MPLT

Product Features

Built on the latest MicroPulse technology, the MPLT takes the LT concept to a new level. The MPLT is a compact and completely enclosed unit (no fans). Using Power over Ethernet technology, Gigabit Ethernet for seriously fast data transfer, including extended dynamic range modes and with up to 48 conventional channels in its standard enclosure. Ideally suited for multi-probe pulse-echo and TOFD inspections requirements.

Overview

The MPLT is a compact (120mm x 280mm x 310mm), rugged, lightweight (<5 Kg), and enclosed unit (no fans). It includes parallel firing capability, the user adjustable 200V pulsers of the MP5-PA, and provides high resolution with up to 100MHz true sampling. Like our other next generation products, it not only connects to the PC running the test application via Ethernet but it also takes its power either from the Ethernet or from a separate 48V power source. MPLT has very low noise and with Gigabit Ethernet, data transfer rates of up to 120 Megabytes per second are achievable. Available as a 12-, a 24-, a 36- or a 48-channel version. MPLT is ideally suited for use in multi-probe pulse-echo and TOFD inspections. Its Compact size and PoE means the MPLT may be positioned close to the inspection head, keeping probe lengths to a minimum.

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
- No external fans – unique air-cradle maintains internal temperature
- Power over Ethernet (PoE)
- 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
- Parallel Firing capability
- Extended dynamic range modes
- High data output – up to 120 Mbytes per second
- Easily scaleable – up to 4 units connected using Peak NDT's unique MPLink technology

Applications

- Mixed Pulse-echo and TOFD inspections in hard to access areas.
- Inline testing systems
- Research and development
- Gantry systems
- In-situ monitoring

PEAK NDT

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MPLT Specification

	Parameter	Range	Step Size
Configurations		12, 24, 36, 48 channels	
Pulser	Pulser Type	Negative square wave	-
	Pulser Voltage	50 to 200Volts	25Volt
	Pulser Rise Time	<5ns	-
	Pulser Width	16nsec to 1010nsec	2nsec
	Pulser Output Impedance	<10Ω	-
	Pulser Damping	50Ω to 660Ω in 8 steps	-
	Pulse Repetition Frequency	1Hz to 20kHz	1Hz
	Parallel Firing	Yes	
	Phased Array Pulser Delay	N/A	
	Number of Tx Focal Laws	N/A	
	Tx Voltage Apodistion	N/A	
Receiver	Gain	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 60dB Max DAC plus main gain limit is 110dB	0.25dB
	DAC Trigger	Transmit pulse or material interface echo	Selectable
	No of DAC curves	256 utilising up to 64kbytes	-
	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	N/A
	Amplitude Resolution	16 bits	
	Sample Rate	10, 25, 50 and 100MHz	Selectable
	Number of ADC's	1 per 6 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 120MB/s
	Inter-system Master Slave	High speed LVDS (6 pipes @ 800MBits/sec + TTL sync) allowing for expansion of element count by connection of two MicroPulse systems
	Output Data Buffer	2Gbytes
	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	4 inputs and 4 outputs (5Volt TTL compatible)
	Analogue Outputs	Trigger
Connectors	UT Connectors	Coaxial Lemo 00
	Ethernet Connector	Industrial RJ45
	LVDS Master/Slave	1 x high speed shielded connector
	Encoder Connector	Lemo 1B.310
	I/O Connector	Lemo 0B.306
	Power Connector	Lemo 0B.302
	Analogue O/P Connectors	Lemo 1B.310
Physical	Case Size (H x W X D)	120mm x 280mm x 310mm
	Power Supply	48V DC from Ethernet or separate supply (48V @ 1500mA)
	Power Consumption	40W max
	Weight	Up to 5 Kgs depending on configuration
Environmental	Operating / Storage Conditions	Operating Temperature: 0 to 45°C Storage Temperature: -10 to 55°C Relative Humidity: less than 85% non-condensing
	EMC	EN61326
	Safety	EN61010