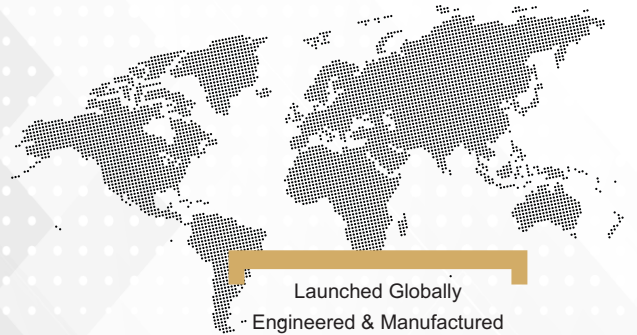


# ECHO

## Portable Digital Ultrasonic Flaw Detector

Experience Ultrasonic Flaw Detection like never before...!

At Ease  
High Performance & Reliable



Launched Globally  
Engineered & Manufactured  
from world's best technology



 **NDT TCIS**  
A New Approach to NDT...!



## ECHO

Echo is a new generation innovative portable ultrasonic flaw detector. The unique design for convenient operation, loaded with powerful functions and coded software makes the equipment different from all other flaw detectors. Its full digital 5.7 inch high resolution TFT LCD display gives vibrant visuals of signals under all industrial environments. The high speed core processor CPU with high update frequency supports critical, fast & versatile applications, thereby leading to a unique experience in ultrasonic flaw detection.

Echo is backed with more storage with more than 100 Hrs of video recording, 20,000 pictures and huge storage for testing parameters. The unique software makes the UT report printing extremely easy and faster than ever.

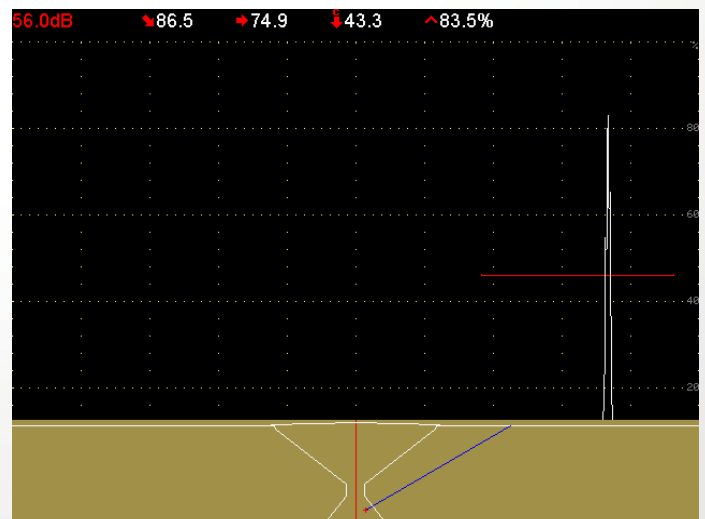
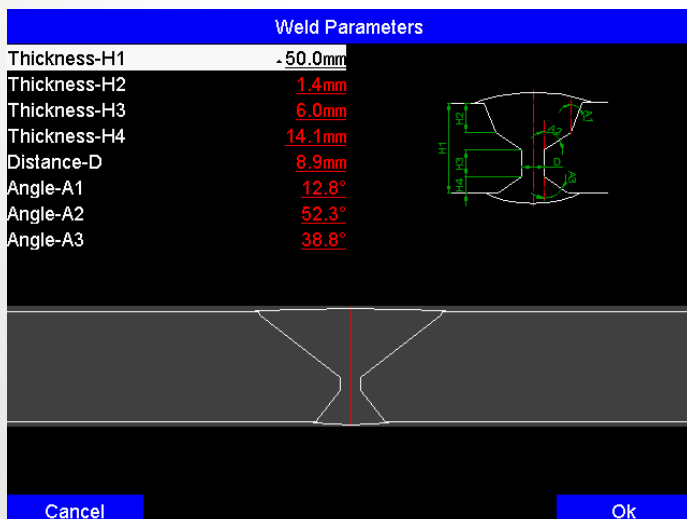
## Easy Operation

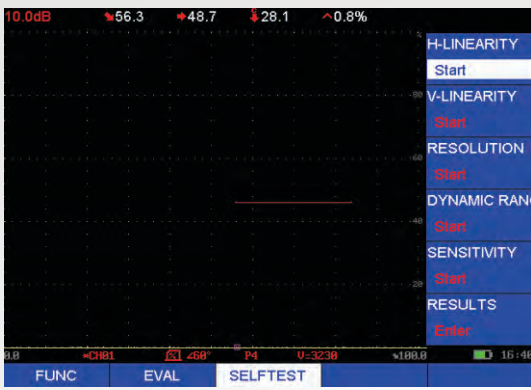
The keys and application software are so designed and managed that it does not require cumbersome menu driven function. The required operation keys are right on click and knob operation gives an altogether easy operating experience.



