

Technical specifications for KappaWave Ultrasonic Flaw Detector K1AL RAW

Test Range	25mm to 6m in steel
Velocity	Selectable in m/sec, 1400-8000 m/sec
Unit	Selectable: mm or inches for range
Delay	0-2812 μ sec
Zero offset	0-1000 μ sec
Range	Selectable with velocity & thickness
Range calibration	Single echo with velocity or 2 point calibration (Auto calibration)
Screen	Touch screen 26.4cm (10.4) TFT
Resolution	800 (RGB) X 600
Active area	211.2 (W) X 158.4 (H) mm
Last action	Colour on display button
Cancel function	Next key
A scan display area	175mm(W) X 93mm(H)
Display marks	100 divisions (Horizontal) 5 divisions (Vertical)
Measurement	Gate & display marks for distance and amplitude
Pulser	Negative spike
Pulse width	User variable
PRF	Selectable: 100Hz, 1 KHz
Energy	Selectable: 2 levels
Damping	Selectable. 1K, 120E
Frequency	1-10MHz
Cross talk attenuation for TR	78 dB with 4MHz probe
Gain	0 to 96dB
Gain increment	.03, 0.2, 1, 2, 6, 12dB
Rectification	RF, Positive half wave
Reject	Selectable: 0-44%FSH
Modes	Pulse echo, through transmission or dual
Amplitude measurement	0-100% FSH. Measure changes in 0.5%. Gate does not have to cross the signal for measurement of amplitude
Horizontal Non linearity	< 1% FSW
Vertical Non linearity	<3% FSH
Measurement gates	Selectable: 2 independent gates
Echo measurement	Flank
Gate start	Selectable over entire displayed range
Gate width	Selectable from gate start to end of displayed range
Gate colour	User variable
Gate height	Selectable from 5% to 100% FSH
Alarms	Selectable Audio, coloured visual
Echo to echo	Gate 1
Display locations	Transparent overlay on top of screen and in boxes below
Gate 1	Amplitude, beam path, Surface distance, depth, Echo to echo, Echo ref, dB difference
Gate 2	Beam path, Amplitude, Alarm
Amplitude measurement	Maximum amplitude locator on Gate 1
AWS D1.1	Standard
DAC / TCG	Dynamic DAC and TCG
DAC points	Upto 14 points
DAC offset	+6, 12, -6, 12 dB
DGS	Dynamic DGS with -6,-12, 6&+12 dB curves & ERS
Display Lock & unlock buttons	Dedicated Lock button to prevent accidental set up changes.
Dimensions (mm)	270(W)X217(H)X47(D)
Weight	2.1 kg with Li-ion batteries for 16-18 hours
Keypad	Touch entries
Language	English
Probe connections	2 nos, Mini Lemo
Probe angle	0 - 90 deg
B Scan	Basic B scan display
Beam Plot	Cross sectional plot of the test material with angle beam path
Battery	3.6V, 23Ah, Lithium-ion, rechargeable
Battery life	16h
Battery charger	External, 220V Ac mains, 50Hz
Charge indicator	LED
Curvature correction	When engaged, provides corrected depth and surface distance
Battery charging max temp	40°C
Saving of Calibration files	Unlimited
Loading of settings	Selectable from any saved
Printing of test files	Print command to save and transfer to computer. Thousands of files can be saved
Interface software	For connecting instrument to PC and transfer and prepare test reports
File names	Auto naming with date & time, thus avoids duplicating
Echo Display	Fill, envelope
Echo store	Echo store for comparisons`
Storage	SD card on board
Data interface	USB 2.0
VGA connector	1 no for additional display or projector
Recording of signals	Internal SD card 16 GB
Operating Temperature	0° to 50°C
Enclosure	Dust and moisture resistant. Protective cover with handle supplied
Warranty	1 Year

* All specifications are subject to change without notice. Copyright 2021 by KappaWave

Manufactured & marketed by:



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ULTRASONIC FLAW DETECTOR K1AL RAW

Large display. Less eye strain. **State-of-the art Gate movements.** **Scientific calculator** for UT work

