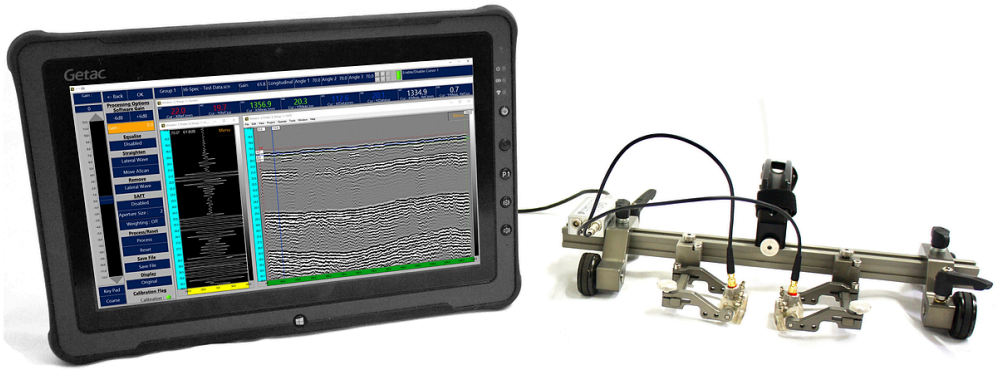
Hi-Spec|Systems
Advanced Ultrasonic Phased Array & ToFD

iToFD LITE

Miniature ToFD, Pulse Echo and Conventional UT System



iToFD LITE

World Leading Signal Quality

Using the latest and most advanced technology the design team at Hi-Spec Systems have been able to engineer the perfect ToFD solution. The pulser and receiver are now engineered to fit inside the small system. Using the latest custom chips the system has world leading signal-to-noise ratio (verified by 3rd parties against similar systems). The system is able to use around 20dB less gain than standard systems leading to a higher probability of detection for inspections.

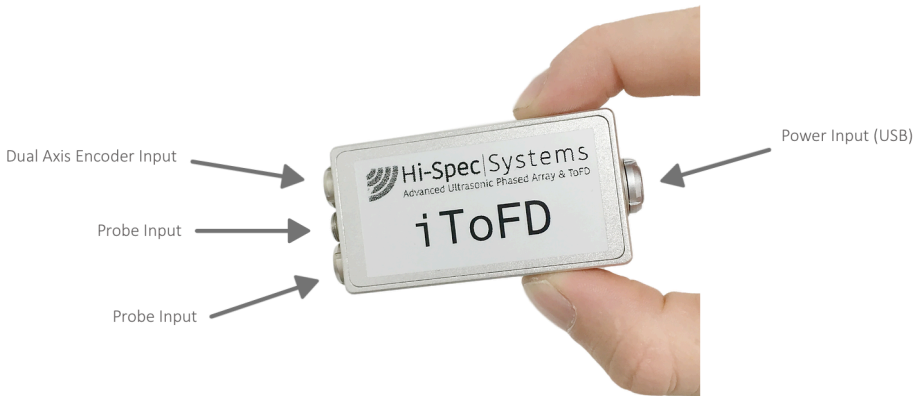
Scanner Mounted System

The miniature module is light and portable making inspections easy. The small footprint of the system allows it to be easily mounted on any scanner using the brackets provided. The length of the analogue probe leads are now reduced and the cable to the rugged tablet is replaced with a digital USB lead. The IP65 fully encapsulated system offers unprecedented protection against the elements insuring maximum reliability in the field.

Features

- Powerful ToFD, Pulse Echo and Conventional UT System
- Miniature Form and Scanner Mounted
- Synthetic-Aperture-Focusing-Technique (SAFT)
- Lateral / Back Wall Straightening and Removal
- Hot Swappable Batteries for Continuous Inspections
- Dual Axis Encoder Input
- 2x, 4x, 8x, and 16x Channel Systems Available
- Large 14" HD Outdoor 10 Touch Display
- Powerful UltraView® Software for ToFD Inspections
- Bluetooth Mouse and Keyboard Included for Analysis
- Fully Connected System with 4G, GPS and WIFI
- IP65 Rugged System

