Ultrasonic Flaw Detector NOVOTEST UD3701

The Ultrasonic Flaw Detector NOVOTEST UD3701 is designed to detect internal defects, such as discontinuities and heterogeneities of materials in products and welds, determine coordinates and evaluate defect parameters, measure thickness and the velocity of propagation and attenuation of ultrasonic waves in the materials (metals, plastics, glass and etc.), the search for places of corrosion, cracks, internal delamination and other defects.
Ultrasonic Flaw Detector NOVOTEST UD3701 is a universal, powerful, functional, ergonomic and reliable device for solving tasks of ultrasonic flaw detection both in the laboratory and in the field.

The main advantages of the Ultrasonic Flaw Detector NOVOTEST UD3701 include:

BRIGHT TFT TOUCHSCREEN DISPLAY

Thanks to the **multi-touch screen**, the operator can easily move the gates and set the scan without using buttons and encoders. All functions for setting up and controlling the device can be carried out both through the touchscreen and in the classic way – using the keyboard. The TFT display of the device is very bright and contrasting with a resolution of 800×480 pixels, which allows users to get clear picture of the signals on the screen.

AVAILABILITY OF MANY USEFULL FUNCTIONS

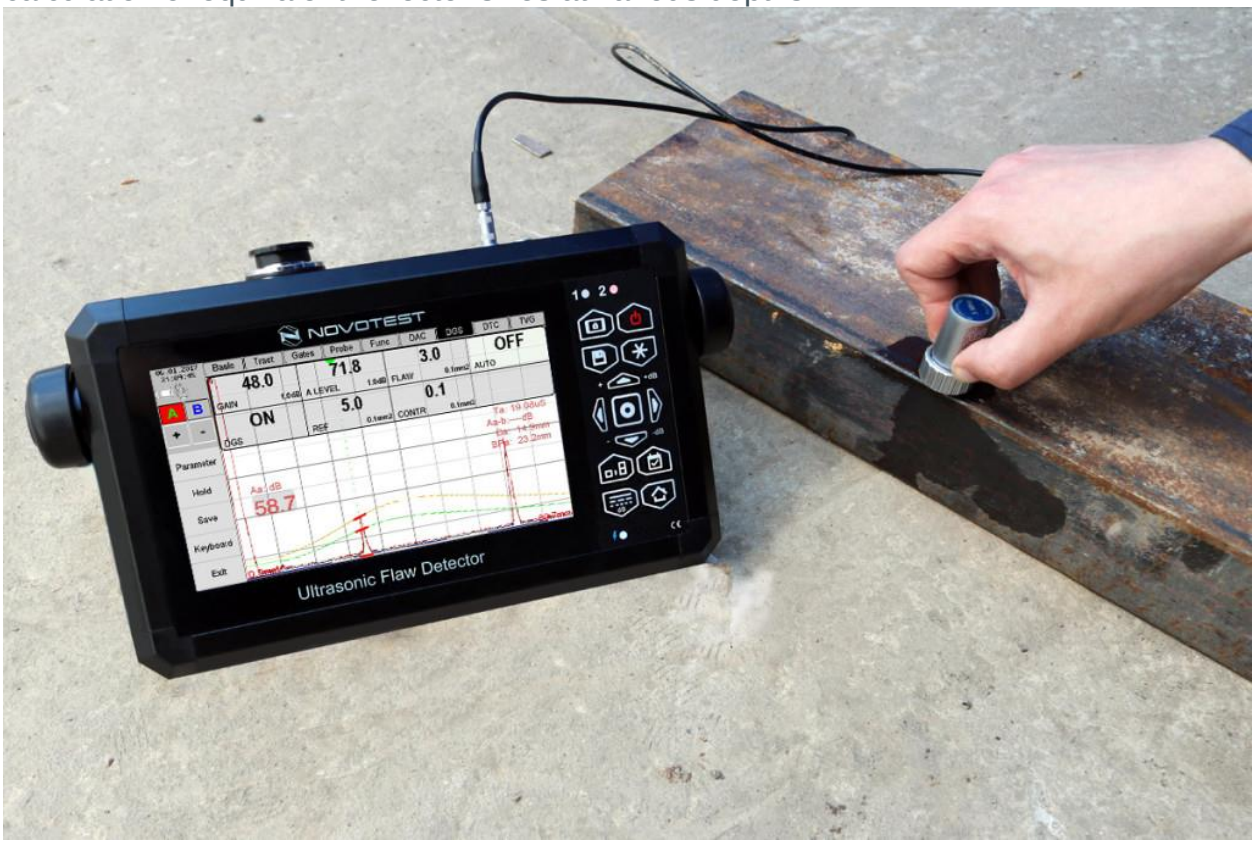
The envelope mode of the signal allows user to detect the maximum of signals, as well as get the envelope of the signal curve when scanning the reflector.
Auto zoom – the electronic magnifier mode allows operator to focus the scan on the selected gate by clicking just one key.

