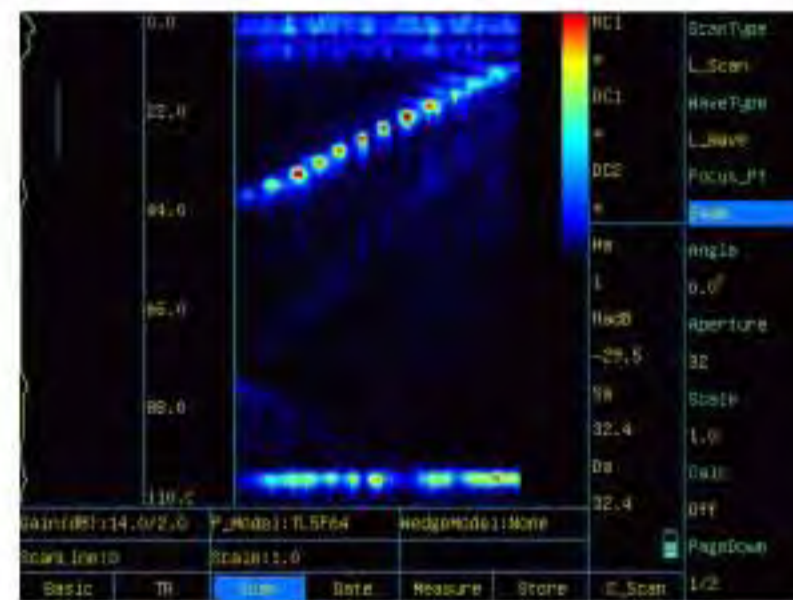
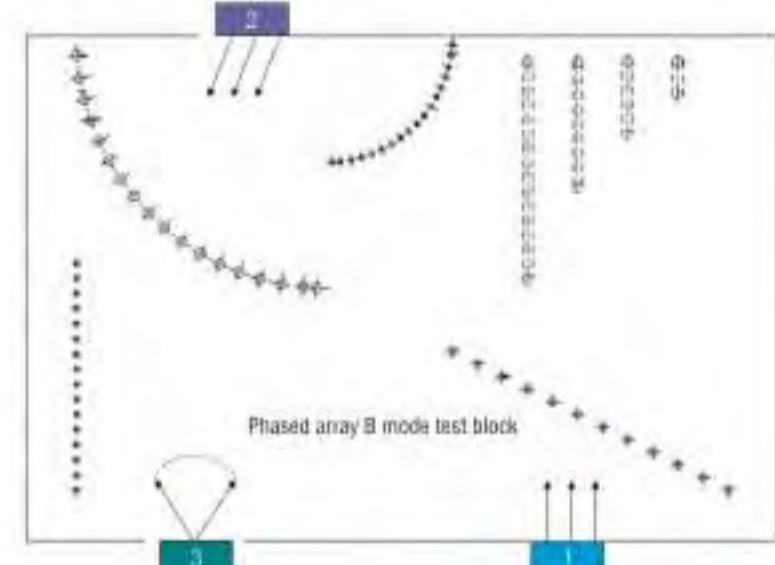
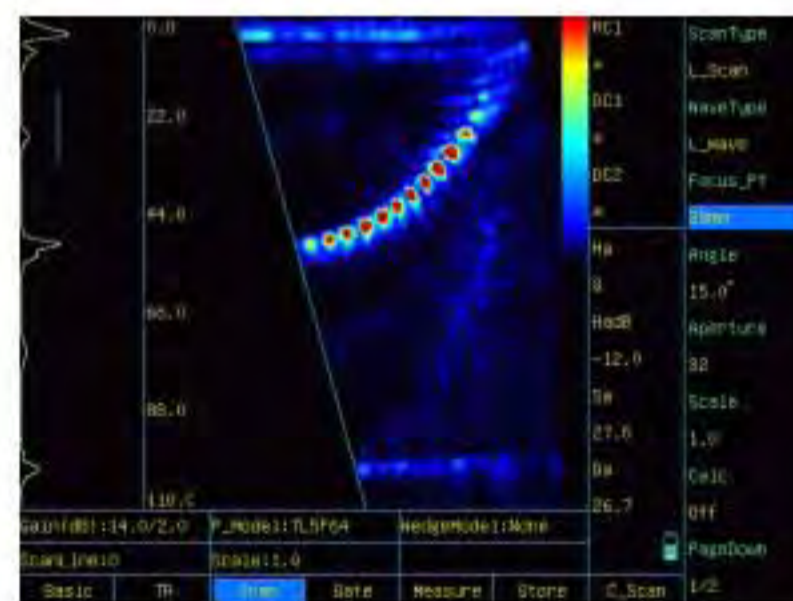


Application Example (Test result on block)

