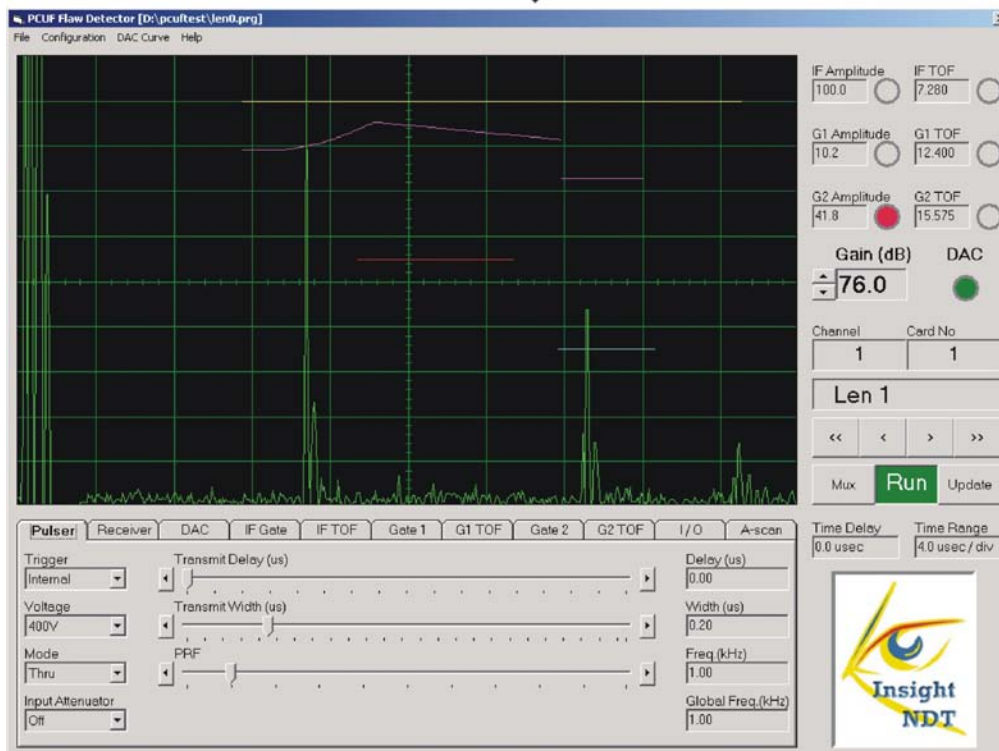
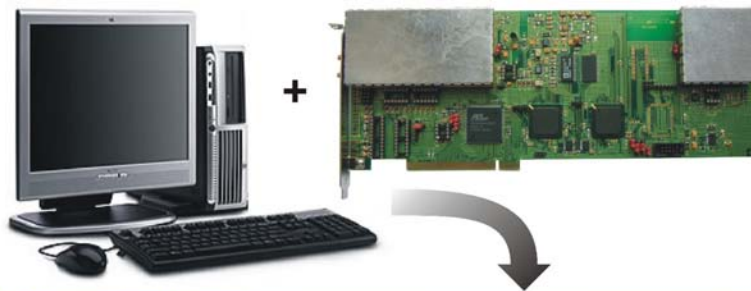


A HIGH PERFORMANCE ULTRASONIC FLAW DETECTOR FOR SYSTEMS APPLICATIONS



The Eureka PCUF is a very high speed ultrasonic flaw detector which is designed for OEM ultrasonic applications and in-line ultrasonic inspection systems.

The Eureka PCUF is a plug and play compatible PCI card which is capable of bus master data transfers.

0.5 to 20MHz bandwidth.

20KHz pulse repetition rate.

10 bit A/D conversion at 200MHz for 100% pulse repetition rate.

Excellent near surface resolution.

Very low noise in the PC environment, better than 20% full screen height.

Capable of high speed A-Scan and C-Scan data transfers using a bus master data transfer.



