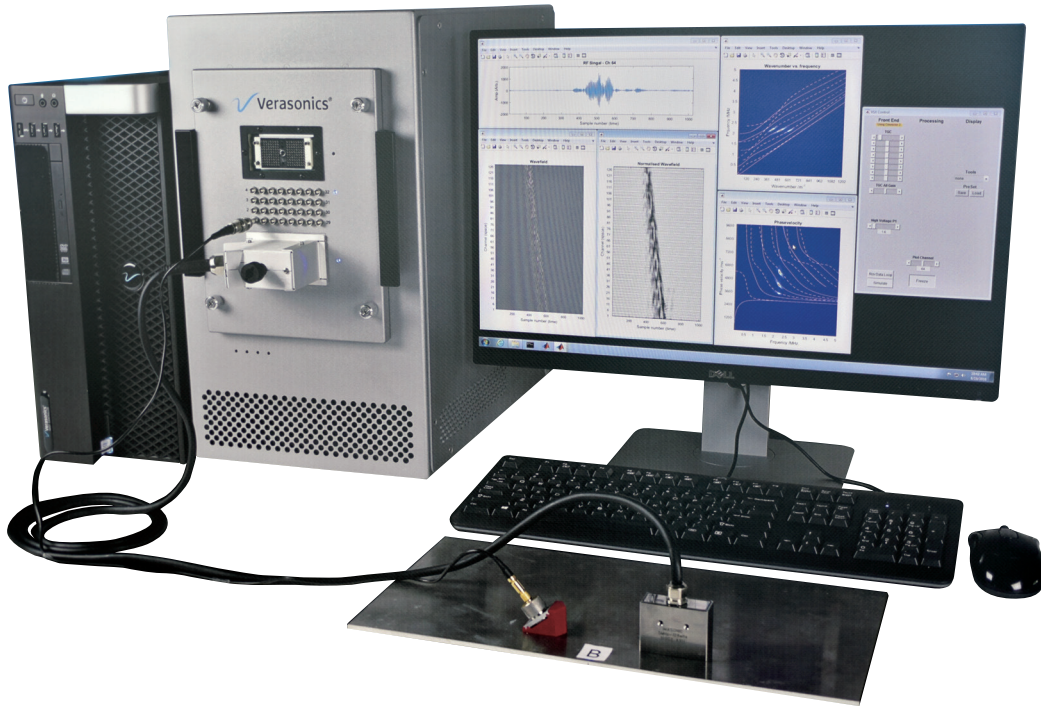


당신의 비파괴 평가(NDE) 역량을 높여줄 궁극의 위상 배열 초음파 연구용 플랫폼



Vantage 시스템의 특징점:

- 32, 64, 128 또는 256 채널의 첨단 위상 배열 기술
- 탁월한 자유도와 실시간 RF 데이터를 제공하는 개방형 아키텍처
- 프로그래밍 가능한 출력 시퀀스 및 위상 배열 초음파 초점
- 채널별로 적용 가능한 임의 파형 기능
- 50kHz ~ 50MHz의 주파수 범위 (Standard, High, Low)
- 6.6 GB/s 데이터 전송 속도
- 브리스톨 대학의 BRAIN 소프트웨어와의 호환성
- TFM 및 FMC, 유도파, 초고속 이미징 및 단층 촬영 기능
- 범용 트랜스듀서 어댑터 수트로 다양한 트랜스듀서 지원 가능
- 사용자 전용 실시간 프로세싱 적용이 용이한 MATLAB 인터페이스

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Key System Specifications of the Vantage Platform for Research in Materials Sciences and NDT/NDE