Convenient dB steps .03, .2, 1, 2, 6 & 12

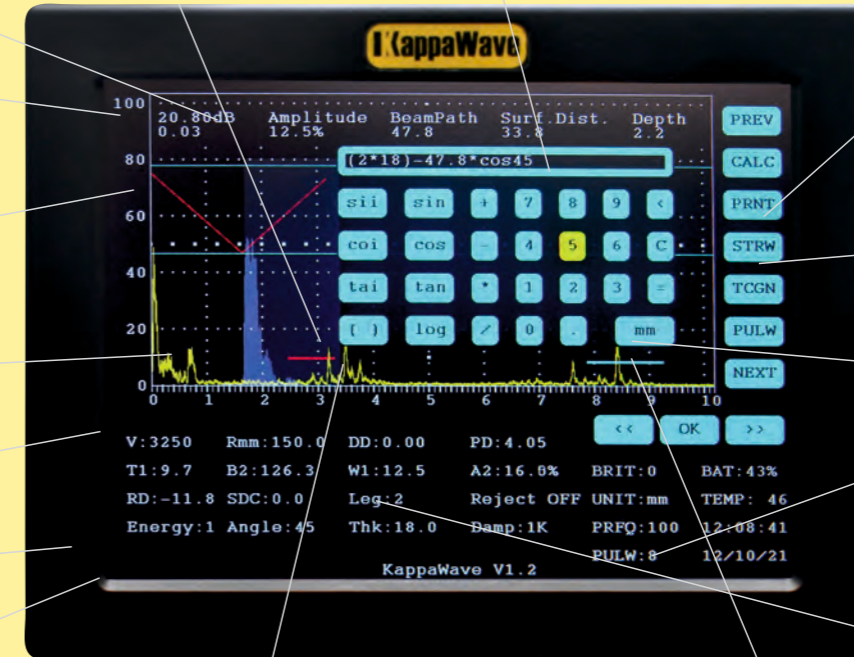
Beam plot in an Angle beam test helps you interpret signals with ease

Echo store control. Ideal for transfer correction and corrosion monitoring work

7 Colour options

High Penetrative Power. 2 Energy Steps

Grease & Oil Friendly Durable Touchscreen for industrial use.

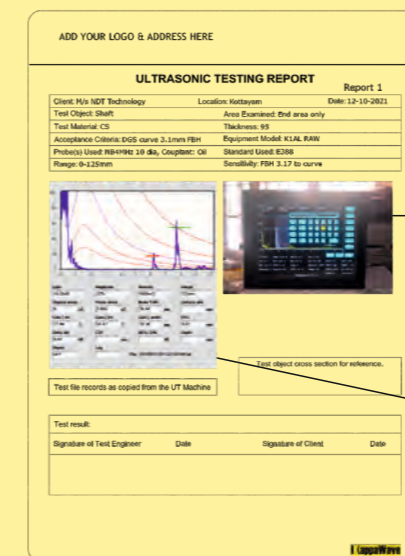


26.4cm (10.4) touchscreen display

Primary Gate provides **Echo to Echo** distance. **Measure through coatings** or use a Normal probe for Low thickness measurement.

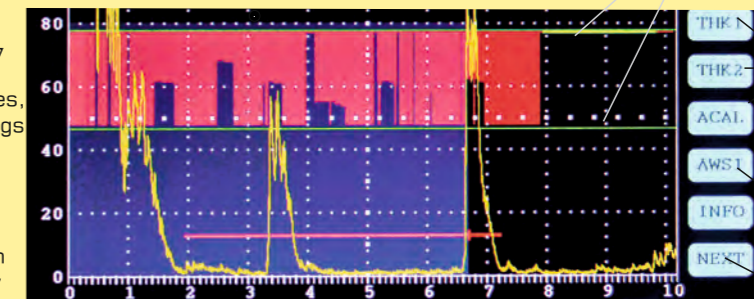
Second gate provides Beampath(B2), Amplitude(A2) & Alarm