Fill function – designed to improve the perception of the image on the screen of the device. The A-Scan signal is filled with the color matching the color of the signal line.
Simulation of a measurement from a stored record in the instrument memory.
The presence of **movable blocks** of output of measured values, which allows the operator to arrange blocks of parameters at any place of the A-scan.

DAC & TVG
The Ultrasonic Flaw Detector NOVOTEST UD3701 has the ability to build and configure the Distance Amplitude Correction (DAC) and Time Varied Gain (TVG) functions, using up to 16 points, to estimate the size of the reflectors relative to the reference ones at different depths.

DGS CURVES

Using the DGS (Distance Gain Size) mode, the operator can configure the device according to the signal from the reference reflector, and then receive automatic calculation of equivalent reflector sizes at various depths.



COLOR SCHEMES

Ultrasonic Flaw Detector NOVOTEST UD3701 gives the operator full control over the color scheme of the device in the “FLAW DETECTOR” mode for more comfortable work. Also in the device there are two predefined color schemes: dark and light. This option allows the operator to choose the option of displaying information comfortable for the eyes both in a dark room and in bright sun.

AUTOMATIC DEFECT SIGNALING

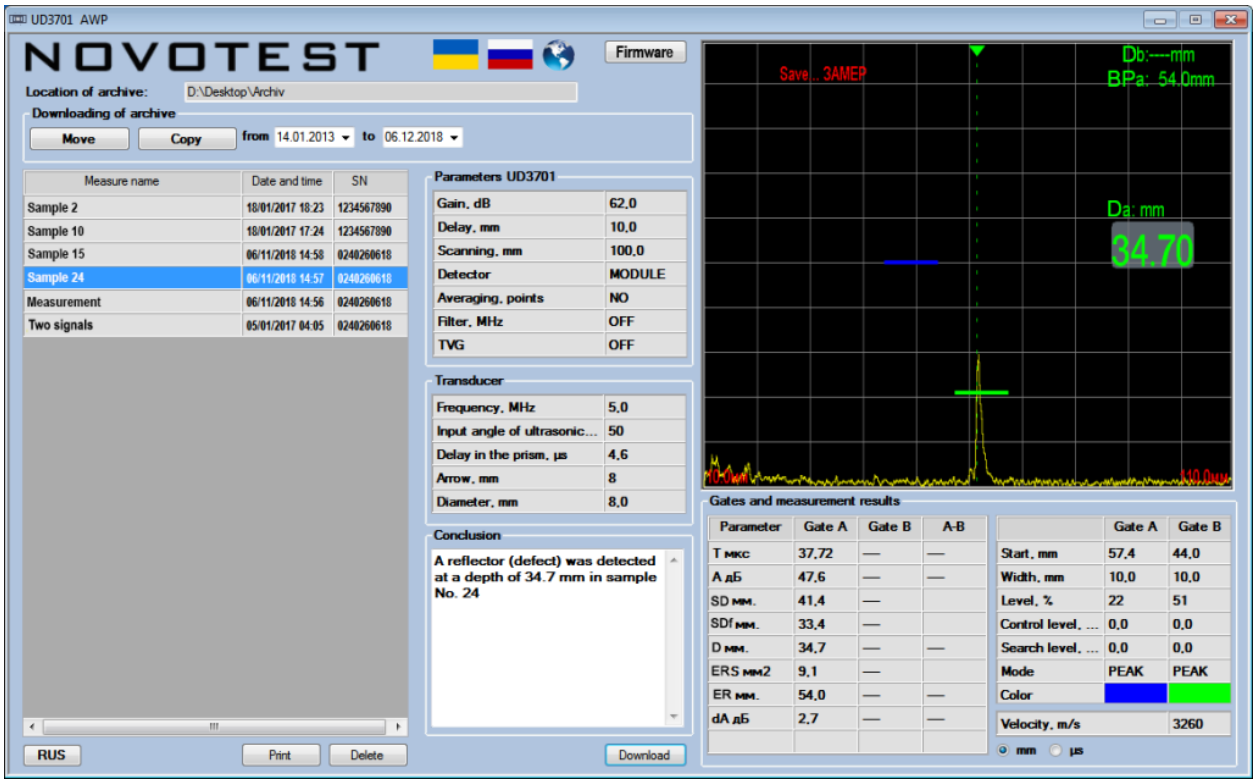
Using **two independent gates**, the operator can set the boundary parameters of the amplitude or distance (time) of the signals on the scan, which will indicate the presence of defects through sound and light indications. This allows the operator to scan the object without continuous monitoring of the display, which subsequently reduces the complexity of testing.

