - Sensor Cable, BNC to SMB, 2 Meter
- 1 - Bottle of UT Couplant
- 1 - USB Download Cable
- 1 - Carrying Case
- 1 - User Manual (Part #1611-1000)

Options for Pocket UT™ System:

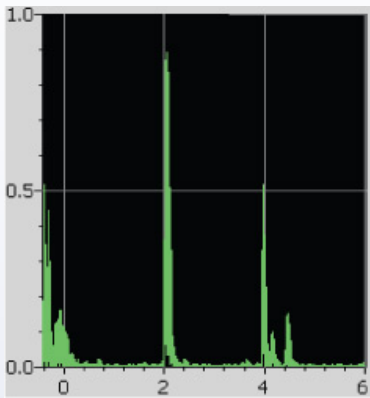
- Pocket UT™ External Battery Belt #1611-5045
- Tethered Stylus #M001-2110
- Pocket NDT Fabric Case w/Tethered Stylus #1611-5055

Software Options

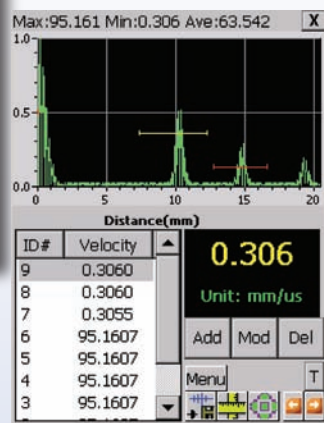
- Pocket UTwin™ Replay
- TOFD Option for Pocket UT P/N 1611-7001
- TOFD Option for Pocket UTwin Replay



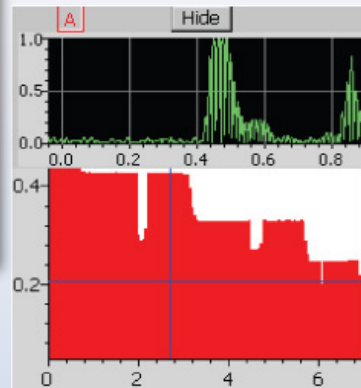
Screen Shot of Pocket UTwin™ Data



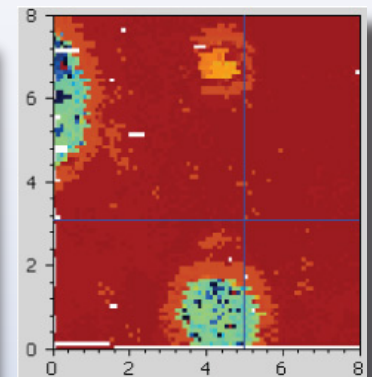
A Scan



Thickness testing digital display w/ A-scan



B Scan



C Scan

Scanners Families for your Pocket UT™

X-Y Scanners



Manual X-Y Scanner

The Manual X-Y Scanner, a traditional type dual axis operated scanner, moves strictly in X and Y coordinates. Internal X and Y encoders provide precise positioning information to the Pocket UT™ System. A

universal sensor holder allows easy attachment of any UT sensor or sensor assembly. The standard sensor holder also has Gimbal & Swivel compliance built-in to allow scanning of contoured surfaces. An optional sensor bubbler holder kit is also available.

The Auto X-Y Scanner, designed with internal stepper motors, provides automated movement of the scanner for position feedback. An "LSI" type sensor mount is provided so that an LSI type Bubbler/Gimbal & Swivel Transducer holder and assembly (optional) can be attached.

A small, portable, AC or battery operated Scanner Control box provides the necessary power and motor drivers to operate the motorized X-Y stage. A scanner interface cable which connects directly to the Pocket UT™ motion control connector is also provided, for ease in setup and operation of the Pocket UT™ with the scanner.



