



FEATURES

- Portable 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
- High-speed Distance Amplitude Correction (DAC)
- 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

DESCRIPTION

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

- Inspection scanner
- Portable computer with pulser/receiver and high-speed digital to analog converter cards

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.

UltraScan 5 supports any language supported by Windows — the program windows, message boxes, and hard-copy reports can be displayed in any language.

The HS212 and HS226 scanners are X-Y coordinate scanners which are used to inspect flat surfaces and pipes. The minimum diameter of pipe can be as small as 2 inches, 0.5 inches with add-on wheels. 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 MTSCAN series scanners are designed for X-Y scanning as well as TOFD scanning using interchangeable scan heads. The HS100 scanner is a single axis scanner, but it can also be used to generate C-scan maps.

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 (upgradeable)	800MHz Pentium III or faster 128 MB RAM 20 GB Hard Disk Built-in CD-ROM Drive 1024x768 Display or better Color TFT Display Connector for external monitor Input: 100/220VAC 50/60 Hz
Maximum C-scan Data Point	<u>Thickness Map</u> : 4,175,000 <u>Flaw Map</u> : 835,000 up to 10 flaws per data point
Sampling Rate	100, 50, 25, 12.5, 6.25 MHz
Data Resolution	8 bits
Memory	256K samples or 128K samples
Scan Speed	up to 8 inches/second
Rectifications	RF, Full, +half, or -half

Scanner Resolution

<u>HS212 and HS226</u>	X Axis: 0.002685 inch (0.0682 mm) Y Axis: 0.004027 inch (0.10228 mm)
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HS100 (mouse scanner)

0.00314inch (0.08 mm)

TOFD Scanner

0.003927 inch (0.1 mm)

MTSCAN

X Axis: 0.0007" (0.017 mm)
Y Axis: 0.004" (0.1 mm)

Scan Range

HS212/MTSCAN12: 8" x 2815' (200 mm x 858 m)

HS226/MTSCAN26: 22" x 2815' (560 mm x 858 m)

Mouse Scanner: 82,943" (2096 m)

TOFD Scanner: 2745'

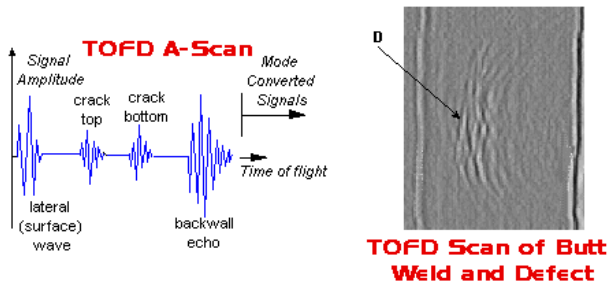
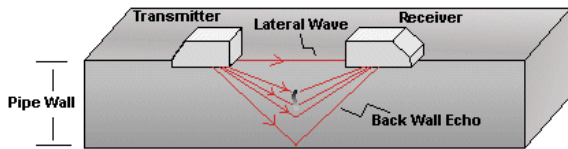
Test Pipe Diameter

HS212 and HS226: $\geq 2"$ (50 mm)
 $\geq 0.5"$ (13 mm) with add-on wheels

MTSCAN: $\geq 4"$

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)

This block contains a collage of software screenshots. On the left, a 'Thickness Map' shows a color-coded surface with 'USUT' text. In the center, there are A-scan and B-scan displays with various measurement parameters like 'Distance', 'Depth 1', and 'Depth 2'. On the right, a larger screenshot shows a detailed A-scan with a waveform and a corresponding B-scan image.