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TECHNICAL SPECIFICATION

Full length PCI Card, Plug and Play, Win2K, WinXP.

Channels Max 32 cards per system
Max 8 probes per card

Supply via PCI PC bus: +5V @1A,
+12V@0.5A, and -12V@0.05A

PRF Rates 20 - 20.000 Hz

Synchronisation Internal / External

Multiplexing 1 to 8 probes per card (with all
parameter individually
controllable)

Transmitter

Voltage 100 / 200 / 300 / 400V

Pulser Square Wave

Trigger Internal / External

Pulse Width 20 to 1000 nsec

Pulse Delay 0 to 327.68 µsec in 1.28 µsec
steps (20 nsec optional)

Fall time 5 nsec

Test Mode Pulse Echo / Through
Transmission

Input Attn. 20 dB

Receiver

Bandwidth 0.5 – 20 MHz (-3dB)

Gain 96 dB in 0.1 dB steps adjustable

Dynamic Range 110 dB

Filter 1 / 2.25 / 5 / 10 / 15 MHz / Wide
Band

Input Impedance 50 / 75 / 100 / 200 Ω

Rectifier R.F. / -HW / +HW / Full Wave

RF Output 4 Vpp into 50 Ω

DAC 16 points Cubic Spline Fit 70 dB
dynamic range

Depth 8 ranges 30 to 4000 mm

Interface Gate

Mode Initial Pulse / Interface Echo
Trigger

Start 0 – 655.36 µsec in 1.28 µsec
steps

Length 0 – 655.36 µsec in 1.28 µsec
steps

Alarm Mode Positive or Negative detection

IF Level 0 – 100 % in 1 % increments

Noise Filter Digital 1 to 8 successive shots
Analogue 0 to 7 successive
shots on/off

Echo amplitude Peak Amplitude + Alarm

Time of Flight Depth at Selected Amplitude
655.36 µsec in 5nsec steps

Gates

2 extra independent Gates

Mode Initial Pulse / Interface Echo
Trigger

Start 0.2 – 655.34 µsec in 0.02 µsec
steps

Length 0.2 – 655.34 µsec in 0.02 µsec
steps

Alarm Mode Positive or Negative detection

Alarm Level 0 – 100 % in 1 % increments

Noise Filter Digital 1 to 8 successive shots
Analogue 0 to 7 successive
shots on/off

Backwall Attn. Gate 2 60 dB dynamic range
Track level Gate 2 Backwall tracking
amplitude on/off

Echo amplitude First, Peak Amplitude + Alarm

Time of Flight Depth at Selected Amplitude
655.36 µsec in 5nsec steps

Digitizer

Rate 10 bits 200 MHz sample rate
independent of time base

Outputs

All updated at PRF rate

Transmitter, Receiver
connectors

Sync, Video, Gates, Data Valid
Interface Alarm

Digital Go / No-Go Alarms each
Gate

Analogue Flaw Alarm amplitude
0 to 5 Volt each Gate

Analogue Time of Flight 0 to 5
Volt in 8 ranges each Gate

Multiplexed control signals

Inputs

Sync, Enable

A-Scan Display

Display RF, Positive, Negative or Full
Detection

Gates Bar Gate display (start, stop and
level)

DAC Curve 0 – 70 dB dynamic

Delay 0 – 500 µsec in 0.1 µsec steps

Range 1 – 500 µsec in 0.1 µsec steps

Trigger IP / IF
µsec / mm /inch

Amplitude digital display max. Amplitude
1% resolution in each Gate

Time of Flight digital display of Flaw depth
5nsec resolution in each Gate

Memory

High speed FIFO for fast bus master transfer
(DMA)

Software

A-Scan Display Installable software with
parameter menu

Support drivers for Win2K and WinXP

Library parameters stored in Dynamic
Link Libraries / ActiveX

Control for accessibility with
other programmes

Help Interactive help menu

Multiplexing

Firing Parallel firing multi-channel

Timed firing Delayed firing

Sequence Selectable firing sequence