## Unique weld figure

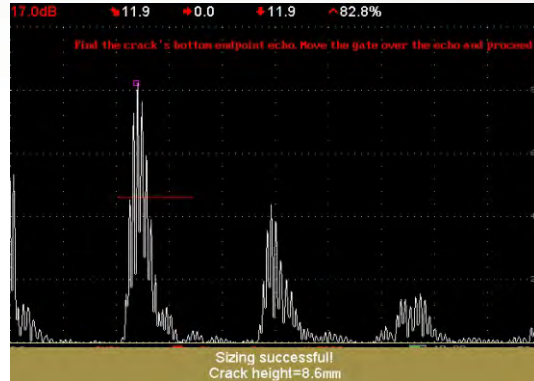
It has redefined the ultrasonic testing in simplicity ever possible with profile view. The unique innovated weld profile feature has overcome the interpretation and reporting limitation with ease. Exact location of flaw depth can be located precisely on the display through the profile. Adjustable pulse width from spike to square also supports for wide range of applications.





## Self Calibration

Self Calibration is a unique feature which enables the equipment to automatically test its accuracy for horizontal/vertical linearity, resolution, dynamic ranges and sensitivity. It generates a report automatically with all deviation parameters. Automatic calibration of probe angle, probe delay sound velocity makes it highly user friendly and time efficient during inspection.



## Crack Height Measurement

Unique crack height measurement feature enables the measurement of exact crack size by the measurement of diffracted waves.



## Leg Band Feature

Leg Band feature along with two gates (Gate A & Gate B) for separation and easy detection of required observation zone on screen.

Unique DGS features with various probes



## DGS (AVG)

Multiple curves DGS (AVG) Feature. Probes of any make can be set up and calibrated to plot DGS Graph to give highly accurate result.

## DAC

Multiple curves Auto Plotting DAC.

## AWS D1.1

AWS D1.1 software enabling the operator for easy evaluation for various coded AWS weld inspection.

## B-Scan

Colour B-Scan on real time scanning displaying the cross-section resulting in easy evaluation.

## Communication

Echo comes with both Lemo/BNC connectors as per user requirement. It also has USB 2.0 high-speed communication port.

The large capacity lithium battery keeps the device run continuously for 12 hours.

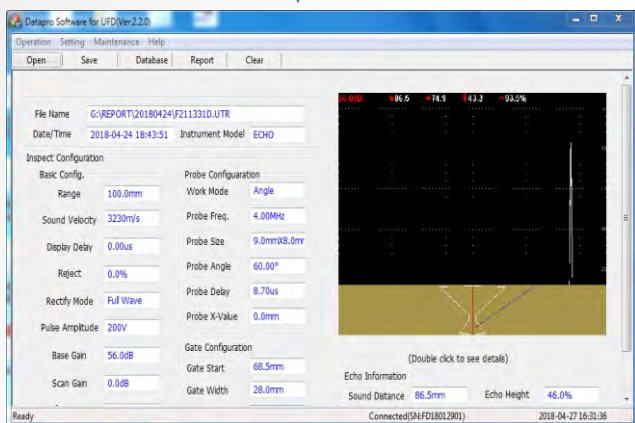


# Datapro Software

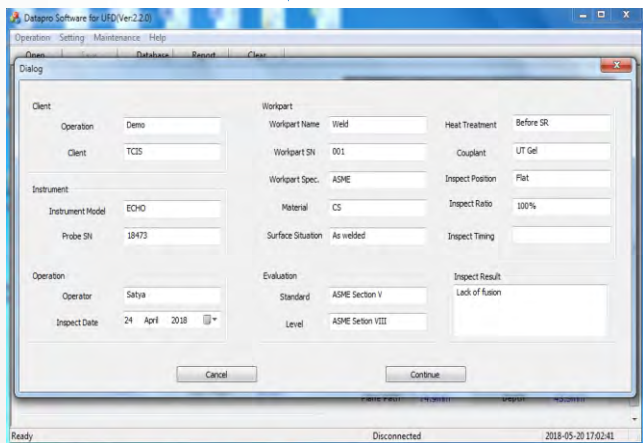
Echo is again unique for its auto reporting Datapro software. It is extremely simple to generate the final ultrasonic report as per the code requirement with further editable MS Excel format. Years of work inspection reports can be stored in the equipment and reviewed on PC at anytime. The USB 2.0 high-speed communication port makes data transfer between Echo and PC ultrafast.