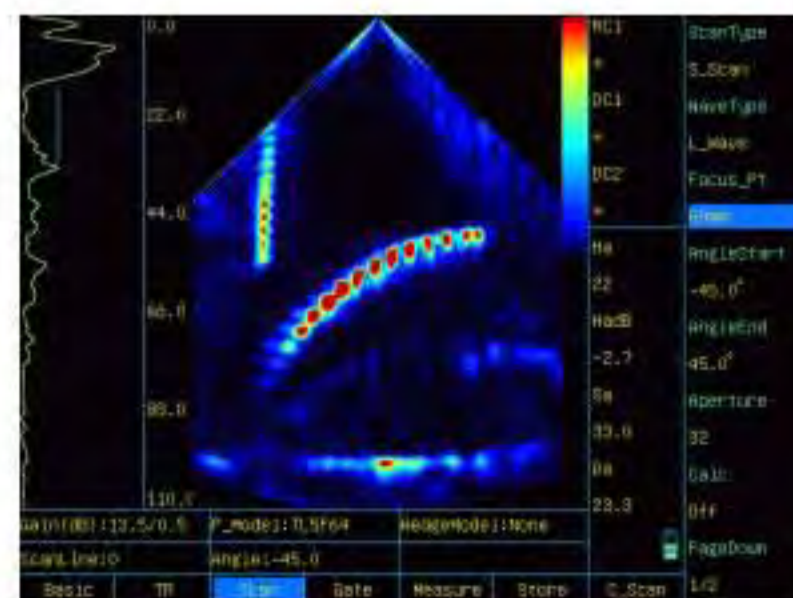
Probe on phased array B mode test block



Position 1: Frequency 5MHz, 64-element probe, $\phi 1.5$ through-holes in an oblique line, 0° longitudinal linear scan

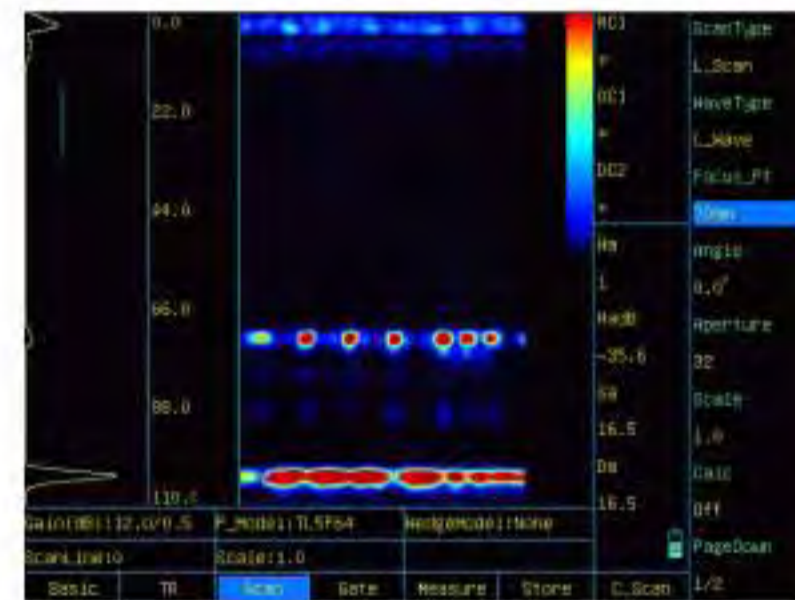


Position 2: Frequency 5MHz, 64-element probe, $\phi 2$ through-holes in an arch curve, 15° longitudinal linear scan

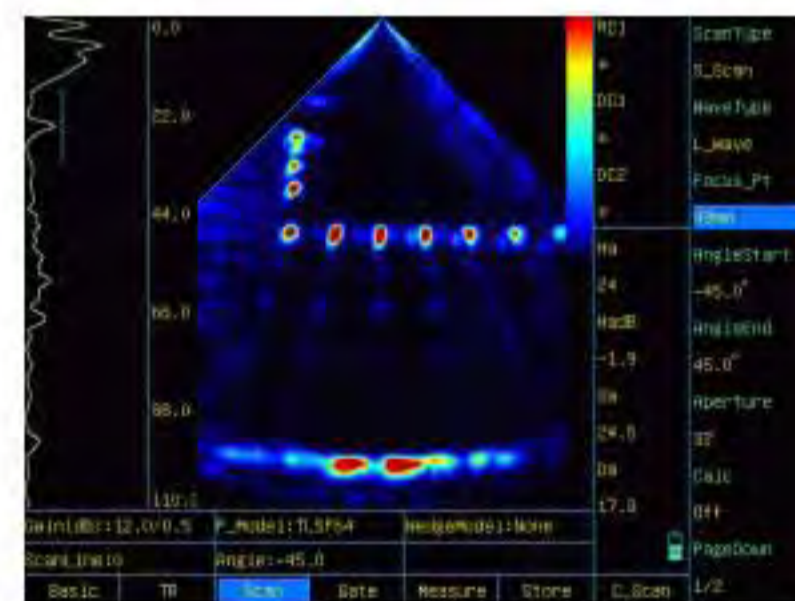


Position 3: Frequency 5MHz, 64-element probe, $\phi 2$ through-holes in an arch curve and $\phi 1$ through-holes in a straight line, -45° to $+45^\circ$ longitudinal sector scan

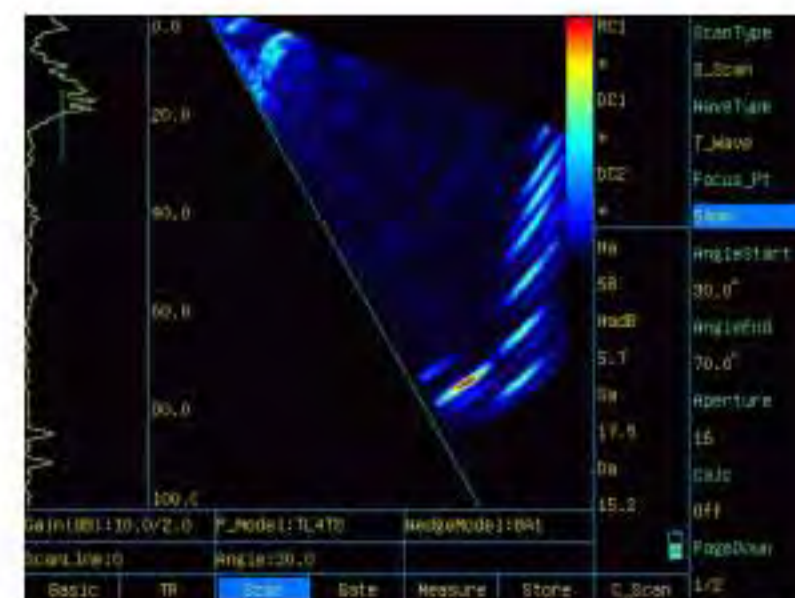
Probe on phased array resolution test block



