LT2

Product Features

Built on the latest MicroPulse technology, the LT2 is a high performance ultrasonic inspection system. LT2 is a complete package with a small footprint, and Power over Ethernet technology but now also with Gigabit Ethernet for seriously fast data transfer and includes extended dynamic range modes. Ideally suited for machine mounted inspections.

Overview

LT2 is first of the next generation of MicroPulse instruments, but remains compatible with the existing family. Like the LT, it connects to a PC running the test application via Ethernet and takes its power from the Ethernet or from a separate 48V power source. LT2 has Gigabit Ethernet allowing for data transfers in excess of 40 MBytes/Sec and includes over 200 MBytes data buffer. Providing high resolution with up to 200 MHz true sampling and a range of user definable digital filters that complement the analogue filters. It is available as a 2-channel, a 4-channel or an 8-channel version. It is suitable for use in pulse-echo, TOFD and immersion inspections where because of its small size it may be gantry mounted.

Software Platforms

Compatible with existing inspection platforms such as EDF Energy's MIPS/GUIDE and Winspect/InspectionWare from UTEX, the open data format and long-established MicroPulse command language mean that users also have the option to write their own applications, from Visual Studio to LabView, MatLab and Python.

Full Information available at **www.peakndt.com**

Features

- Small/Rugged/Lightweight/Low power
- Power over Ethernet (PoE)
- High resolution with up to 200 MHz true sampling
- High data throughput up to 40 MBytes per second
- Extended dynamic range modes
- Inputs for 2 axes of encoders (single-ended or differential) for true pulse on position
- Outputs digitised waveform and/or peak-detected data with up to 4 hardware gates
- Over 200 MBytes data buffer
- A range of digital filters also complements the analogue filters

Applications

- Immersion tanks
- Gantry systems
- In-situ monitoring
- Small scale inspections in hard to access areas

PEAK NDT

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V 2.0

LT2 Specification

	Parameter	Range	Step Size
Configurations		2, 4, 8 channels	
Pulser	Pulser Type	Negative square wave	-
	Pulser Voltage	25 to 200Volts	25Volt
	Pulser Rise Time	<5ns	-
	Pulser Width	10nsec to 502nsec	2nsec
	Pulser Output Impedance	<10Ω	-
	Pulser Damping	50Ω to 660Ω in 8 steps	-
	Pulse Repetition Frequency	1Hz to 20kHz	1Hz
	Parallel Firing	No	
	Phased Array Pulser Delay	N/A	
	Number of Tx Focal Laws	N/A	
	Tx Voltage Apodistion	N/A	
Receiver	Gain	-6 to 70dB NB Max DAC plus main gain is 110dB	0.25dB
	Gain Linearity	Better than 0.25dB	-
	Input Impedance	660Ω	-
	Bandwidth	0.75MHz to 25MHz (-3dB)	
	Analogue Filters	0.75MHz to 12MHz (-3dB) Bandpass 2.5MHz to 18MHz (-3dB) Bandpass 3MHz to 22MHz (-3dB) Bandpass 3MHz to 25MHz (-3dB) Bandpass 0.5MHz Bandpass Filter 1MHz Bandpass Filter 2MHz Bandpass Filter 4MHz Bandpass Filter 5MHz Bandpass Filter 10MHz Bandpass Filter 5MHz 2nd order TOFD Bandpass Filter 10MHz 2nd order TOFD Bandpass Filter	discrete selection
	Digital Filters	Programmable high and low pass	User definable
	Phased Array Receiver Delay	N/A	
	Number of Rx Focal Laws	N/A	
	Dynamic Depth Focusing	N/A	
	Channel Crosstalk	>60dB between channels at 2MHz	
Distance Amplitude Correction	DAC Dynamic Range	0 to 70dB NB Max DAC plus main gain is 110dB	0.25dB
	DAC Trigger	Transmit pulse or material interface echo	Selectable
	No of DAC curves	256 utilising up to 32kbytes	-
	DAC update	40dB/µsec	-
	DAC Clock	0.78125MHz, 1.5625MHz, 3.125MHz, 6.25MHz, 12.5MHz and 25MHz selectable	6 settings (selectable)
	Water path DAC		
Digitiser and Digital Processing	ADC Resolution	12 bits	-
	Amplitude Resolution	16 bits	
	Sample Rate	10, 25, 50, 100MHz and 200MHz	Selectable
	Number of ADC's	1 per 4 channel block	
	Element Summing	N/A	N/A
	Acquisition Gate Delay	64k sample points from trigger or I/F echo	1 sample point
	Acquisition Gate	Up 32K sample points	1 sample point

	Parameter	Range	Step Size
	Rectification	No Rectification Fullwave +ve halfwave -ve halfwave	Selectable
	Smoothing	None and 10 selectable settings	-
	Hardware Gates	4 gates utilising up to 32K samples each	-
	Interface Echo	Hardware interface trigger for gate and DAC	-
	Hardware Peak Processing	For each gate up to 80 peaks (N + largest), first peak, largest peak, threshold crossing	Selectable
	Output Options	Peak processed data and/or full digitised waveform	
	Threshold	10 to 4095	1
	Averaging	2 to 256 realtime	
	Gain Reduced Firing	Selectable to be triggered on saturation with programmable adjustment level	

General Specifications

Interfaces	Communication Interface	Gigabit Ethernet capable of up to 40MB/s
	Inter-system Master Slave	N/A
	Output Data Buffer	200Mbytes
	FMC Acquisition Buffer	N/A
	Digital Encoders	2 axes of differential 32-bit encoder inputs accepting 5Volt encoders at rate of up to 700kHz
	Digital I/O	1 input/output (5Volt TTL compatible)
	Analogue Outputs	Trigger
Connectors	UT Connectors	Coaxial Lemo 00
	Ethernet Connector	Industrial RJ45
	LVDS Master/Slave	N/A
	Encoder Connector	Lemo 1B.310
	I/O Connector	Lemo 1B.310
	Power Connector	Lemo 0B.310
	Analogue O/P Connectors	Lemo 1B.310
Physical	Case Size (H x W X D)	60mm x 130mm x 180mm
	Power Supply	48V DC from Ethernet (Class 3) or separate supply (48V @ 300mA)
	Power Consumption	10W Max
	Weight	850g
Environmental	Operating / Storage Conditions	Operating Temperature: 0 to 40°C Storage Temperature: -10 to 55°C Relative Humidity: less than 85% non-condensing
	EMC	EN61326
	Safety	EN61010

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