

ULTRASCOPE USB

ULTRASCOPE USB, all the power of a high-end system in the palm of your hand.



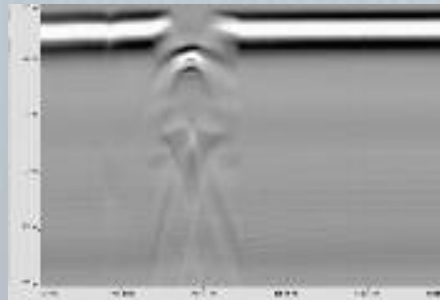
Ultrascope USB is the single-channel ultrasound system with highest performance in its market range. Its easy to use and intuitive software (ULTRAVIEW) includes all the functionality (A-scan, B-scan ,C-scan, Peak detection,TGC,etc.) needed to take advantage of the equipment capabilities. The standard USB 2.0 connection along with its reduced

size and height and a robust enclosure, make Ultrascope the ideal system for on field inspections. Furthermore, the possibility to control the equipment from several programming environments, makes it easy to customize and integrate in laboratory and industrial applications.

A-SCAN



TOFD



C-SCAN



ULTRAWOOD

ULTRAWOOD, moving forward beyond conventional applications.



ULTRAWOOD belongs to the ULTRASCOPE family and has been designed for the diagnosis of the structural condition of trees and processed woods. By using a non-destructive technique, the equipment is able to detect internal defects such as holes or cracks that disturb the sound propagation inside the sample. The system can work with both impact-induced waves or electrical excitation of a piezoelectric transducer. Unlike other equipments in the market that only gives the time-of-flight measurement, ULTRAWOOD can register the whole received signal (A-Scan) for being processed later, an essential feature for R&D in this field.

ULTRASCOPE C

Ultrascope C, the highest performance for low frequencies.



ULTRASCOPE C is a specialized equipment for testing concrete and is based on the Pulse –Echo and Through Transmission methods to detect cavities, cracks and other defects.

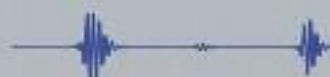
ULTRASCOPE C generates high energy pulses (> 4Kw) in the low frequency range and measures time of flight, echo amplitude and echo duration.

Meets the standards:

- Integral waveform display (A-scan, B-scan, C-scan)
- USB interface allows full remote control of all features.
- Direct data logging on the PC.
- Direct measurement: Ultrasonic Pulse Velocity, Poisson's Ratio, Modulus of Elasticity
- Wide range of transducers from 24 kHz up to 1000 kHz.

- ISO1920-7:2004 (International)
- EN12504-4 (Europe)
- ASTM C 597-02 (North America)
- BS 1881 Part 201 203 (UK)
- ASTM C 597
- ISO/DIS 8047

ULTRASCOPE - Technical features	USB	WOOD	C
Bandwidth	0.5MHz to 20MHz	10KHz to 500KHz	24KHz to 1MHz
Dynamic range	80 dB	80 dB	100 dB
Internal memory	1MB	1MB	1MB
Advanced signal processing	16 pulses (Max)	64 pulses (Max)	32 pulses (Max)
Tuned Squared Pulse	-20V to -400V	-20V to -400 V	-20V to -450 V
Encoder inputs	2		2
Synch output	1 (TTL)		1 (TTL)
External trigger input	1 (TTL)		
Alarm outputs	2 (TTL)		2 (TTL)
A/D Converter resolution	10 bits		
Software	UltraView	UltraWood	UltraC
Advanced signal processing	Programmable FIR, EMI filter, AVR		
Active protection	Yes		
Library of functions compatible with	C++, Visual Basic, LabVIEW®, MATLAB®		
Dimensions	150mm x 106mm x 38 mm.		
Weight	0.45 Kgrm		



DIFRASCOPE

Much more than a multi-channel TOFD system.

DIFRASCOPE is a high-end portable multi-channel system with superior processing capabilities. With up to 8 channels and 2 encoder inputs it can generate B and C-mode scans, improved with powerful post-processing algorithms like **SAFT** for better lateral resolution and **EMI** filter to suppress electromagnetic interference. **DIFRASCOPE** is an excellent choice for automated inspection of weldings simultaneously applying TOFD, pulse-echo and pitch-catch. Its intuitive and highly configurable software allows to tailor different applications quickly and to easily integrate the equipment into the industrial field or laboratory environments.



Difrascope - Technical features	
Number of channels	Configurable 2–32 chls.
A/D Converter resolution	12/14 bits
Sampling frequency	6,25 Ms/s to 100 Ms/s
Bandwidth [-3 dB]	0,5 MHz to 30 MHz
Internal memory for scans storage	48 MB
Connectivity	Ethernet (100 Mbit)
Digital signal processing, hardware implemented	SAFT(improves lateral resolution). Hyperbolic cursors, FIR, EMI-filter, Averaging, Envelope detector. Data compressor, Auto report capabilities
Gain dynamic range	100 dB
Time-gain compensation (TGC)	Yes
Signal-to-noise ratio	≤70 dB
Active protection	Yes
Tuned Squared Pulser	-20 V to -400 V
PC interface	Ethernet, Wi-Fi
Library of functions compatible with	C++, Visual Basic, LabVIEW®, MATLAB®
Software Program	TOFDView
Bateries life (case option)	+10 hrs
Case model	Compact Case & Peli Case model 1400NF (IP66)
Complies with	ASME Code Case 2235 BS 7706: 1993 EN583-5: 2001