	LF Low Frequency	SF Standard Frequency	HF High Frequency
Transmitters			
Waveform	Tristate (per channel programmable)		
Time Resolution	4 ns (Pulse Width and Delay resolution)		
Pulse Width (min-max)	12 ns - 10 μ s	12 ns - 700 ns	12 ns - 700 ns
Focal Delays (per ch)	0 - 45.5 μ s (4 ns resolution)		
Frequency Band (MHz)	0.05 - 1.5	0.5 - 20	2 - 42
Voltage	2 to 190 V p-p		
Current (max per ch)	2 A (peak) / 0.4 A (rms)		
Transmit Options			
Arbitrary Waveform	Arbitrary Waveform (independent on each channel)		
Extended Transmit	Extended Transmit bursts (long, high energy pulses)		
Receivers			
Frequency Band (MHz)	0.050 - 1.5	0.5 - 27	1 - 50
Gain (fixed)	24 to 54 dB (6 dB steps)		
Gain (time varying)	0 to -40 dB		
Input Impedance (Ω)	50 - 3000	110 - 3000	110 - 3000
HP Filter (MHz)	0.010 - 0.200	0.050 - 0.250	1 - 20
LP Filter (MHz) (3 rd order)	5, 10, 15, 20, 30	5, 10, 15, 20, 30	5, 10, 15, 20, 30, 35, 50
Noise Figure (dB)	1.5 - 3.0 (depending on gain and input impedance)		
Digitizers			
ADC Resolution	14 bits		
Sampling Rate (MHz)	10 - 62.5		
Interleaved Rate (MHz)	125		
Filters	23-Tap and 41-tap FIR filters		
Accumulator	Over 1000 acquisitions per channel, with offset subtraction		
Numerical Gain	-4.00 to +4.00 (for channel calibration)		
Memory (per channel)	64 MB (32 MSamples)		
Data Transfer Rate	6.6 GB/s (over 8 lanes PCIe 3.0)		
External Connectivity and Synchronization			
UTA Modules	UTA 128 LEMO: 128 single-channel LEMO (00) connectors		
	UTA 64 LEMO: 64 single-channel LEMO (00) connectors		
	UTA 160-DH/32 LEMO: 2 Hypertronics [†] 160-pin phased array connectors, plus 32 single-channel LEMO (00) connectors		
	UTA 160-SH/8 LEMO: single Hypertronics phased array connector and 8 single-element LEMO connectors		
	UTA 160-SI/8 LEMO: single I-PEX phased array connector and 8 single-element LEMO connectors. Avail. Q-4 2018		
	260-MUX: single 260-pin Cannon connector with multiplexer for phased array transducers with up to 128 elements		
Input Triggers	2 channels (BNC; LVCMOS; TTL compatible)		
Output Trigger	1 channel (BNC; LVCMOS; TTL compatible)		
Master Clock	250 MHz (HDMI connector)		
External Sync Module	Synchronize up to 2048 channels (\pm 2 ns accuracy)		
Computer			
Host Controller	Multi-core computer configured and provided with system purchase		
OS	Windows [®] operating system		
MATLAB [®] Programming	MATLAB [®] with Signal Processing Toolbox installed and configured (MATLAB [®] user license not included)		

The Vantage System is available in five models with several optional configurations:

	Vantage 32 LE™	Vantage 64™	Vantage 64 LE™	Vantage 128™	Vantage 256™
Channels					
	64 Tx / 32 Rx	64 Tx / 64 Rx	128 Tx / 64 Rx	128 Tx / 128 Rx	256 Tx / 256 Rx
Configurations					
Standard Frequency (0.5 MHz - 27 MHz)*	✓	✓	✓	✓	✓
High Frequency (1 MHz - 50 MHz)	N/A	N/A	✓	✓	✓
Low Frequency (50 kHz - 1.5 MHz)	✓	✓	✓	✓	✓
HIFU (External Power Supply)	N/A	N/A	✓	✓	✓
Licensable Options					
Extended Transmit	N/A	N/A	✓	✓	✓
Arbitrary Waveform	✓	✓	✓	✓	✓
Synchronization Triggers	✓	✓	✓	Included	Included
Image Reconstruction	✓	✓	Included	Included	Included

✓ = purchasable configuration or option. All Vantage systems can be reconfigured or upgraded to additional options.

* = higher receive frequencies possible with filter adjustment

Safety Certifications

- IEC 61010-1 3rd Edition (2010) and EN 61010-1:2010 3rd Edition
- UL 61010-1: 2012 and CAN/CSA-22.2 No. 61010-1-12

Power Requirements and Physical Dimension

- 100V-240V (50-60 Hz)
- Size (Data Acquisition System) L-49cm (+10cm clearance) W-28cm x H-48cm
- Size (Host Controller) L-42cm x W-18cm x H-47cm
- Total weight of all components: approx. 35-44 Kg depending on configuration

Notes:

*Transmit and Receive specifications represent the nominal range for fully specified operation. Operation outside those limits is possible with some reduction in performance.

†Labeled "Hypertac"; Hypertronics is now part of Smiths Connectors.

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