Material cross section in a **B Scan**



Add pictures, drawings Excel data

Add Screen display from UFD



Two Point **Auto Calibration**

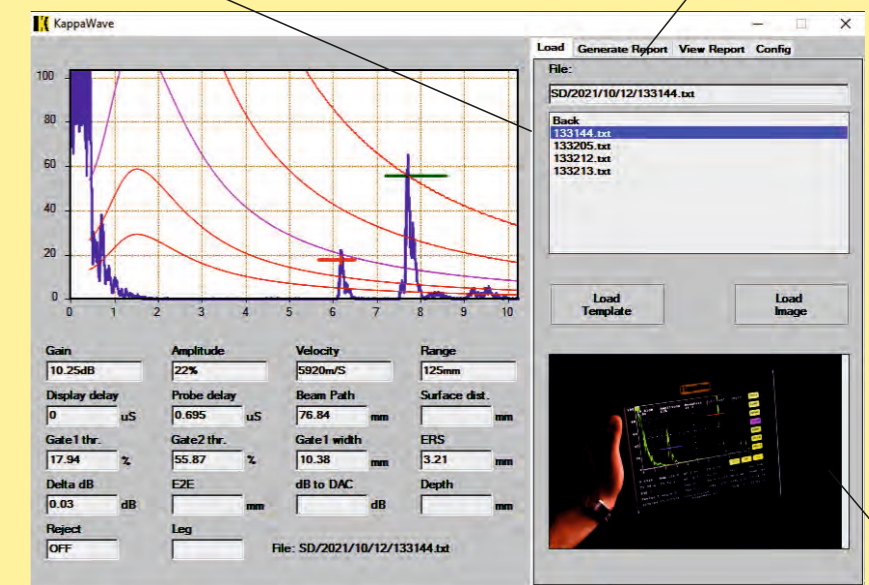
AWS D1.1 Weld evaluation

Easy to access functions

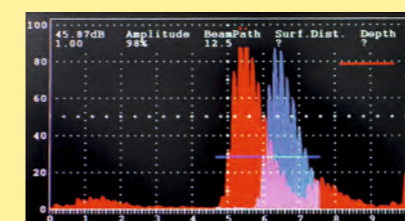
100 small divisions for ranges from 25mm to 6m in Steel

Select any file and **prepare custom reports** in few minutes

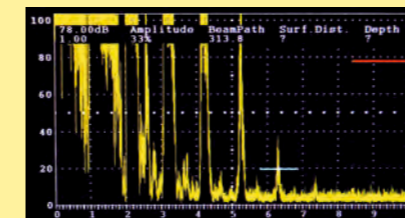
Enter data for report



Add photos or drawings to report



Echo store



Low noise

- Features:**
- B-Scan
 - Angle Beam Plot
 - RF Wave
 - AWS D1.1 Weld evaluation tool
 - Dynamic DAC/TCG/DGS
 - Echo Store for comparisons
 - Curvature correction

KappaWave K1AL RAW

Ultrasonic flaw detector K1AL RAW is designed to save your time in calibration, testing, recording of test results and professional reporting. Interface software is supplied.

Largest display screen in its class, yet designed to handle like a tab. The touchscreen display is very sensitive, oil and grease friendly and of 26.4cm (10.4inches) and 800 (RGB) X 600 resolution.

Offers 2 state-of-the-art gates that provides amplitude, beam path and other data. These gates can be resized and positioned with ease as you desire.

Bright display to work in any light. Offers VGA connectivity for external displays for workshops or for training. Ideal when a third party inspector wants to witness your work. Weighs 2.1Kg and the large display can be easily read from a distance.

Designed and manufactured in India to comply with the requirements of ASTM E 317, IS 12666 and BS 4331-II

PC Connectivity and reporting. instrument offers added security when client inspectors wants to verify the reports to an actual test file.

