

AFD860 Digital Ultrasonic Flaw Detector

Introduction

The AFD860 is an ultra-light handy UT instrument of outstanding performance.

Compatible with EN12668-1:2010. This instrument is mounted with TG TFT display of full WVGA (800x480 pixels) resolution for excelling visibility even used outdoors or in strong sunlight. Another amazing feature of this product is the “square wave drive” which realizes the user’s dream for best sensitivity and resolution. Moreover, it’s compatible with EN12668-1:2010, the popular instrumentation standards widely recognized in European and even the international market. Weighing only 0.9kg, this apparatus enables the user to carry it just like an on-hand tool for instant inspection task. All these distinct advantages make it superior as compared to its counterparts.

Highlights of AFD860

ultrasonic flaw detector

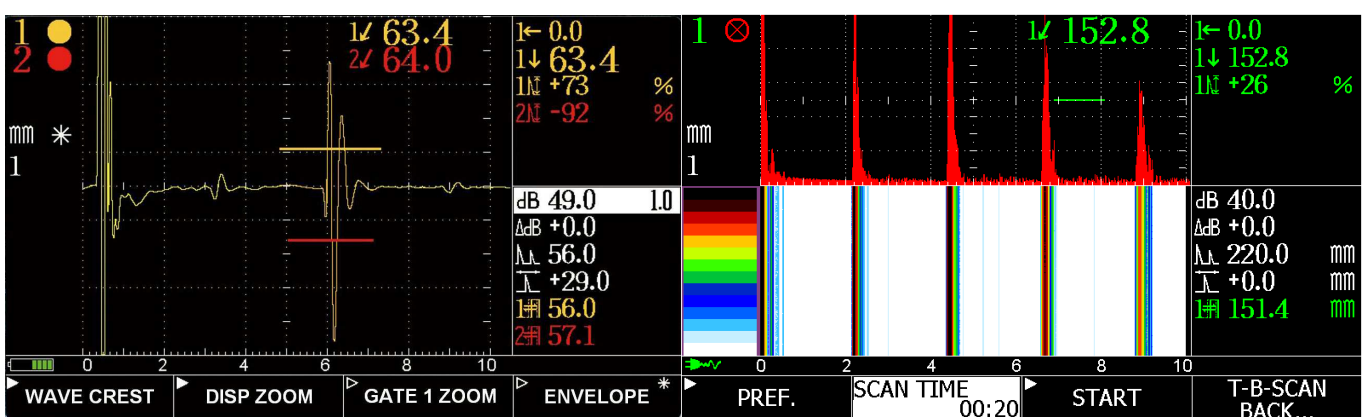
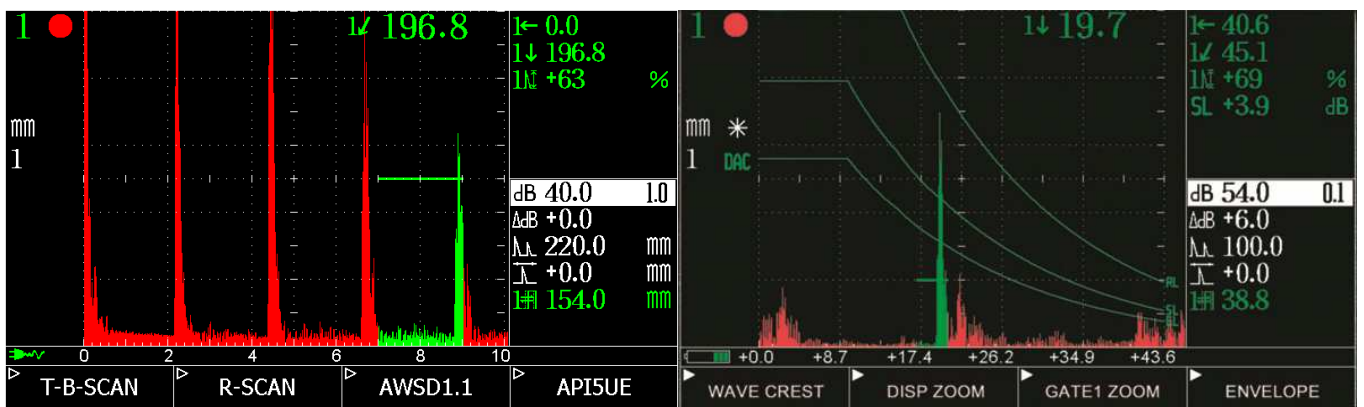
- Square Wave Drive
- 800X480 Pixels
- Curved Surface Consideration
- DGS & DAC functional Curve
- B-Scan
- RF Waveforming Mode
- Velocity/Delay/Angle Calibration
- Recording (1 Hour in Total)
- Echo Crest Tracking
- Enveloping (for Waveform Comparison)
- AWS D1.1 Evaluation Module



