

# VIS Computer Based Multichannel Instrument for On – line Testing

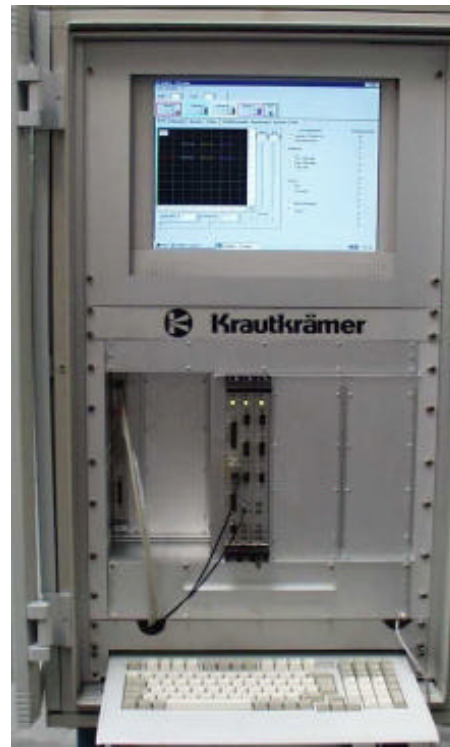
The Krautkramer VIS instrument is designed for installation into automated test systems requiring the most demanding performance and reliability.

The VIS is self contained in an industrial hardened package for years of trouble-free use and ease of service. The configuration consists of a modular VME chassis housing the ultrasonic modules. This chassis is controlled by a Pentium computer with Windows™ NT operating system. The computer provides the operator surface for all ultrasonic parameter controls and display of the UNIVIS Data Acquisition software.

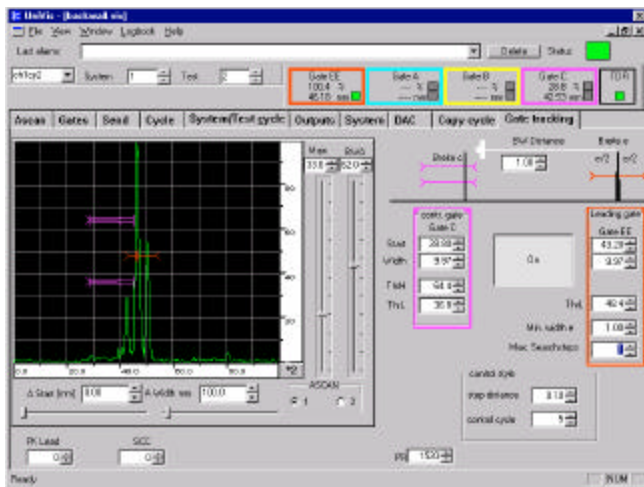
The VIS offers unrivaled flexibility in providing both Flaw and Thickness testing in the same instrument. The data from all tests can be stored in the color coded strip chart recording software. All settings can be stored and easily recalled for quick setup.

Main testing application of the VIS system:

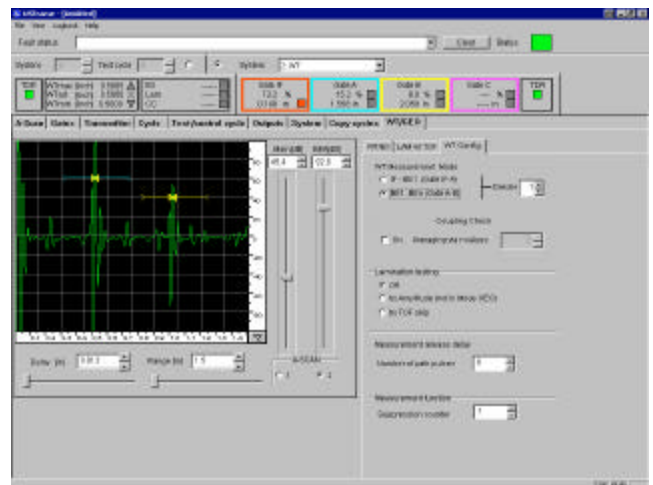
- Weld inspection
- Full Body Pipe inspection
- Precision Thickness testing
- Plate Testing