Position 1: Frequency 5MHz, 64-element probe, $\phi 2$ through-holes in the middle, 0° longitudinal linear scan



Position 2: Frequency 5MHz, 64-element probe, $\phi 2$ through-holes in a corner, -45° to $+45^\circ$ longitudinal sector scan



Position 3: Frequency 4MHz, 16-element probe, $\phi 2$ through-holes in a corner, 30° to 70° transverse sector scan

Technical Specifications

Function	Conventional	Phased Array
System Bandwidth (-6dB)	0.5~15MHz	1~10MHz
A/D Sampling Frequency	Maximum 240MHz	120MHz
Probe Connector	Two BNC or Lemo Connectors	One, for supporting 16/32/64/128 elements probes, featured with auto-recognition function for probes.
Active Aperture		2-32, the upper limit depends on the probe element number.
Pulse Generator	Type: Negative Spike Pulse Voltage: Approx. 370V Repeat Frequency: 20~500Hz Power: Low / High	Type: Bipolar Square Wave Pulse Transmit Voltage: 20V~150V, step: 10V Pulse Width: 40~500ns, step: 20ns Repeat Frequency: 100Hz~8KHz Transmit Delay: 0 μ s~20 μ s, resolution: 5ns
Receiver	Gain: 0~110dB, step: 0.5/1/2/6/12 Frequency band (-6dB): 1~4MHz/ 0.5~15MHz Damping: Low / High Rectify: Positive, Negative, Full, Filter, RF	Gain: 0~80dB Frequency band (-6dB): 1~10MHz Delay: 0 μ s~20 μ s, resolution: 3.125ns
Focus		Transmit: Single focus Receive: 160MHz hardware real-time dynamic focus Maximum range: 1008 focus points per scan-line
Filter	Auto adjustment based on operating frequency band	Auto adjustment based on probe frequency
Scan Type		Linear / Sector / C / D Scan
Scan Line		Linear Scan: Max 256 lines Sector Scan: Max 128 lines
Scan Angle Range		Linear Scan: -45° ~ $+45^\circ$ Sector Scan: -80° ~ $+80^\circ$
Scan Range	0~6000mm (Steel longitudinal wave), continuous and adjustable, minimum display range: 10mm	0~1000mm (Steel longitudinal wave)
Material Velocity	1000~10000 m/s	1000~10000 m/s
Display Delay	-10~1000mm (Steel longitudinal wave)	0~1000mm (Steel longitudinal wave)
Probe Zero	0~200 μ s	
Reject	0~80 linear reject	
Curve Function	DAC	
Auxiliary Function	A-scan echo freeze, auto calibration, angle measurement, peak value memory, parameter output, AWS D1.1/D1.5, USB disk storage	
Alarm Signal	Sound and light alarm (built-in buzzer and panel LED)	
Test Point Selection	Peak Value/Front/J Front	Peak Value
Language	Chinese/English	
Unit	mm / inch	
Measurement	Two Gates: It can measure echo amplitude, sound path, horizontal distance, vertical distance and distance between two gates.	Two Gates: It can measure echo amplitude, sound path, horizontal distance, vertical distance and distance between two gates. Two measurement cursors: It can measure horizontal & vertical position and distance between cursors on the image.
Horizontal Linearity	$\leq 0.5\%$	
Vertical Linearity	$\leq 3\%$	
Attenuator Error	$12\text{dB} \pm 1\text{dB}$	
Dynamic Range	$\geq 30\text{dB}$	
Far-field Resolution	$\geq 26\text{dB}$	
Electric Noise Level	In initialized state, when the detection range and gain is set to be maximum, it is ≤ 20 (Frequency band 1~4MHz)	
EN Norm	EN-12668-1 compliant	

SIUI

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Specifications and appearance are subject to change without prior notice.
DCY2.781.EN.CTS-602_C/VA61

Phased Array Ultrasonic Flow Detector CTS-602



Clear Image
Linear Imaging
Sector Imaging
Accurate Flow Position and Size
Ultrasonic Imaging and A-scan Display

SIUI

CTS-602

SIUI continuously pursuits innovation and here releases our latest —Portable Phased Array Ultrasonic Flaw Detector

SIUI is the first Chinese manufacturer that released the portable phased array ultrasonic flaw detector with full intellectual property right. All the hardware circuit, operation software, housing and probes are designed by SIUI.

The release of CTS-602 marks a mile stone in Chinese ultrasonic phased array technology development.