- API 5UE Evaluation Module
- Performance Indices Test
- 1000 Frames of A-scan Storage
- ComApp for PC Review and Report Print
- 0.9kg in Weight

Features

- Advanced circuitry, 640MHz sampling frequency and 800x480 full WVGA resolution assure quick and accurate display and analysis on defect signals even when the signals are weak.
- Using the advanced tunable square wave excitation technology, the AFD860 provides excellent penetration and high signal-to-noise ratio when detecting special composite materials, highly-attenuated or thick work-pieces.
- 4.3 inches display, set-in battery and charger, but only 0.9kg in weight which make it easy to operate and carry along.
- The design meets the standard of IP54 certification and compatible with EN12668:2000 standard.
- With full WVGA TFT display at industrial level, this instrument offers fine images at different angles.
- Optimized panel, user-friendly design for the menu, easy and fast to operate no matter you use the left hand or right hand. Various input modes, English/Chinese menu optional.
- Auto-calibration function including fast calibrating material velocity, probe delay and probe angle.
- Zoom function for in-gate waveform enables users to observe the waveform detail conveniently. Zoom function for waveform display area and optimized height-to-width rate of the screen ensure echo with higher resolution.
- DAC: Easy to make, correct, store and recall DAC.
- Built-in intelligent lithium battery charger. Power supplied by battery or AC mains and it can automatically display the power supply modes. Auto switch between “charge” and “work”.
- Long battery life of over 8 hours ensures your continuous work.
- External USB port for software updating, data transferring and printing and access to devices such as mouse, keyboard and U-disk.

