



### FEATURES

- Laptop computer for field inspection
- Windows applications with user-friendly interface
- Pitting, corrosion, lamination, and crack detection
- Real-time A-scan and oscilloscope display
- Real-time TOFD, A, B and C-scan corrosion and flaw mapping display
- Real-time averaging to measurement gates
- A-scan recording for offline re-creation of C-scans
- Unique gate settings for each A-scan
- Easy data analysis and flaw sizing
- 3D display for better prospective view
- High-resolution scanner for pipes and flat surfaces
- Automatic report generation
- Support for foreign languages
- Free one-year software upgrades
- Optional mouse scanner for pipe elbow and reducer scanning
- Fully battery operated

### DESCRIPTION

UltraScan-5L is an ultrasonic inspection and analysis system that includes:

- Inspection scanner
- Laptop computer with USB 2.0 pulser/receiver and high-speed digital to analog converter instrument

The system includes four applications: TOFD (time of flight diffraction) imaging, thickness mapping, X-axis flaw mapping, and Y-axis flaw mapping. The user interface includes A-scan, B-scan, C-scan, signal scope, real time mini-scope, 3-D display, and a control panel. Under the data analysis mode, the user can re-create the C-scan display by altering gate settings. Each A-scan retains its own unique gate settings. The user can generate a 3-D display of a C-scan instantaneously.

The system also generates a report with the following contents:

- A cover page including the project title and the report generation date
- A table of contents listing file descriptions and page numbers for each file
- Project information including project name, directory, start time, end time, project descriptions, and inspection log
- The B-scan and C-scan maps with user-defined scales
- TOFD images

The software is designed to simplify operating procedures; for example, the system automatically detects the attached scanner and sets up the appropriate parameters. It also supports any language supported by Windows — the program windows, message boxes, and hard-copy reports can be displayed in any language.

The MT scanner is an X-Y coordinate scanner which is used to inspect flat surfaces and pipes. The minimum diameter of pipe can be as small as 2 inches. Their magnetic wheels are ideal for quick setups on steel materials. Our optional scanner tracks can be used to inspect non-magnetic materials, using four suction cups to attach the scanner to the material to be inspected. The HS100 scanner is a single axis scanner, but it can also be used to generate C-scan maps. The scanners include portable TOFD, miniature TOFD, and deluxe TOFD for wide range inspection conditions.

UltraScan-5L is the best system for weld inspections. The computer battery can last up to 6 hours. The system and a  $\mu$ TOFD scanner can fit into a small, durable and water-proof brief case.

Other accessories include a coupling kit and custom cable lengths. The coupling kit consists of a water compressor, tubing, a Y connector, and a flow control valve. The 100-foot and 200-foot cables are built with differential line drivers and receivers which ensure encoder signal strength.

### SPECIFICATIONS

**Computer** ThinkPad Laptop computer, 1.5GHz CPU  
 512 MB RAM  
 40 GB Hard Disk  
 1024x768 Display or better  
 Color TFT Display  
 LAN / USB / Battery up to 6 hours  
 Power input: 100/220VAC 50/60 Hz

**Maximum C-scan Data Point** Thickness Map: 4,175,000  
 Flaw Map: 835,000 up to 10 flaws per data point

**Sampling Rate** 50, 25, 12.5, 6.25 MHz

**Data Resolution** 8 bits

**Memory** 8K samples

**Scan Speed** up to 8 inches/second

**Rectifications** RF, Full, +half, or -half

**Transducer Mode** single or dual

**Case** Durable water-proof carry case

**Scanner Resolution**  
MT Scanner  
 X Axis: 0.002685 inch (0.0682 mm)  
 Y Axis: 0.004027 inch (0.10228 mm)

HS100 (mouse scanner)  
 0.00314inch (0.08 mm)

TOFD Scanner 0.003 inch (0.08 mm)

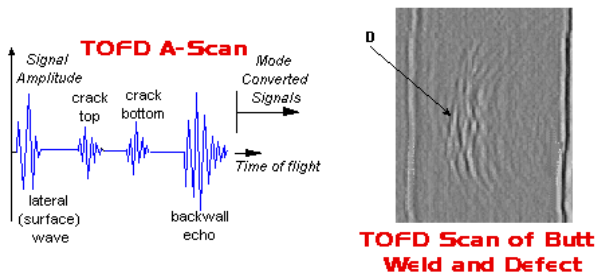
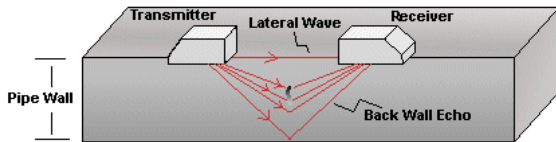
**Scan Range**  
 MT Scanner with 17" arm:  
 13.5" x 2815' (240 mm x 858 m)

MT Scanner with 26" arm:  
 23.5" x 2815' (590 mm x 858 m)

Mouse Scanner: 82,943" (2096 m)  
 TOFD Scanner: 2745'

**Test Pipe Diameter**  
 MT Scanner:  $\geq 2"$  (50 mm)

**Options**  
 Coupling kit  
 100' long cable  
 200' long cable  
 Add-on wheels for pipes with small diameters  
 Scanner tracks  
 Mouse scanner for elbow & reducer inspection



### Corrosion Mapping / HIC Inspection A, B, and C Scan (below)

