

# ELOTEST PL500

**NEW:** Now featuring the  
QL500 high-end sorting module

## MultiLot

Multi-batch multi-frequency sorting with

## Bubble Gates

Self-learning free shape gates.

## RetroTeach

Retroactive modification of the sorting criteria  
by adding/removing good/bad parts.

## FastSort

Fast multi-channel sorting that determines the  
reversal point for free-falling parts.

## Sort 'n Crack

Simultaneous sorting and crack detection in  
random combinations.

**We define feasibility!**

**General**

The focus of the new instrument family is the fully digitized signal processing chain on the NF-side (after demodulation) with an extremely great bandwidth of 100 kHz and ultrafast multiplexing capability featuring a multiplexing rate of 32 kHz (probe to probe).  
The full dynamics of 96 dB (digital) across the frequency range from 10 Hz to 12 MHz speak for themselves.  
The display is something special, too:  
The display of an analog tube is simulated in a digital manner with adjustable persistence and so far unmatched definition and brilliance— simply the best analog display, if it wasn't digital and thus a low-key combination of traditionally proven and modern technology.

**Technical data for the basic unit**

- 4 slots for functional modules (may be upgraded to 16)
- Available module types:
  - Test channel module (may also be used as distance compensation)
  - Probe multiplex module
  - Fieldbus I/O-module (Profibus, Device Net etc.)
  - Parallel I/O-module
  - Triple counter module

**Screen display**

- Color TFT display, 800 x 480 pixel (WVGA), 229 mm (9") diagonally, 16:9 format
- Simultaneous display of up to 8 signals with a display rate of 250,000 signal dots per second for each channel (in real time)

**Test Channel Module**

- Frequency range**
- 10 Hz - 12 MHz
  - Driver output: +/-10 Vs; max. 300 mA
  - Internal mux
  - The external mux requires 1 slot

**Bandwidth useful signal**

- 100 kHz
- Fully digitized signal processing; featuring a digitizing rate of 250 kHz with a resolution of 2 x 16 bit

**Pre-amplification**

- -16.5 – 60 dB adjustable in 0.5 dB-increments

**Gain**

- -16 – 80 dB adjustable in 0.5 db-increments
- Additional 0 – 20 dB axis spread for the X- or the Y-axis

**Signal filter**

- HP/LP independently adjustable from 1 Hz to 100 kHz in 20 logarithmic steps per decade => a total of 100 filter steps

**Phasing**

- 0 – 359.9° in 0.5°-increments

**Real time gates for evaluation**

- 2 gates per channel; selectable mode X, Y, Box, circle, flattened circle

**Connection standard probes to the test channel module**

- 26-pin HD-Sub-connector to connect all probe types (Note: no rotor power supply for hand-held rotors)

**Input/output connector on the test channel module**

- 15 Pin HD-15-pin HD-Sub-connector; opto-decoupled
  - 4 x programmable gate outputs
  - 1 x test enable
  - 1 x synchronization input (counter, trigger)
  - 1 x multifunction output
  - 1 x error message

**Analog output**

- Max. ±10V amplitude

**General information on the instrument:**

<b>Housing data:</b> Housing IP30 protective system	<b>Dimensions</b> Width: 448.8 mm (19") Depth: 375 mm (14.1") + 35 mm (1.38") Height: 177 mm (4HU)	<b>Weight</b> (basic unit with one test channel): 10.5kg (23.15lbs)
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**Multiplex-Operation**

Two (2) types of multiplex operation are possible:  
**1. Parameter multiplex ("frequency multiplex")**  
In the test channel various parameters such as frequency, gain, phase, filter etc. may be set successively for one and the same probe during probe multiplex operation. Depending on the selected test frequency, the change-over frequency may be up to 32 kHz. The parameter-multiplex operation is a standard feature of the test instrument.

**2. Probe multiplex**

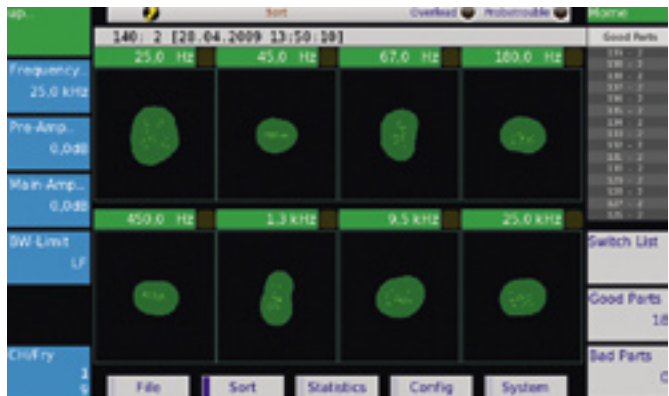
During probe-multiplex operation one and the same channel may be switched to several probes in rapid succession. Depending on the selected test frequency, the change-over frequency may also be up to 32 kHz.  
For the probe-multiplex operation at least one (1) probe-multiplex module (optional) will be required.

**Probe-multiplex module:**

- Available as internal plug-in module or external multiplexer box:
- Basic configuration: 8 each symmetrical (or earth-related) transmitter outputs and receiver inputs; may be upgraded for up to 32 transmitter outputs and receiver inputs
  - Internal module requires one slot plus one slot each:
    - Connector panel for 8 probes featuring 50-pin DSub-connector or
    - 8 slots each: connector panel for 8 probes with separate 26-pin HD-SUB connectors (customized connectors/connector panel upon request)
  - External module in IP65 featuring 8 separate 26-pin HD-SUB IP65 sockets; max. distance to the test channel 30 m (customized external multiplexer modules upon request)

**Q500 sorting channel module**

- Channel module for the automatic self-learning structural and sorting inspection using up to 8 channels.
- 8 time-multiplexed test frequencies from 10 Hz to 150 kHz
  - Fully digitized full-wave demodulator for the highest precision and stability
  - Determination of the inspection point in 1.5 waves trains per frequency
  - Self-learning "BubbleGate" evaluation gates
  - Guided learning from goods parts
  - Sorting of up to 8 good batches („MultiLot")
  - Retroactive teaching of good batches („RetroTeach")
  - Integrated interface and programmable driver logic for sorting switches and systems



Sorting mode "BubbleGate" in the new PL500-module