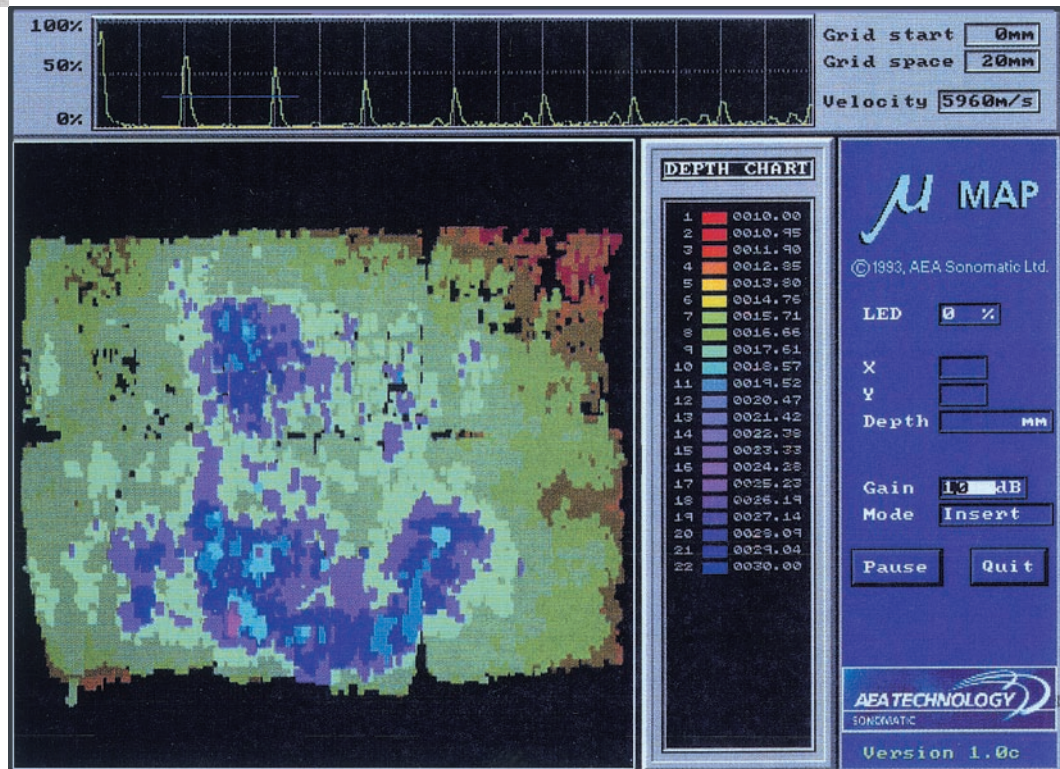


Ultrasonic C-Scan

Continuous, reliable measurement
of corrosion rates



Key Features of the System

- ⊕ A colour graphic image is produced displaying a contoured map of the internal surface condition.
- ⊕ The system allows the ultrasonic imaging of complex geometries such as tees, valves and bends.
- ⊕ No mechanical scanners are necessary, as the system utilises a CCD camera and video tracking system.
- ⊕ Colour composite images may be generated by joining individual scan areas to show the overall condition of plant.
- ⊕ Coverage also highlights non-inspected areas.
- ⊕ On-line analysis
- ⊕ Automatic report generation.

Ultrasonic C-Scan is a versatile ultrasonic imaging system which produces comprehensive, high quality corrosion/erosion maps. It uses the $\mu+$ (Microplus) advanced ultrasonic digital imaging system, in conjunction with a positional tracking system and the relevant ultrasonic transducer. The resulting colour graphic images are built up in real time, as no post processing is required to generate the finished image. The images may be stored or transferred direct to a colour printer for hard copies.

The system is particularly useful for surveying complex geometries such as tees, valves, bends or nozzles for corrosion, erosion etc.

The core $\mu+$ system contains menu-driven software for setup, operation, analysis, reporting and help routines. Each channel is individually programmable and all parameters are under software control. The corrosion mapping software available with Ultrasonic C-Scan includes colour/depth relationship, cursor depth assessment, percentage attack, highlight region facility, B and D scan slicing, 3-dimensional with and without B and D slicing, and the facility to download images to a .bmp file.

Software Specifications

On-line utilities

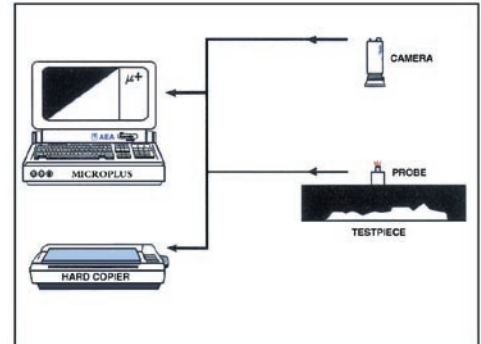
- Set up A-scan configuration
- Set up gates
- Calculate probe delay
- Specify collection method
- Set up distance amplitude correction curve
- Set up text relating to the scan
- Set pixel area for collection
- Set up colour and depth chart
- Set marker positions
- Save current set of inspection variables
- Load previously saved set of inspection variables
- Import system set-up from a scan file
- Copy/delete file
- Set read-only protection
- Test video
- Perform scan using current system set-up

Off-line analysis

- Load/save file
- Show comments
- Copy/delete tie
- Set/clear read-only protection
- Set-up colour and depth chart
- Display readings at cursor
- Calculate percentage of scan beyond specified limits
- Highlight areas between specified limits
- Display a vertical or horizontal slice of the C-scan
- Isometric visualisation

- Save the scan as a BMP file
- Print scan
- Edit marker positions and measurements
- Correct scans for curvature correction
- Inversion utilities
- Concatenate scans
- Zoom and export facilities for joined scans

*Note: Specifications are subject to change due to continuous development of the product.
Schematic of the Ultrasonic C-Scan system*



Applus RTD provides the following services as individual packages or combined to provide a total Asset Integrity Management programme.

- ⊕ **Advanced (non-intrusive) Inspection Services**
- ⊕ **Sub-sea Inspection Services**
- ⊕ **Engineering Design Solutions**
- ⊕ **Risk Based Inspection Planning**
- ⊕ **Inspection Management Services**
- ⊕ **In Service Inspection**
- ⊕ **Plant Life Management**
- ⊕ **Metallurgical Services.**

Importantly, **Applus RTD** can also call upon extensive in-house expertise and resources for advanced inspection and conventional NDT, providing a total capability for management of through life plant integrity.

Applus RTD, in collaboration with our local and international partners, has extensive experience in the application of these services to a wide range of industries including:

- ⊕ **Oil & Gas**
- ⊕ **Petrochemical**
- ⊕ **Refining**
- ⊕ **Ore Processing and Handling**
- ⊕ **Power Generation.**