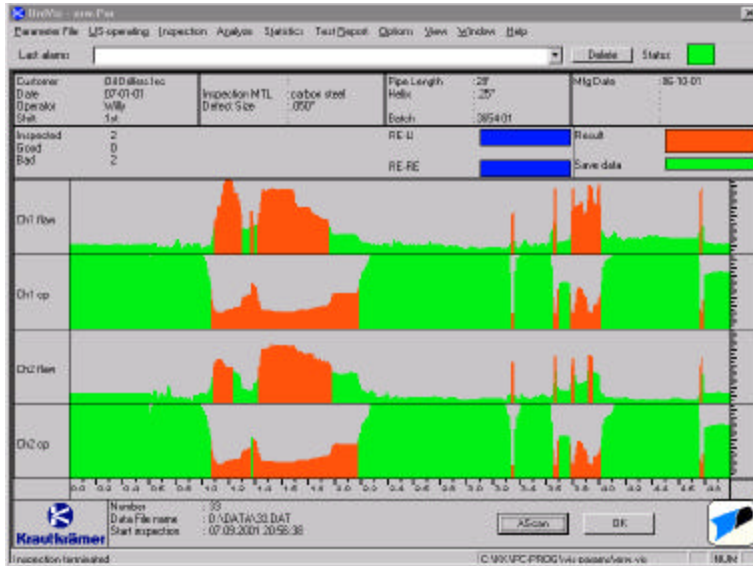
View of the VIS Electronics



Flaw Detection with Backwall Tracking



On – line Thickness Testing with Noise Suppression



UNIVIS Color Strip Chart

### Instrument Description

- Instruments configured from 1-56 channels controlled through one computer interface
- User programmable firing sequence with 16 cycles, offering parallel and multiplexed operations
- True 20Khz per channel P.R.F.
- Pulse echo and through transmission modes
- 110db back echo attenuator
- Interface gate and backwall tracking features
- Multiple test capability allows up to 16 different tests per transducer/channel

#### Gates

Three evaluation and one interface gate per channel with dual threshold on all evaluation gates  
Digitizing: 90 MHz with 8-bit resolution

**EchoMax function:** The EchoMax function allows for display of the maximum amplitude on the computer A-scan display. This feature assists operator setup in high speed dynamic tests.

**Parameter assignment:** Individual parameter assignment for each channel and cycle

#### Echo evaluation

Time-of-flight measurement: 16 bits  
Resolution: 4.17 ns  
Amplitude: 8 bits

#### Inputs/Outputs

TDR: 12 per system, programmable per channel  
TTL Outputs: 8 per channel with programmable hold times

### Thickness Testing Capability

- Simultaneous flaw and thickness testing on each channel
- Calculation of the eccentricity using the wall thickness.
- Time of flight resolution to .0125mm (steel velocity)
- Flank and zero crossing measurement mode
- Lamination testing
- Dynamic noise suppression of measured values (plausibility check)
- Sliding wall thickness averages for maximum and minimum. Variable averaging factor 1-100

### Specifications

#### Pulser

Pulse width: Spike pulser  
Amplitude: 300Vp/50 ohms:  
Rise time: < 8 ns  
Bandwidth: 0.5 to 25 MHz (-3dB), linear  
Dynamic range: 110 dB in 0.2dB steps  
Rectification: pos. half-wave, neg. half-wave, full-wave, RF  
DAC

Dynamic range: 40dB  
Slope: 6 dB Microsecond

#### Test range

Calibration range: 17mm to 4.3 m  
Delay: 0.64 m

#### Operating frequency

Narrow band: 1,2,5,10,15 MHz  
Broadband 1.4–10; 2.5–18;  
0.5–20 MHz

**Note: Specifications are subject to change without notice**

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Agfa NDT Inc.  
50 Industrial Park Road  
Lewistown, PA 17044  
Tel: (717)242-0327  
Fax: (717)242-2606  
E-mail: infolink@AgfaNDTinc.com

Agfa NDT GmbH  
Robert-Bosch-Str 3  
D-50354 Huerth (Efferen)  
Germany  
Tel: +49-2233-6010  
Fax: +49-2233-601402  
E-mail: hotline@AgfaNDT.de

Agfa NDT Ltd.  
Millburn Hill Road  
University of Warwick Science Park  
Coventry, England CV4 7HS  
United Kingdom  
Tel: +44(0)24 7669 0069  
Fax: +44(0)24 7685 3016  
E-mail: ndt-sales.gb.ng@agfa.co.uk

Agfa NDT SA  
68, Chemin des Ormeaux  
F-69760, Limonest  
France  
Tel: +33-472-179220  
Fax: +33-478-475698  
E-mail: ndt@france.agfa.com