Key Features

- 6.5" TFT LCD with 640x480 pixels
- Up to 32 T/R channels, compatible with 16/32/64/128-element probes
- Bi-polar square wave transmission and adjustable transmission width
- Transmit single focusing and receive dynamic focusing
- 2 modes (conventional UT and Phased Array) in 1 system for easy testing and evaluation
- Linear, Sector, C and D scanning are available
- Automatic probe recognition function
- Easy operation and user-friendly interface
- Passive heat dissipation for rough site testing

Quick probe switch



Probes and wedges



Multi-connectors for different applications

- To connect to a VGA monitor or projector for promotion and demonstration
- To export files saved in the system to a computer
- For subsequent software development

Phased array probe

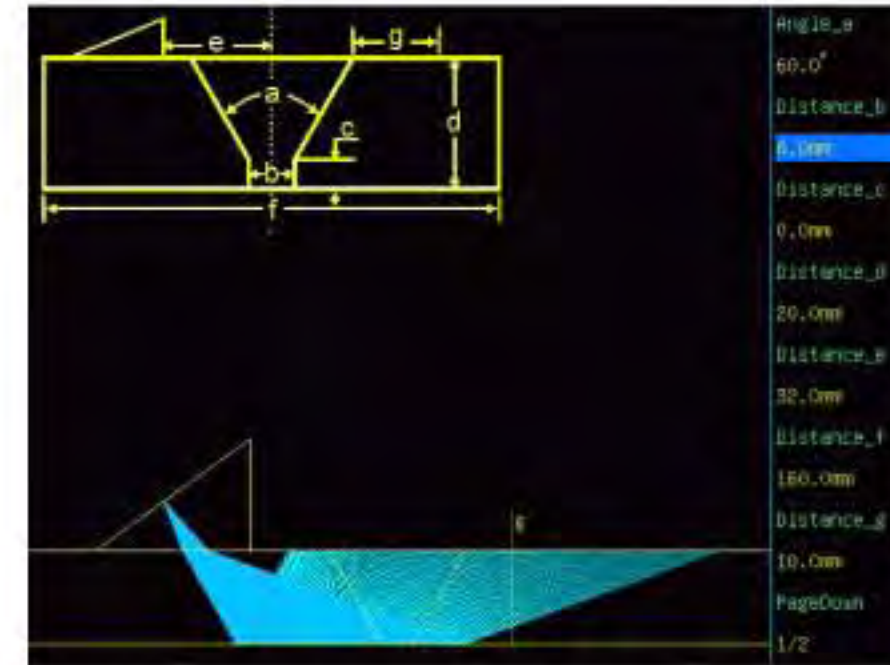


Crawler

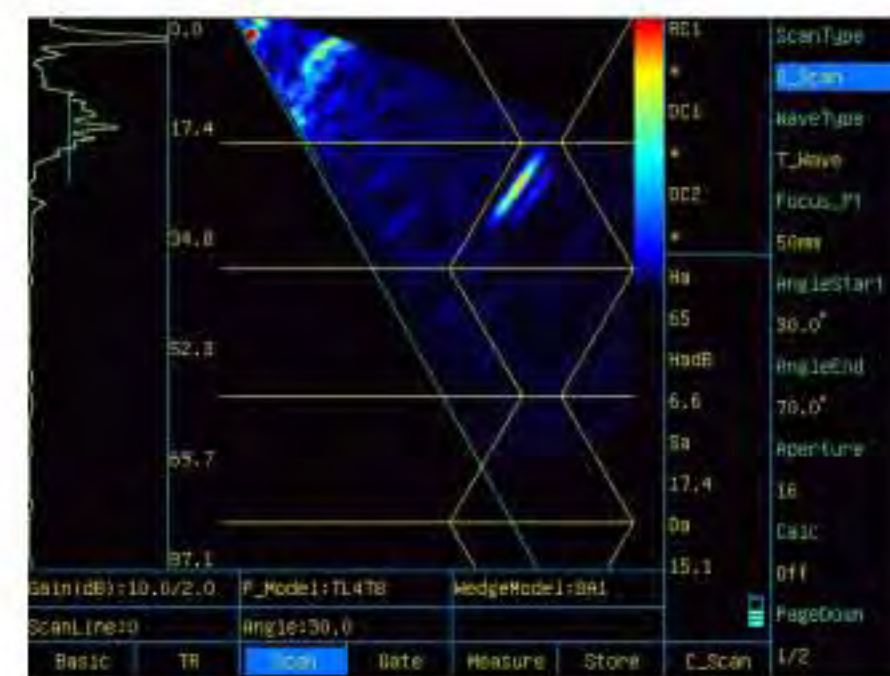


Powerful Function

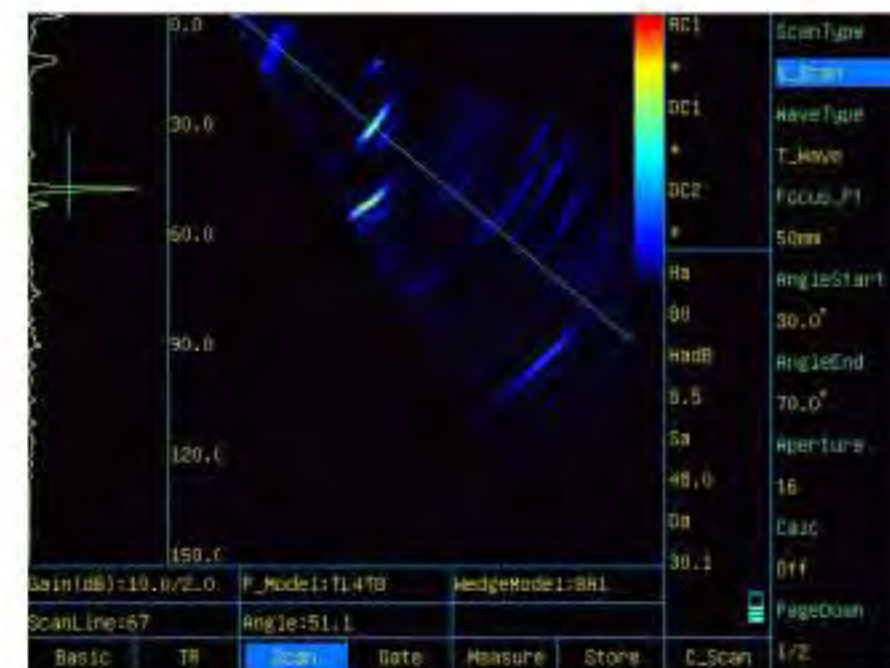
Overlay Software for Flat-panel Welding



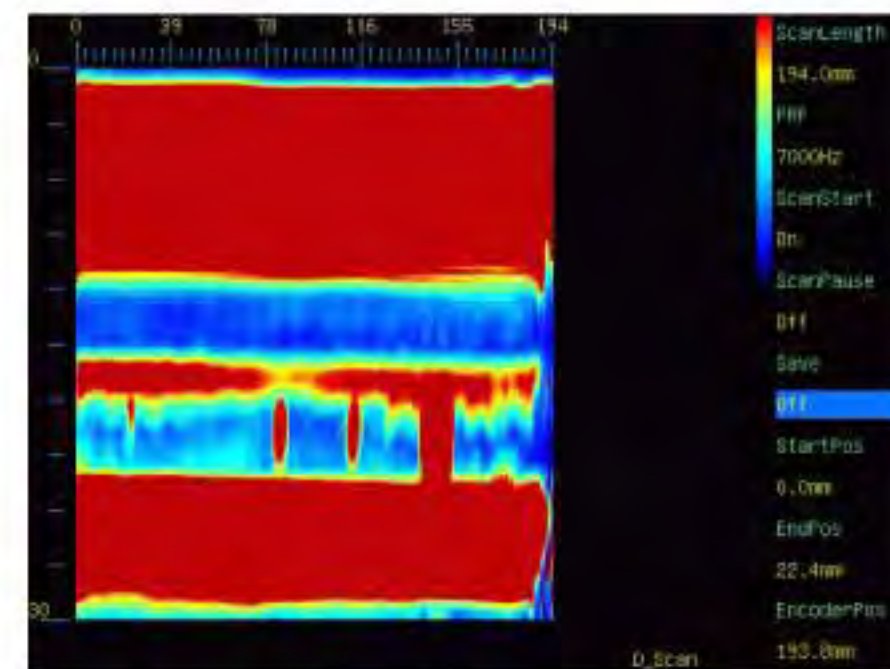
Detection parameters can be setup easily, therefore improving the operation efficiency.