## Reporting Steps

Upload



Input



Final Report

ULTRASONIC TEST REPORT			
DATE&TIME:	4/24/2018 18:43	PAGE NO:	TOTAL:
CLIENT	Demo	REPORT NO	TCIS001
EXECUTOR	NDT TCIS	TEST LOCATION	Flat
PART NAME	Butt Well	COVERAGE	100%
PART NO.	Test Block	TEST TIMING	16:28:00
PART SIZE	ASME	REF. STANDARD	ASME Section V
MATERIAL	Carbon Steel	ACCEPT LEVEL	ASME Setion VIII
PART SURFACE	As welded	FLAW INFORMATION	
HEAT PROCESS	Before SR	DISTANCE	86.5mm
COUPLANT	UT Gel	PLANE PATH	74.9mm
INSTRUMENT	ECHO	H-AXIS	FLAW DEPTH
PROBE NO.	18473	PRB TYPE	Angle
XTAL FREQ	4.00MHz	X-VALUE	0.0mm
PROBE ANGLE	60.00°		FLAW HEIGHT
GAIN	56db		LEVEL
FLAW ECHO			
RESULT:	Lack of fusion - Length 18 mm		
OPERATOR	Satya	DATE&TIME	4/27/2018 16:28
AUDITOR		DATE&TIME	

## Standard Packaging



# Technical Specification

Display Resolution	(640×480 Pixels) Full Digital True Color TFT LCD
Measuring Range	2mm to 10 meters in Steel
Bandwidth	0.2 to 20MHz automatic matching according to the probe frequency
Material Velocity	(100 ~ 20000) m / s
Software	DAC, (DGS)AVG, AWS D1.1
Data Pro Software	Generate Report & Saving in Computer.
Memory	15GB
Video Recording	More than 100 hours.
Weld Figure Feature	Weld Figure feature for detecting defect position in welds using angle transducer.
Auto-Calibration	Automated calibration of transducer zero offset and/or material velocity
Flaw Locating	Live display Sound-path, Projection (surface distance), Depth, Amplitude
Defect Quantification	Directly display the result with db unit
Defect characterization	Calculate the equivalent size of the flaw easily and quickly.
Curved Surface Correction	Used to measure the surface distance and depth of defect on a curved surface
Crack Height Measuring	Measure and display the height of a crack found inside the work piece
Magnify Gate	Spreading of the gate range over the entire screen width
A Scan Freeze	Display freeze holds waveform and sound path data
Coded Echo Color	Locate the flaw position
B-Scan	Display a graphical cross-section of the work piece
Communication Interface	High Speed USB2.0 port
Rejection	(0 to 80)% Linear without affecting the linearity and gain
Gates	Wave-getting Gate, Wave-losing Gate, Single Gate Reading, Dual Gate
Gate Reading	Optional for single gate and double gate reading mode.
Alarm	Beep Alarm and LED light Alarm
Power Supply	DC 9V
Working Time	> 10 hours
Overall Dimensions	280 × 220 × 70(mm)
Operating Temperature	(-10 ~ 60) °C
Relative Humidity	(20 ~ 95)% RH
Pulse Energy	Selectable - 200V/300V/400V/500V.
PRF	10Hz to 1000Hz (1KHz)
Pulse Width	30ns to 510ns
Damping	Selectable to meet different requirements - 200 Ohm to 500 Ohm
Rectification	Positive half wave, negative half wave, full wave, RF
Gain	0 dB to 110 dB adjustable in selectable steps 0.1 dB, 1 dB, 2dB and 6dB
Transducer Connections	LEMO or BNC

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[www.tcis-india.com](http://www.tcis-india.com)



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UAE, Oman, Bahrain, Saudi Arabia, Singapore

