Railscan 125+ - Full Specifications

GENERAL PHYSICAL CHARACTERISTICS	
Dimensions (W x H x D)	256 x 145 x 145 mm
Weight (with battery)	2.5 kg (5.5 lb.)
UT ports	1 TX/RX – 1 RX
UT Connectors	BNC only
Encoder	D-Sub 15 Connector
USB Connection	Internal storage shown as memory device
External Video/Buzzer	5 pin LEMO at the front
POWER AND CHARGING	
Battery Type	1 LI-ion battery pack, 14.8V nominal Capacity: 6.6 Ah
Maximum Power consumption	20 W (1.33 A at 15 V)
Operation	On battery
Battery Replacement	Yes – no tools required
Battery Recharge	Rechargeable in unit, and standalone charge using specified charger.
External Power	15Vdc supply
Battery Life	Typical 10.5 hours of continuous work
Charger	100-240V 50-60Hz
DISPLAY	
Type	LCD, TFT
Size	117 x 87 mm
Resolution	640 x 480 pixels (full VGA)
Ascan Area	Normal: 92.5 x 73 mm (510 x 402 pixels) Full: 116 x 77.5 mm (640 x 427 pixels)
Colours	8 colour options with variable brightness
Polarizer	Anti-glare
Backlight	LED
High Contrast Mode	Yes (sunlight readable)
Screen refresh rate	60Hz (NTSC only)
Maximum digitization frequency, no processing	200MHz (time resolution= 5nS)
Digitization frequency with processing	200 MHz (processing is by FPGA)
Digitizer vertical resolution	10 bits
Digital, Response time	Equal to 1/PRF
PULSER	
Pulser Type	Square Wave
Pulse Width (Square Wave)	Fixed 100ns
Pulse Voltage	Fixed 200V
PRF	Fixed 1KHz
Rise/Fall Time	<15nS into 50R load
Damping	Fixed 400 Ω
RECEIVER	
Gain range	0 to 110 dB

Maximum Input Voltage	Double probe: 13 Vpp (clamping level) Single probe:32 Vpp (clamping level)
Filters	2 selectable filter bands 2MHz (1.4MHz – 3MHz) 5MHz (3MHz – 8MHz)
Receiver Mode	Pulse-Echo, transmit/receive
Rectification	Fixed Full wave
Signal Reject Type	None, Suppressive, Linear
Signal Reject Level	0% to 80%
Smoothing	Off, Smooth and Fil
Reference A-Scan	Yes (live)
A-Scan %FSH Range	0% to 180% FSH (without suppressive reject)
Analog to Digital Conversion	10 bits per sample, 200 MHz sampling rate
System Linearity	Vertical = 0.5% Full Screen Height (FSH). Horizontal +-0.2% -0.5% Trace Full Screen Width (FSW). (dependent on range)
A-SCAN PRESENTATION	
A-Scan Trace	Thin, Thick Filled
Rulers	Vertical (%FSH) and horizontal (distance or time)
Grid Type	None, On, Solid, Sparse, 50% (dotted) , ½ skip)
Grid Alignment	Fixed (10 divisions)
Overlay Mode (Skips)	½ Skip and ½ Skip+
Zoom in Gate	Yes
Freeze	Yes – All measurements and gates remain active
A-Scan Capture	Yes – (full resolution, includes scan parameters and measurements)
GATES AND MEASUREMENTS	
Number of Gates	3 Gate 1 +ve triggering and Expand Gate 2 -ve triggering with 0.6s delay and Expand Gate 3 +ve and -ve triggering and Expand
IFT	Yes (Option)
Gate Measurements	4 measurement modes: Signal Monitor, Depth, Trigonometric, Gate to Gate
Gate Triggering	Peak, Flank, First Peak
Gate to Gate Measurements	Yes, all modes (Peak, Flank, First Peak)
Alarms	3
Alarm sources	G1, G2, G3.
Measurement Display	Live display and updates on screen 10 times per second
Thickness Logging	5mm pulse logging (Encoded thickness readings)
USER CALIBRATION	
Units	Metric (mm) and Imperial (in)
Auto Cal	2-point calibration, Zero, Velocity
Velocity	256 – 16000m/s
Range	1 to 20000 mm
Zero Offset (Probe Zero)	0 to 999.995 µs
Delay	0 to 9999 mm
Reset parameters at startup	Factory Option
MEMORY AND STORAGE	
Total Memory	4 GB
Thickness Logging with A-Scan	450,000 Panels, 200,000 A-Logs, 300,000 B-Charts, 440,000 T-Logs

Storage	
Alog AND Panel deletion after 24 hours	Only available on Standard (NR version)
ENVIRONMENTAL	
IP Rating	Designed to meet IP67
Vibration Tested	MIL-STD-810F, Method 514.5, Procedure I
Shock Tested	MIL-STD-810F, Method 516.5, Procedure I
Explosive Atmospheres	MIL-STD-810F, Method 511.5, Procedure I
Operating Temperature	-10 °C to 55 °C
Storage Temperature	-40 °C to 75 °C (Battery is -20 °C to 60 °C)

All above specifications subject to change without notice