UNIVERSALITY OF APPLICATION

The device is ideally suited for performing ultrasound diagnostics in laboratory and workshop conditions, however, if necessary, it can be used in the field. To do this, we recommend to use of a special cover that protects the device from dirt and moisture, and also allows the operator to completely free his hands and easily testing of various products directly at the facility.

PC SOFTWARE & ARCHIVE

Using special software, the device allows user to transfer to the PC a previously saved measurement archive. Also in the device it is possible to save parameters and settings of tested objects and used probes.



Advantages:

- Advantages
  - Superbright, touch display with which it is comfortable to work outdoors on a sunny day;
  - Automatic calculation of the delay in the probe;
  - Frequency range from 0 to 10 MHz, with smooth adjustment;
  - Display of a scale of scanning in microseconds and millimeters;
  - The presence in the device of the operating mode of the DAC and TVG curves (up to 16 points);
  - The presence in the flaw detector of the DGS control mode, with automatic calculation of the equivalent reflector zone;
  - Carrying out settings both using the touch screen and by keyboard;
  - The presence of movable blocks of output of measured values, so it can be located in any part of the A-scan;
  - Archive of measurements, settings, probes with the ability to transfer data to a PC;
  - Simulation of a measurement from a stored record in the device memory.

- Specifications

Operating frequency range	from 1 to 10,0 MHz
Range of measured time intervals (duration of scanning)	from 6 to 1000 µs

Velocity range	1000 – 9999 m / s
Error of measurement of time intervals	not exceed ± 0,025 μs
Maximum permissible error of measurement of the amplitudes of the signals at the receiver input in the range from 0 to 110 dB	not exceed ± 0,5 dB
Testing gain range	125 dB
Averaging over the quantity of starts	from 1 to 16
Range of variation of temporal sensitivity adjustment (TVG)	40 dB
Number of control points TVG	16
Duration of the excitation pulse to the load	from 0,0 to 0,5 μs
Deviation of the amplitudes of input signals in the range from 10 to 100% of the screen height not more than	1 dB
Setting a delay in the prism of the probe	from 0 to 15 μs
Detection of signals	positive half-wave, radio mode
Measurement units	○ mm ○ μs (or inch by request)
Operating modes	○ Thickness gauge ○ Flaw detector: – Basic – DAC – TVG – DGS – DTC – AWS (by request)
Menu language	○ English ○ Russian ○ Turkish (by request) ○ Japanese (by request) *additional languages available by request
Standards	○ EN 12668 ○ ASTM E1324 ○ EN 55011 ○ EN61000-6-2:2001 ○ EN 61010-1:2014 (EN 61010-1:2010) ○ EN 60529:2014 ○ EN ISO 16810:2016

	○ SOU NNEC 027:2014 ○ SOU NNEC 032:2014 ○ SOU NNEC 038:2017
Dimensions (W*H*L)	140 mm x 210 mm x 55 mm
Weight, not more	1,5 kg
Package	Weight, not more – 4,5kg Dimensions – 40*25*9cm

- Available options
  - Additional UT-probes
  - Additional cables Lemo-Lemo
  - Charger
  - Bag for comfortable operating
  - Calibration blocks

- Standard package
  - Ultrasonic flaw detector
  - UT-probes – 2 pcs
  - Cable Lemo-Lemo – 1 pc
  - Charger
  - USB cable for PC connection
  - Operating manual
  - Case