B-Scan

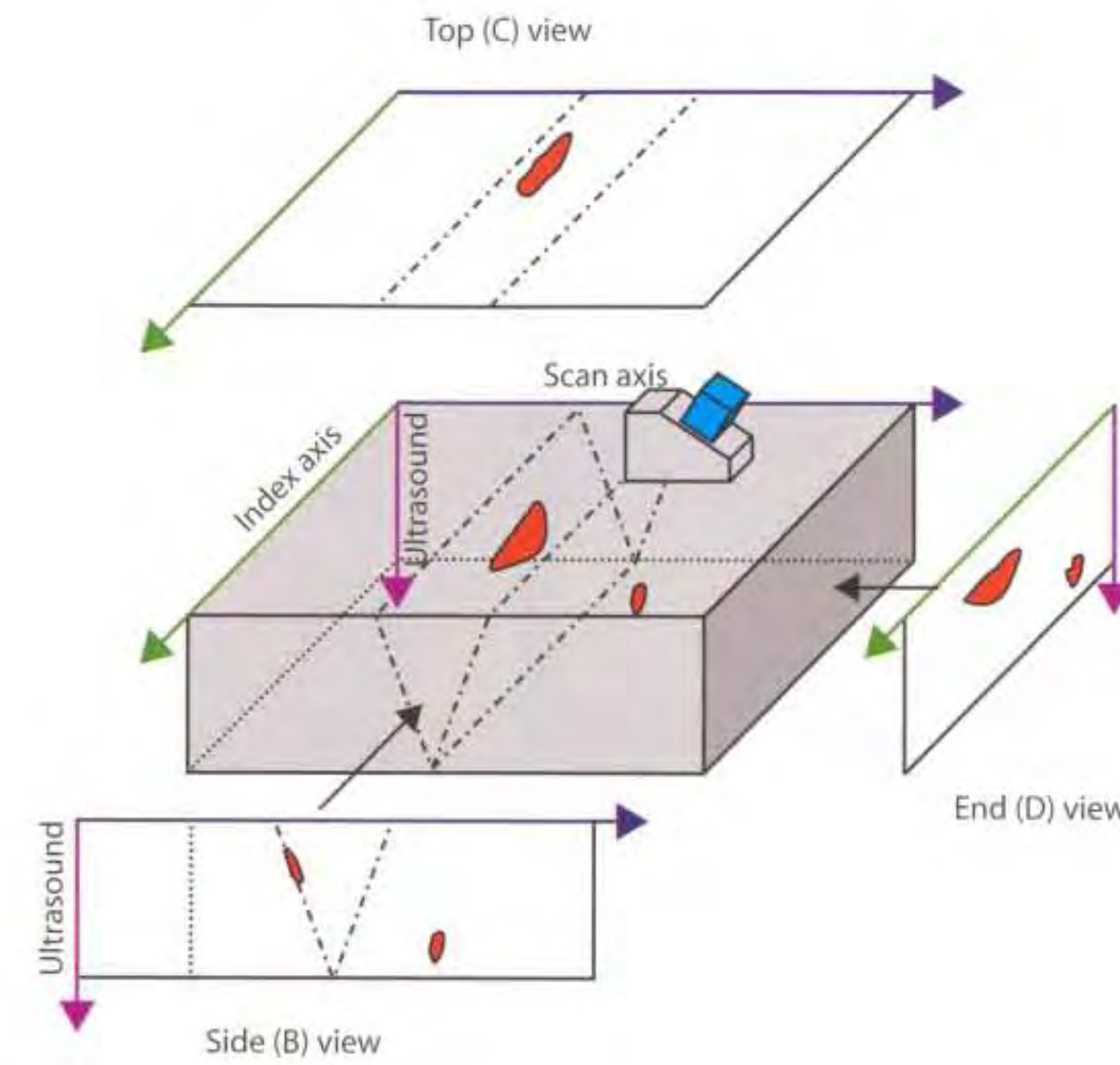


D-scan

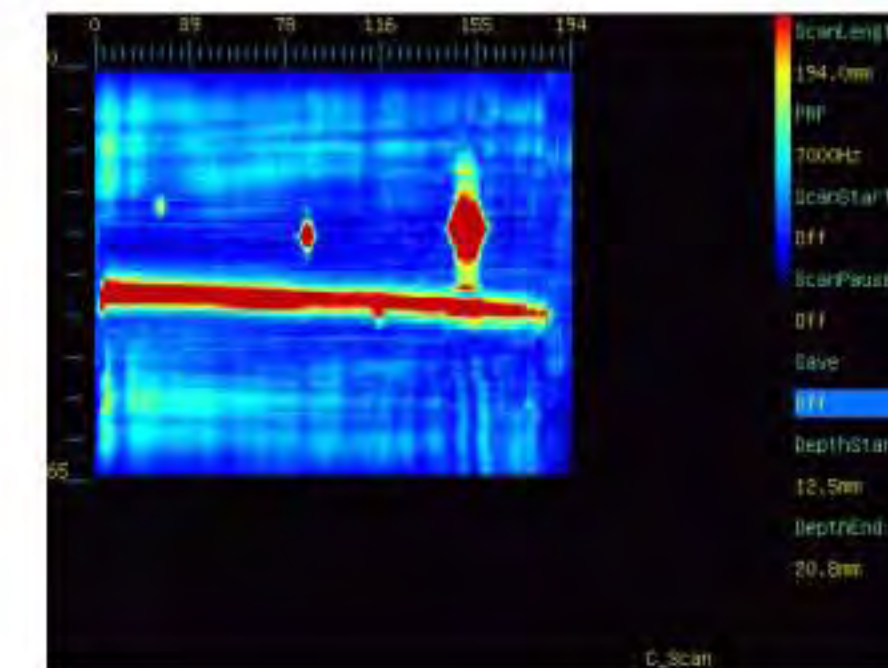


B,C,D-Scan

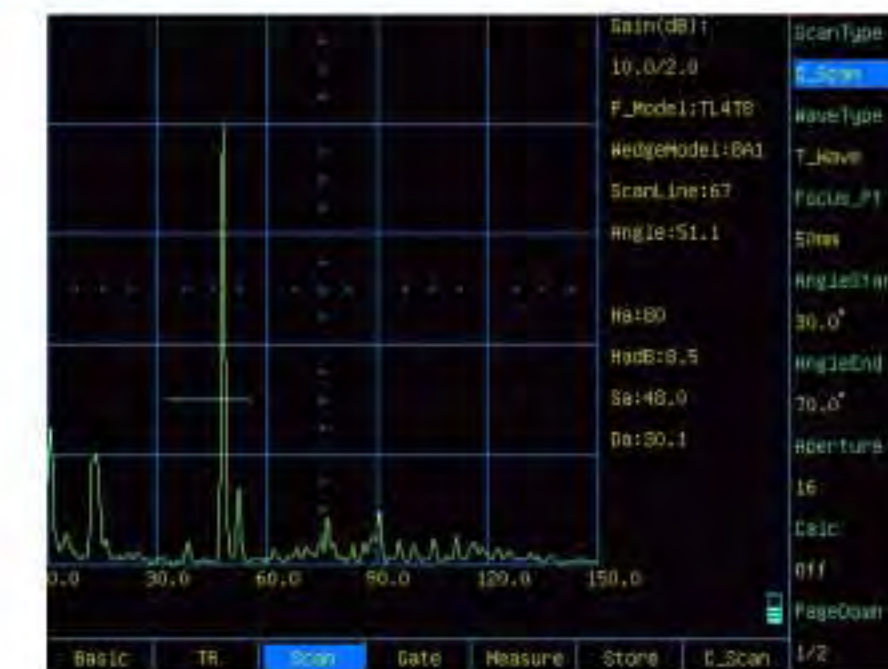
Defects in different sides of views can be seen to make the defects more visible.