Auto X-Y Scanner

The scanning dimensions for both the Manual and Auto X-Y Scanner are approximately 15" x 17" (38 x 43cm). In addition they both come with suction cups for mounting to any smooth surface and optional vacuum operation suction cup assemblies and magnetic feet for attaching to ferrous metals.

Options for Motorized & Manual X-Y Scanners:

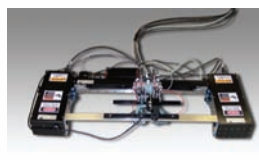
- Magnetic Feet, X-Y #1690-6075
- Lever Actuated Suction Cups #1690-5095
- Active Suction Cup #1690-5085
- Bubbler/Sensor Holder BSA-625 #1690-5075
- Couplant Delivery System #1690-5025
- UT Bubbler/Transducer Mount #1680-5235

R-Scan

R-Scan is a single axis scanner used on highly curved surfaces such as pipes and surfaces. The R-Scan is a 4 magnetic wheeled device meant to be used on ferrous structures with the wheels assisting the unit to stay on track. A spring loaded, dry coupled, UT sensor for monitoring the thickness of a structure comes complete with a cable for directly connecting to a Pocket UT™ System. Optional non-metal wheels are available.



Automated C-Scanners



The LSI Scanner is a 2-axis scanner used to "crawl" up the side of a tank or vessel for corrosion mapping. It has a raster scan for data acquisition. The approximate scan length is 10".

The Tabletop Scanner is a small immersion tank with a 10" x 10" scanning envelope. X and Y axis are motorized with a manual Z Axis. This scanner comes with its own AC/DC powered motor driver interface.



Universal Probe Scanner



The M-Scan, designed with encoder linear-scan for B-Scan and C-Scan, has a magnetic-brass knurled wheel which maintains contact and does not slip on wet surfaces. Spring loaded arms ensure

that the encoded wheel is always in contact with surface such as upside down, vertical, horizontal, and circumferential positions. Versatile stainless steel pivot-arm design allows users to use different diameter probes from 1/4" to 1".

Pocket UT™ Specifications:

- **Functions:** Thickness gauge, flaw detector, A-, B- or full C-Scan
- **Pulse Voltage:** 50 - 300 V Turnable Spike
- **Pulse Width:** 50 - 1000 ns
- **Pulser Repetition Rate:** 50 Hz - 1 kHz
- **Bandwidth:** 500 kHz - 20 MHz
- **Selectable Receiver Gain Range:** 80 dB
- **A/D Resolution:** 10 bits
- **Maximum A/D Rate:** 100M Samples per second - 10MHZ
- **UT Operation Mode:** Pulse-echo and through transmission
- **Distance Amplitude Correction:** 60 dB in 0.1 dB steps
- **Gates:** 2 independent gates with separated gate delay, width controls, synchronization threshold and detection threshold
- **Selectable Filters:** 6 high pass and 5 low pass
- **Selectable Trigger:** Software controlled, external input, signal threshold
- **Screen Operation:** Freeze, waveform recall, zoom, pan and reference memory
- **Standard Report Generation:** Can be used directly or further processed with PC-based UTWin software
- **USB Port:** USB connectivity port
- **Monitor:** Standard 3.5" 1/4 VGA TFT display with 240 W x 320 H pixel resolution, touch screen
- **Power:** Powered by 7.2 V integrated battery pack (user replaceable) or 90/240 V AC through an external AC/DC adapter/charger
- **Battery Time:** Up to 4 hours, rechargeable, nickle metal hydride
- **Operating Temperature:** -5°C to 45°C
- **Operating Humidity:** Up to 95%, noncondensing
- **Dimensions:** 9.5 x 5 x 2.2 in. (240 x 130 x 60 mm)
- **Weight:** 2 lbs. (.9 kg)



Pocket UT™ offers full C-Scan inspection capability in a portable, easy-to-use hand-held unit.



Pocket UT™ comes complete with hand-held unit, transducer, cables, batteries, battery charger & couplant

For more information about Pocket UT™
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