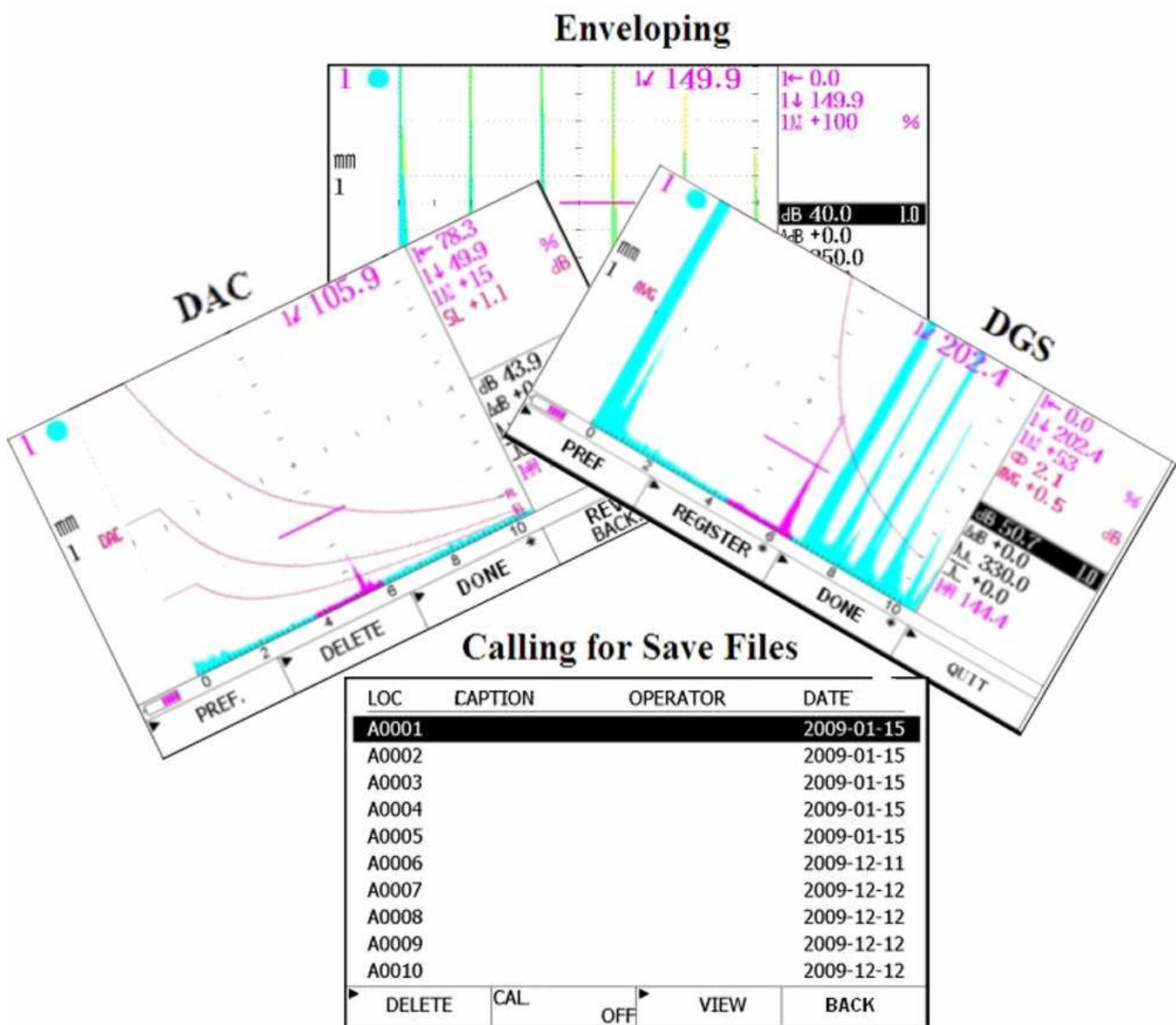




Specifications

Attenuator Error	Per 12dB \pm 1dB
Equivalent Input Noise	$<80 \times 10^{-9} \text{ V}/\sqrt{\text{HZ}^{\wedge}}$
Pulse Type	-Ve square wave pulse, Transmitter pulse voltage: 25~250V ; tunable with 25V per step Pulse Width: 30-1000ns tunable with 5ns per step, Auto/Manual
Working Modes	T/R ; T&R
Damping	400 / 80 Ohm
Working Frequency	Broadband / Narrowband Broadband: 0.5~20MHz; Narrowband: 1.5~3MHz
Gain	0.0~110.0 dB; Step: 0.1 / 1.0 / 2.0 / 6.0 dB
Material Velocity	1000~15000m/s tunable; Set-in 30 common material velocities as optional
Test Range	0.0~10000mm Longitudinal wave at steel velocity; Range continuously variable with minimum 0.1mm increments
Rectification	Positive wave, Negative wave, Full wave, RF
Gate & Alarm	Real-time alarm signal, positive and negative thresholds, minimum depth, DAC alarm optional
	Measuring mode: Select front edge or peak of pulse wave in gate
Display	TG, TFT 5.6 inch WVGA color display, resolution 800x480 Pixels
Pulse Shift	-7.5~3000 μ s
Probe Zero	0~999.9 μ s
PRF (Pulse Repetition Frequency)	25~800Hz, auto adaptation/manual adjustment
Vertical Linearity Error	\leq 3%
Horizontal Linearity Error	\leq 0.2%
Sensitivity Surplus	\geq 60dB (200 Φ 2 FBH)
Instrument Resolution	\geq 36dB (mated with 5MHz Φ 14 transducer)
Dynamic Range	\geq 32dB
Rejection	(0~90) %, without any dent to linearity or gain
NL (Electric Noise Level)	$<$ 10%
Ports	BNC/ LEMO
	USB HOST
Power Supply	Large-capacity Li battery(11.1V, 4400mAh) without memory effect; battery life: 8+ hrs;
	In-built battery charger; AC: 220V
Dust \ Splash \ Water Proof	IP54
UT Standards	Compatible with EN12668-1
Ambient Temperature	-30~50 $^{\circ}$ C
Relative Humidity	20%~95%
Weight	Around 0.9kg (with battery)
Dimension	Upper Part: 215mmx126mmx53mm
	Lower Part: 215mmx104mmx42mm