C-Scan

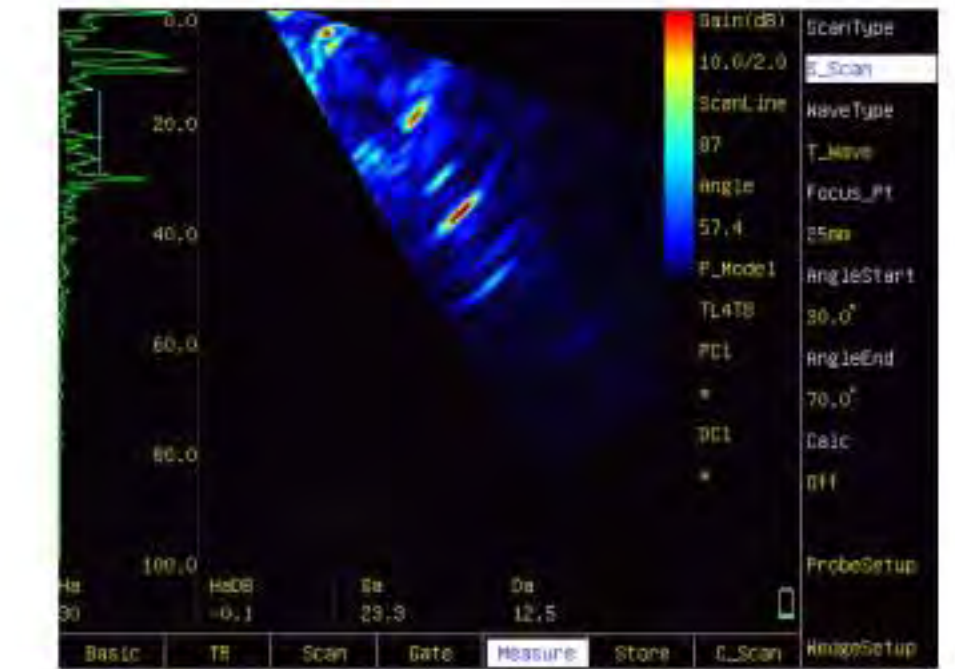
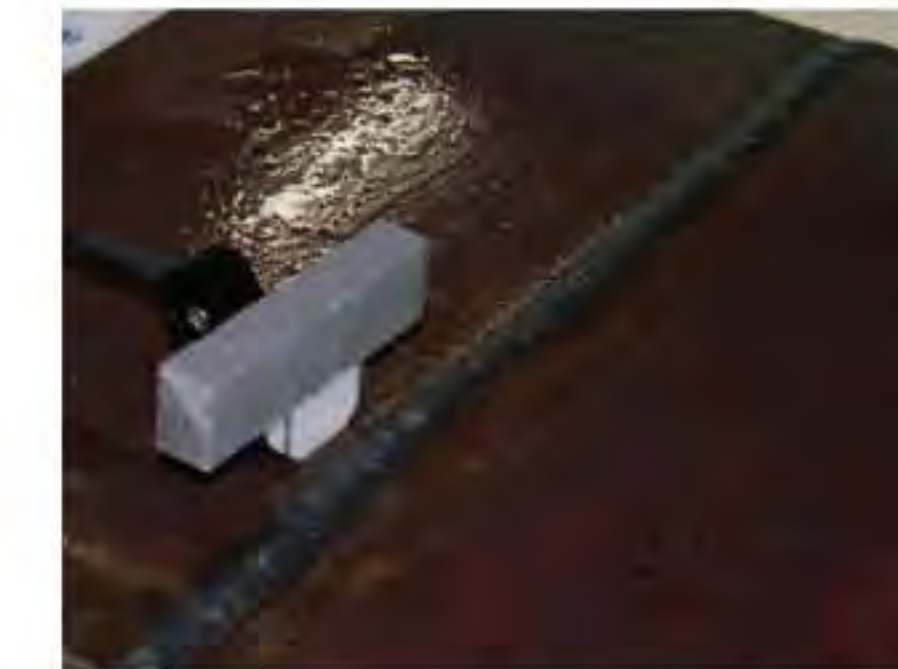