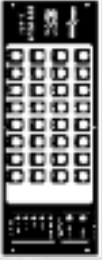

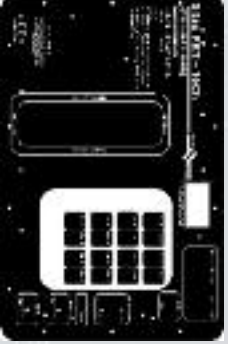
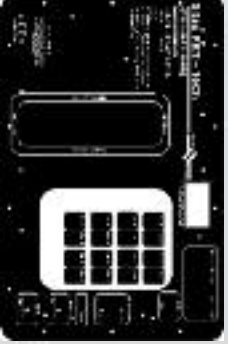


Multi channel solution based on phased array technology

MULTI CHANNEL SOLUTION

DASEL provides modular systems with up to 32 channels specifically designed for the **automated inspection of large structures** (tubes, shafts, large CFRP components, etc). While maintaining the performance of a high-end equipment, its modular architecture allows to easily address your actual

requirements and also foresee future upgrades at lower cost. Its 4 parallel channels allows to increase inspection speed by using multiple-head systems. Integration with the inspection line is warranted by a complete set of software libraries (C++, Labview, etc.) and DASEL personalized support.

Standard models					Frontpanels case option
Model	Parallel channels	Multiplexed channels	Case option	Others	CASE 63D
STM-132-63D-00	1	32	Desktop rack. 3U - 63HP		
STM-132-84R-PC-00	1	32	Industrial Rack for Cabinet mount 3U - 84HP	Industrial Rack - On-board PC	
STM-132-PRT-00	1	32	Rugged and Portable Case	Portable system Batteries and Tablet PC	
STM-216-63D-00	2	16	Desktop rack 3U - 63HP		
STM-216-84R-PC-00	2	16	Industrial Rack for Cabinet mount 3U - 84HP	Industrial Rack - On-board PC	
STM-232-63D-00	2	32	Desktop rack 3U - 63HP		
STM-232-84R-PC-00	2	32	Industrial Rack for Cabinet mount 3U - 84HP	Industrial Rack - On-board PC	
STM-416-63D-00	4	16	Desktop rack 3U - 63HP		
STM-416-84R-PC-00	4	16	Industrial Rack for Cabinet mount 3U - 84HP	Industrial Rack - On-board PC	
STM-432-63D-00	4	32	Desktop rack 3U - 63HP		
STM-432-84R-PC-00	4	32	Industrial Rack for Cabinet mount 3U - 84HP	Industrial Rack - On-board PC	
Mean technical features					CASE PRT
Excitation pulse	Programmable width		50 ns to 1.6 us, resolution of 6.25 ns		
	Programmable amplitude		From -20 V to -190 V		
Excitation modes	Single, Burst and Coded Excitation				
A/D Converter resolution	12 bits				
Maximum pulse repetition frequency	20 KHz				
Bandwidth	OPT Standard		0.8 MHz to 16 MHz		
	OPT LF (Low Frequency)		30 KHz to 2 MHz		
Digital signal processing, hardware implemented	FIR filter, EMI filter, Envelope Detector, Non-peak-loss Data Reductor				
Gain dynamic range	100 dB				
Auxiliary inputs-outputs	4 Encoder inputs, External Trigger input and Synchronism output				
Library of functions compatible with	MATLAB, LabVIEW, C++, Python, Visual Basic				

AMPLUS-32



AMPLUS-32 is a broadband pre-amplifier fully compatible with ULTRASCOPE / DIFRASCOPE technology and capable to improve signal-to-noise ratio in the most adverse inspection environments.



ULTRASCOPE / DIFRASCOPE technologies provides a configurable gain up to 80 dB, which is usually enough for most common applications. However, for some techniques like TOFD higher gains are required, and cables up to 10 meter length are used. In those scenarios, AMPLUS-32 improves signal-to-

noise ratio adding up to 32 dB of extra gain very close to the transducer. Its low size and weight and its internal battery make AMPLUS-32 the best option to mount on-board the inspection head. Furthermore, it is a valuable tool for laboratory tests with ultrasound transducers and hydrophones.

Amplus 32 - Technical features	TOFD	LF
Power supply sources	6 to 20 VDC adapter, 9V Battery, Self-powered	
Compatible with TOFD transducer	Krautkramer, Sonatest, Imasonic, Olympus	
Bandwidth	0.4 to 30MHz	0.05 to 1MHz
Power consumption	< 20 mA	
Input over voltage protection	≤ 500V (Max.)	
Gain	20 dB/ 32 dB	
Input impedance (f= 5 MHz/0.5MHz)	50 Ohm	50 Ohm
Output Noise (RS = RL = 50)	0.2 mVrms	0.15 mVrms
Signal-to-noise ratio	≤60dB	≤70dB
Maximum input signal (linear range)	70 mVpp	100 mVpp
Maximum output signal	2 Vpp	
Dimensions	88x56x26mm	
Weight	200 grs.	