Advantages:



Square Wave Drive

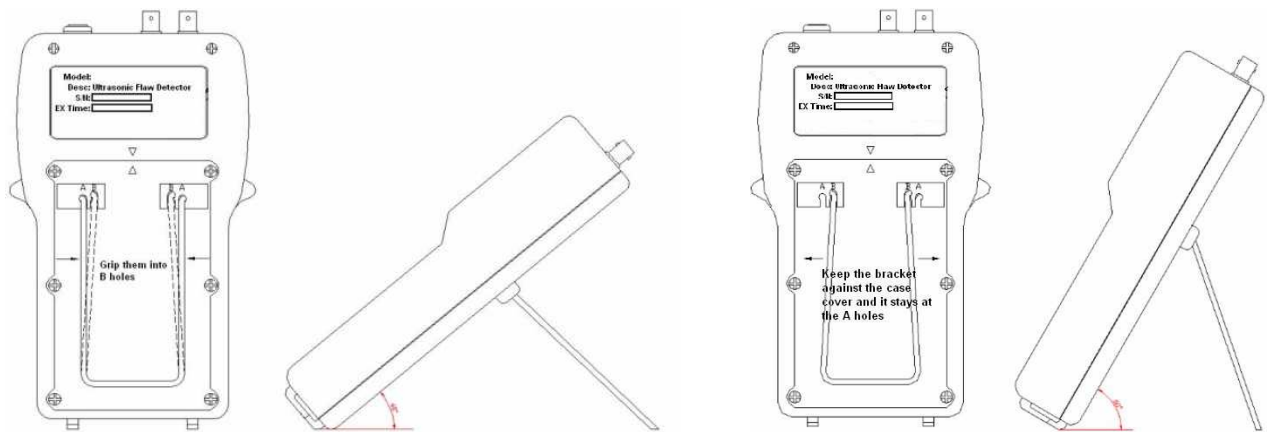
Higher Resolution



Higher Sensitivity



Movable Bracket



Standard Accessories:

No.	Item	Quantity
1	AFD860 Main Body	1
2	Straight Beam Probe: 2.5MHz, 20mm, BNC Connector	1
3	Angle Probe: 2.5MHz, 13x13mm, 45 Degree, BNC Connector	1
4	Echo Probe For Horizontal Linearity Calibration	1
5	Machine-probe Cable	2
6	Screw Driver	1
7	Power Adapter (Charger)	1
8	Power Cable	1
9	Rechargeable Battery	1
10	Sling Belt	1
11	Leather Sheath	1
12	Data Software for PC	1
13	Instrument Case	1
14	Manual	1
15	Guarantee Card	1
16	Packing List	1
17	Calibration Certificate	1

Accessories Image:

Straight, Angle, Echo Probe



Battery



Sling Belt



Leather Sheath



Power Adaptor



Screw Driver



Probe Cable



Power Cable



PC Data Software



Suit Case