A-Scan

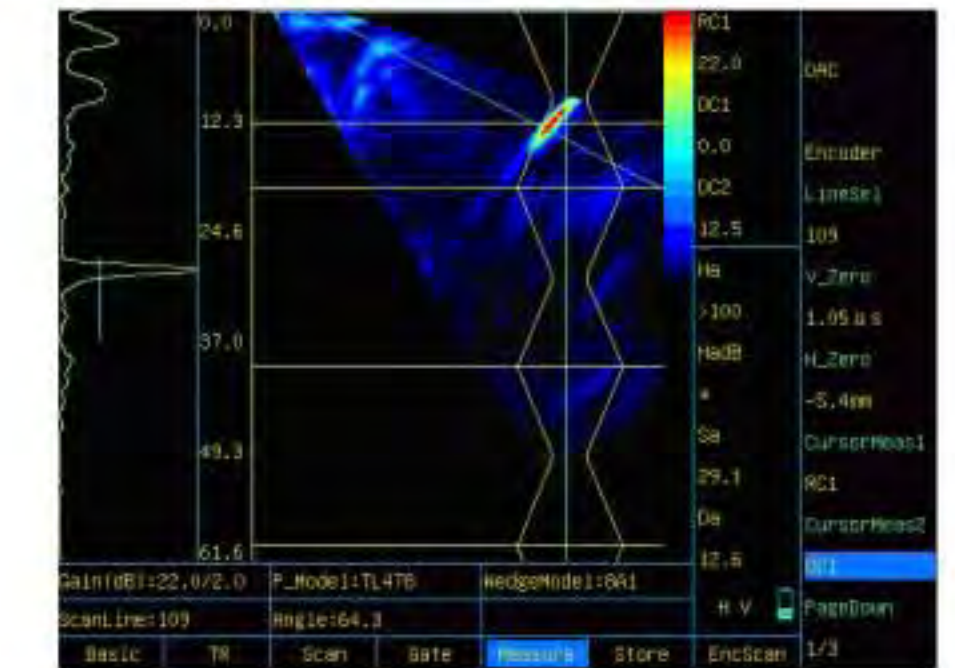


Application Examples

Slag defects on welding workpiece of 20mm thickness



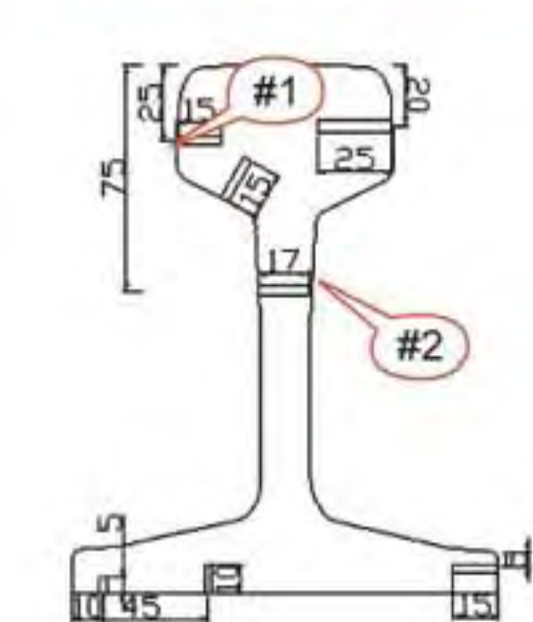
Butt welding on steel panel of 20mm thickness. The weld groove is in X shape



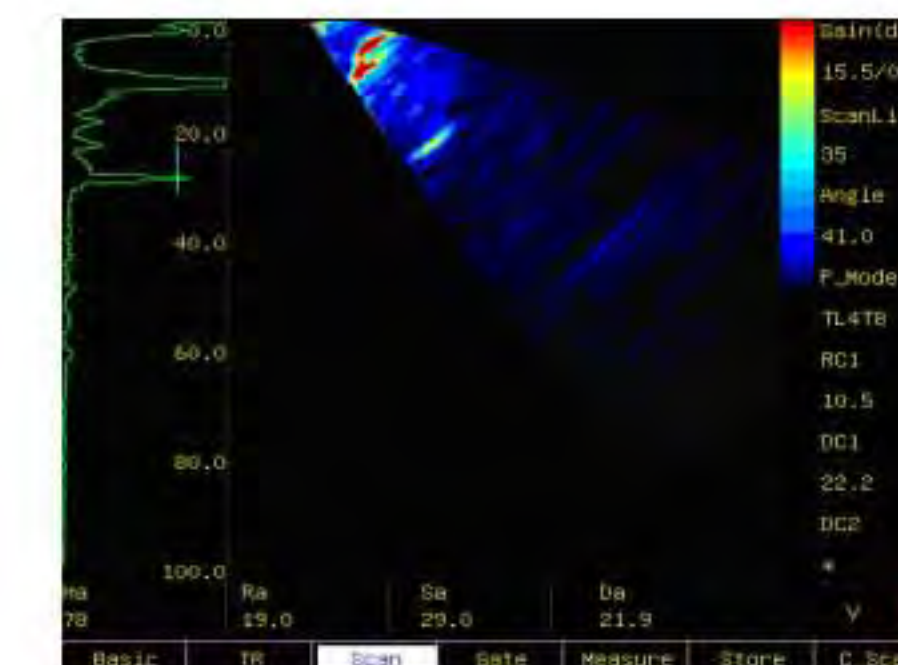
Gas pressure welding on rail



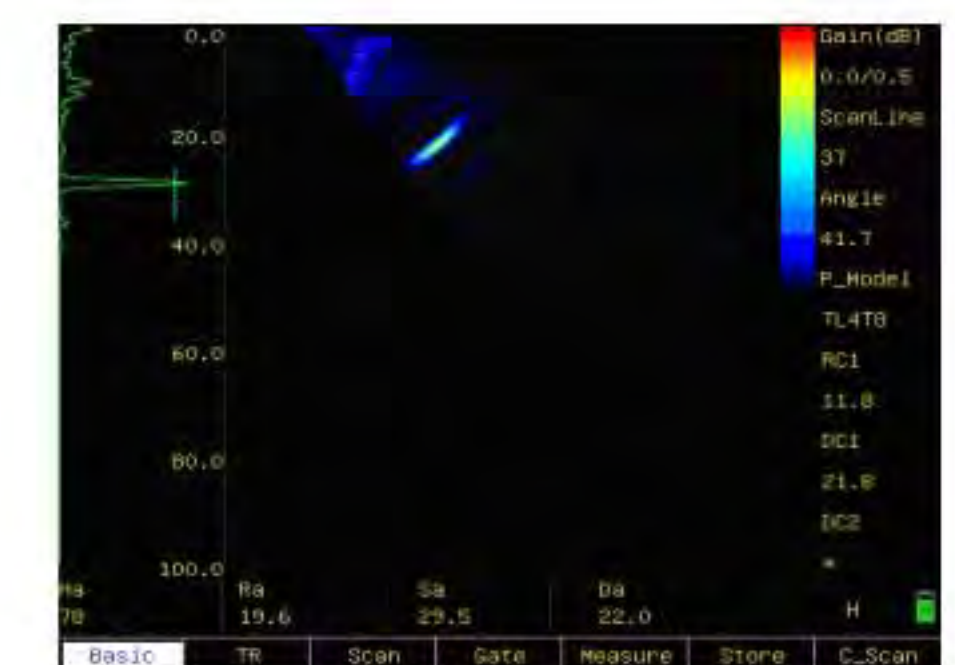
Defect marks on rail



Defect #1 and #2



Defect #1



Defect #2