

# UTUSB

## Full-featured Ultrasonic Flaw Detector With A Tiny Footprint

Technofour UTUSB quite literally puts NDT in your shirt-pocket. This incredible credit-card sized feather-weight instrument interfaces with a Windows tablet or laptop via USB and offers a dazzling array of features.

Its advanced bipolar square wave pulser maximizes the acoustic energy in the trigger pulse, resulting in as much as 30dB gain advantage over conventional spike pulse instruments. Unique active damping enables inspection closer to surface than the usual passive damped instruments. Tone bursts up to eight cycles further improve testing in attenuating materials.

A Probe Wizard sets up parameters for inspection quickly and accurately. It also computes beam divergence and near field distance for a probe. Then the Automatic calibration wizard simplifies adjustment of probe delay and sound velocity.

Range, delay, gain and probe delay can be visually adjusted. Signal amplitudes can be accurately measured using tram line cursors on screen. Echo to echo measurements can be done flank to flank or peak to peak as required. V-path correction is available for thickness measurements with dual element probes.

DAC curve can be plotted visually. Two offset DAC curves are also available. Time compensated gain can be instantly enabled once a DAC curve is drawn. PeakTracker turns on screen persistence that keeps several signals on the screen. This facilitates setting up the DAC curve. The DAC curve or two linear gates can be used as thresholds for alarm.

All A-scans can be recorded as snapshots or a movie and played back. Virtual B-Scans greatly simplify corrosion detection without the need of an encoder.

- Bipolar Square Pulser
- Active Damping
- Tone bursts
- Automatic or adjustable Pulse Repetition Rate
- External Trigger for single-shot
- Five selectable voltage levels
- Wideband amplifier
- Separate low pass and high pass filters
- 100dB Dynamic Range
- Selectable sampling rates up to 100MSPS
- Time compensated gain with 50dB dynamic range
- Visual setup of DAC curves with adjustable offsets
- Visual setting of range, delay, gain etc
- PeakTracker for persistent display
- RF and rectified Full wave/Positive/Negative A-Scans
- Tram line cursor for accurate signal height readout
- V-path correction for dual element probes
- Peak-to-peak or Flank-to-flank echo measurement
- 10 micron measurement accuracy
- Probe wizard for easy setup
- Automatic calibration
- Auto-80 / Auto-xx gain adjustment
- Two reference A-scans can persist on screen
- Snapshot, timed shots or movie recording
- Virtual B-Scans with movie playback
- Two independent linear gates (+/-/float)
- Freeze on alarm / Manual freeze
- USB powered with Windows® tablet/laptop



### Optional Software

- AWS D1.1/1.5
- API 5UE
- Pipe Curvature Correction
- DGS/AVG
- Fourier analysis

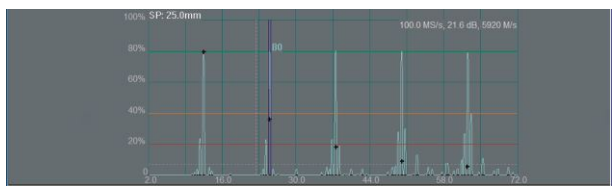
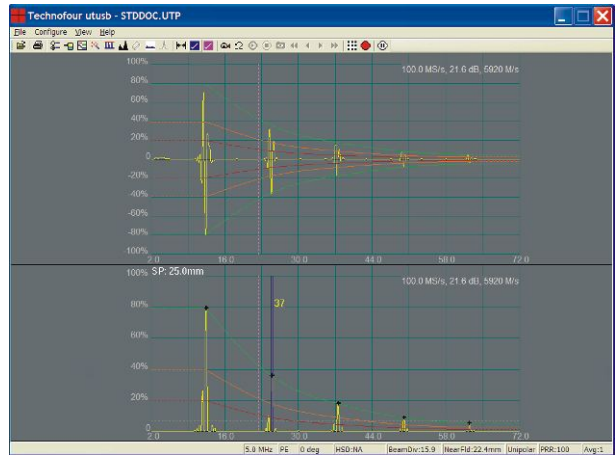
We also manufacture robotic manipulators and scanners