iToFD LITE 2x Channel System



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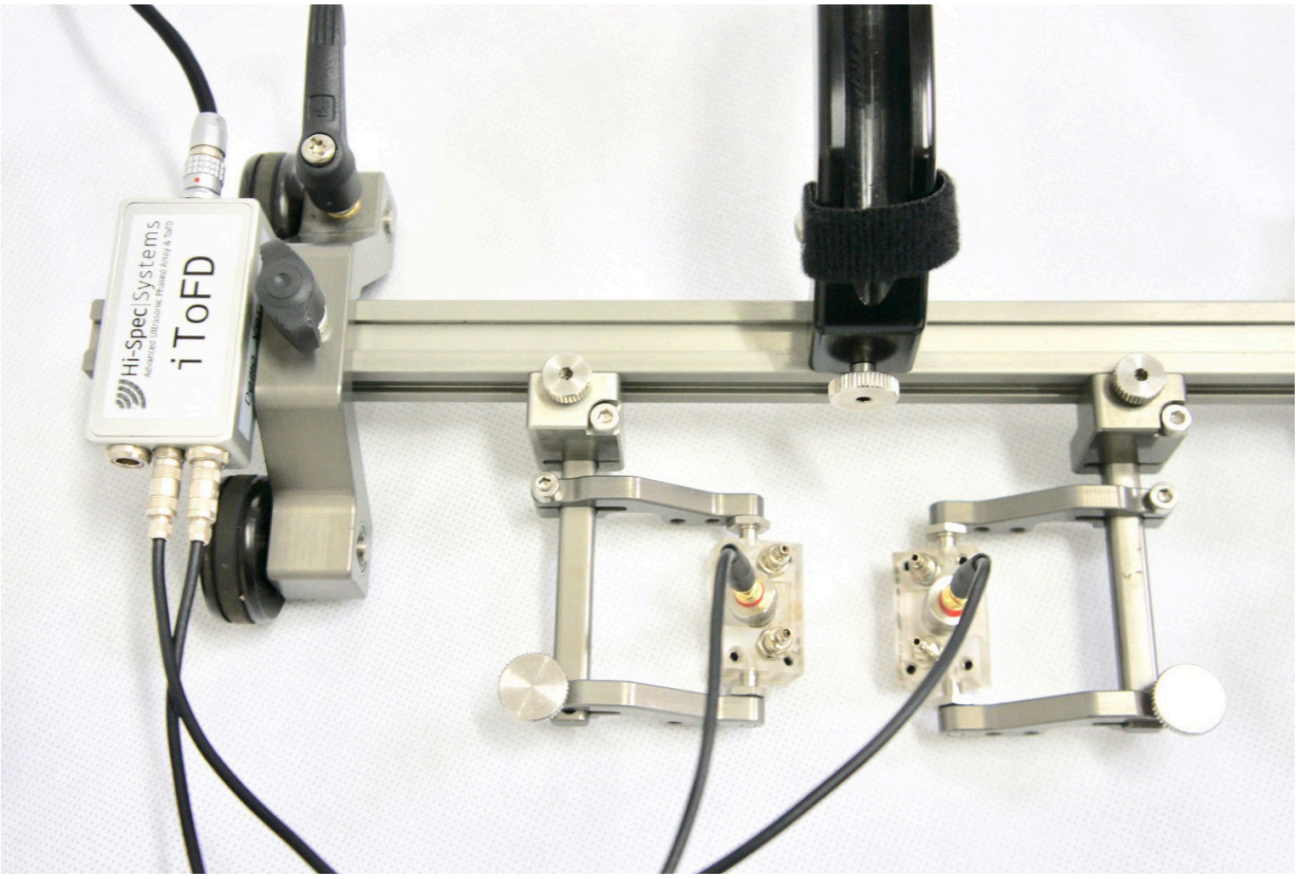

ToFD, Pulse Echo or Conventional UT

The multi purpose system is able to be configured for three different techniques. Either set up the system for ToFD inspections, Pulse Echo inspections or use Conventional UT for inspections. The UltraView software is able to manage all of the techniques easily. The inspector is getting three systems in one when investing in the iToFD system.