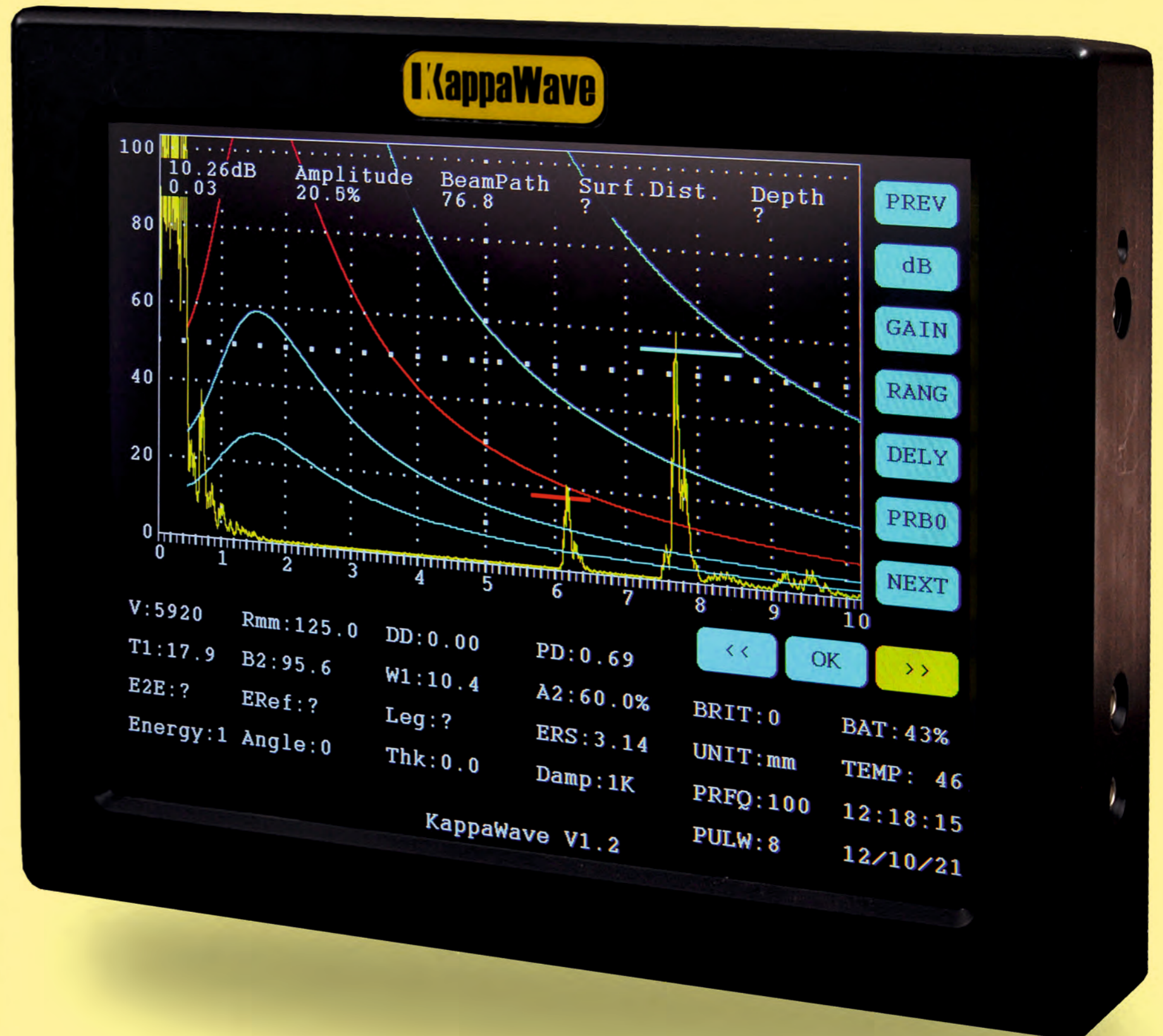
Files can't be manipulated in the instrument. It can only be deleted. Files once transferred to a PC can be edited.

16GB internal memory helps save as many test files as you want (>1,00,000) and review them in the machine or transfer to the computer for report processing.

Customise and offer professional reports with your companies info, CAD drawings, photographs etc. Files from the instrument is provided with a unique ID of the Year, Month, Date and Time and can be verified on the report. Short learning time.



High sensitivity & Resolution, Low Noise, Unfiltered echoes.



Touchscreen may be accessed with or without gloves or stylus
Drag baseline and amplitude scale for rapid change of range and amplitude

16 hours of continuous battery. Supplied with padded protective cover for field work