# UTUSB TECHNICAL DATA

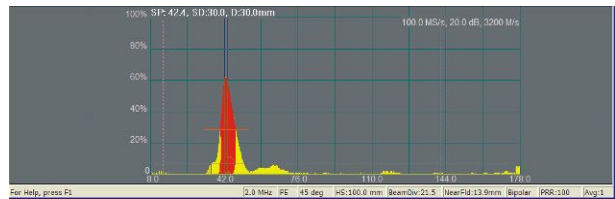
|                        |  |
|------------------------|--|
| <b>Pulsers</b>         |  |
| Shape                  | Bipolar / Unipolar / Spike   |
| Voltage                | 40, 70, 100, 150, 200V   |
| Source Impedance       | 10 Ohm   |
| Pulse Width            | Automatic for a given probe frequency (least count 10nS)                               |
| Tone Burst             | 1, 2, 4, 8 cycles  |
| Damping                | 330 Ohm passive<br>Selectable active damping   |
| Repetition Rate        | Auto / Adjustable up to 1000/sec   |
| <b>Receiver</b>        |  |
| Gain                   | Up to 80dB in steps of 0.1dB   |
| Low Pass Filter        | 4, 6, 10, 15 and 25 MHz  |
| High Pass Filter       | 0.5, 1, 2 and 4 MHz  |
| TGC Dynamic Range      | 50dB   |
| <b>Probe</b>           |  |
| Types                  | Pulse-Echo/ Dual / Through   |
| Frequency              | 0.5MHz to 15 MHz   |
| Angle                  | 0 to 89 deg  |
| Probe Delay            | 0 to 100 microseconds  |
| Connectors             | Lemo 00 for Tx and Rx  |
| Sampling Rate          | 12.5, 25, 50 and 100 MSPS  |
| Averaging              | 1, 2, 4, 8, 16 and 32 frames   |
| Sound velocity         | 200 m/sec to 20000 m/sec   |
| Display Delay          | 0 to 250 microseconds  |
| Range in Steel         | Up to 10 meters  |
| Reject                 | Adjustable 0 to 80% linear   |
| Displays               | RF, Full-wave rectified, Negative, Positive  |
| Units                  | mm / inch / microseconds   |
| Recording              | Movie or Snapshot with replay<br>B-Scan  |
| Gates                  | A, B (Positive/Negative/Floating)<br>DAC curve as threshold<br>Differential-dB readout |
| Alarms                 | Two-tone audio, colored visual   |
| Data Interface         | USB 2.0  |
| Size (excl connectors) | 52mm x 82mm x 12mm   |
| Weight                 | 72 gm  |



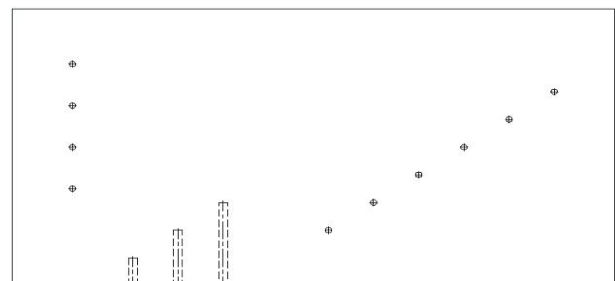
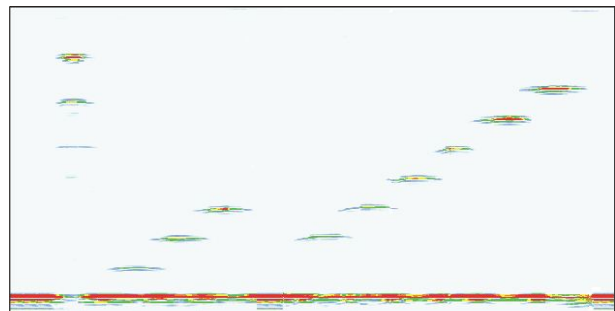
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Screen showing DAC curves (top) and TGC in action (bottom)



PeakTracker helps in identifying exact peaks during angle probe inspection and also while setting up a DAC curve



SDH and FBH in aluminum block and its B-Scan image

Specification subject to change without notice