Customisable System Set Up

The system is compatible with all Lemo 00 MicroDot probes. Easily change the cable linking the system and the tablet if it becomes damaged or if a different length is required. Multiple ToFD probes and wedges are available with curved faces ,irrigation channels or tungsten carbide screws. The flexible and customisable system makes inspections easier.

Benefits of the iToFD LITE System

- Improved Time of Flight Signal Quality
- Higher Probability of Detection for Inspectors
- User Friendly and Easy to Use Inspection Software
- Open Platform Inspection Software with App Store
- Rugged and Reliable Scanner Mounted Miniature System
- Fully Connected System with 4G, GPS and WIFI

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iToFD Specification

General	
Model	iToFD
Size (W x D x H)	55mm x 33mm x 18mm (2x Channel Module)
System Recognition	Automatic
Pulser	
Number of Channels	2x, 4x, 8x, 16x
Output Impedance	< 5R
Pulse Voltage	100V
Pulse Rise/Fall	< 5ns
Pulse Shape	Square Wave
Pulse Width	20ns to 500ns in 5ns steps
Receiver	
Number of Channels	2x, 4x, 8x, 16x
Input Impedance	50R (typical)
System Bandwidth	0.75MHz to 25MHz
Gain Range	0dB to 90dB in 0.1dB steps
Gain Linearity	0.5dB (typical)
Input Noise Floor	2Nv/Hz (typical)
Digitiser	
ADC Sampling Frequency	100MHz
Bandwidth	0.75MHz to 25MHz
A-Scan Points/Channel	8192
Number of Gates/Channel	3 overlapping hardware gates
Gate Start/Width	User definable
Digital Filtering	
High Pass Filters (-3dB)	0.75, 1.5 and 2.5MHz
Low Pass Filters (-3dB)	7.5, 10, 15MHz, Broadband
Post Rectification Filters (-3dB)	1, 2, 3, 4, 5, 6, 7, 8, 9.0MHZ
Encoder Interface	
Type	Quadrature
Number of Axis	Dual Axis
Interface	TTL/CMOS Compatible
Output Voltage	5V @ 100Ma (max)
Connectors	
Tx/Rx Channels	Lemo 00 (MicroDot)
USB Interface	Lemo 0B, 4 Way
Encoder interface	Lemo 00, 4 Way
Inspection Codes	
Compliant	ISO EN 12668
CE Mark	European Standards
Environmental	
IP Rating	IP65
Temperature	-20°C to 60°C
Humidity	100%

Tablet Specification

General	
Brand/Model	Getac A140
Size (W x D x H)	359mm x 248m x 32.5mm
Weight	2.3kg
Display	14 inch, 1920 x 1080 HD Sunlight-readable & multi-touch screen
Battery	Li-Ion battery pack 3.5 hours Phased Array run time with hot-swap batteries
Durability	
Features	Military Standard 810G certified (4' drop, shock, vibration, rain, dust, sand, altitude, freeze/thaw, high/low temperature, temperature shock, humidity, explosive atmosphere) IP65 certified sealed all-weather design Port covers
CPU	
Processor	Intel Core i7 vPro Processor
Storage & Memory	
RAM	4GB RAM
SSD	256GB
Wireless	
Wi-Fi	Intel Dual Band Wireless-A 8260
Bluetooth	v4.1 Classic mode
4G LTE	(Optional) multi carrier mobile broadband with satellite GPS
GPS	(Optional) u-blox NEO M8N
Interface	
USB	USB 3.0 x2, USB 2.0 x1
HDMI	Type A
LAN	Input x2
Headphones/Speaker	Mini-jack stereo
Docking Connector	24-pin
Accessories	
Stand	Carrying Handle & Kickstand
Additional Battery	Hot Swap Additional Battery
Keyboard	Bluetooth Wireless Keyboard
Mouse	Bluetooth Wireless Mouse
Software	
Package	Full UltraView data collection and data analysis software pre-installed

System Set Up and Options

See what's included in the system and the options available

iToFD LITE System Set Up:

1. Rugged Inspection Tablet
2. UltraView Inspection Software
3. Bluetooth Mouse
4. Bluetooth Keyboard
5. iToFD System
6. iToFD to USB Cable
7. Manual & Calibration Certificates
8. Travel Case

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