



## LCD Signature Tablets

3 Years Guarantee – also on sensor

Wacom signature tablets arrived on the market in 2007. Today hundreds of thousands of these devices are in use around the world. The initial spark for the development of this highly successful device category was based on a wish list from many customers in the financial industry. Excellent capturing quality and robustness ranks high on their list. Signature pads fulfill these requirements perfectly. They are built by the world market leader for pen tablets: Wacom.

Today signature tablets are being used not only in financial institutions across many countries but also in retail, insurance, telecommunication, furniture stores, government agencies (citizen service bureaus and car registration offices) and at many other workplaces. The advantages of Wacom signature pads are evident wherever signing documents are part of company procedure. This information sheet explains why you can rely on these types of signature pads in particular.

Numerous Wacom signature tablets have been in use since 2007. They still look almost like new although a hundred signatures or more per day are captured on these devices, some customers may sign with a ballpoint pen by mistake or even place sharp-edged rings on the surface. Signature tablets forgive even a fall to the ground because they have a protected and robust design. The outstanding practicality of the pads results from the use of electromagnetic resonance (EMR) technology. Wacom holds numerous patents for this technology.

### How signature tablets work.

Beneath the surface of the pad there are horizontally and vertically oriented antennas, changing within microseconds between transmission and reception mode. Electromagnetic waves enable the pad to determine the position of the pen using triangulation. An electromagnetic signal stimulates a resonant circuit comprising a coil and capacitor in the pen to oscillate.

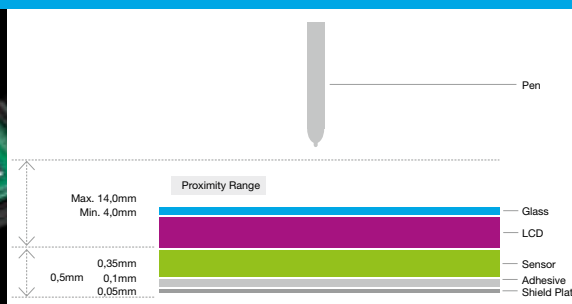
The resonant circuit behind the pen tip is driven by electric power from the tablet and serves as a transmitter. The received signal then passes through the modulator to the chip. The information from the pressure sensor (capacity) goes to the chip and from there they enter the modulator. This returns a signal to the resonant circuit in the tip which sends it back to the tablet.

### Comparison with alternative technologies

Alternative methods to electromagnetic resonance are based on touch response. With this technology, the sensor consists of a sandwich of two conductive coated plastic films. This sandwich makes up the top layer on the signature pad. The action of pressure changes the electrical resistance of the sandwich. The variation in distance between the two plastic layers allows for the detection of the pen location and pressure intensity. In comparison, signature tablets from Wacom offer significant advantages:

- More robust: signature tablets have a glass surface that is indestructible in proper usage scenarios.
- More ergonomic: The rest of the palm or fingers on the display of signature tablets does not generate any interference.
- More reliable: Linear and significantly more accurate capturing of biometric data of the signature.

See next page about the impact of these and other aspects in practice.





**Superior Wacom electromagnetic resonance (EMR) technology integrated underneath display**

As opposed to Wacom signature pads with EMR technology alternative pads with top layer sensor have a number of possible vulnerabilities:

- Brightness of the display can be diminished by the overlying sensor.
- Wear and tear from frequent signing may result in an unaesthetic (blunt and milky) display over time.
- Accidental signing with a ballpoint pen may damage sensor (thus, such accidents are usually excluded from the warranty).
- The replacement of a sensor takes more time and money than the replacement of a special pen. In practice, pens of signature tablets hardly get lost as they are usually attached to the signature tablet with a textile cord.

**Brilliant display**

- Detailed texts like terms and conditions are clear and easy to read thanks to its high resolution (STU-520: 800 x 480 pixels).
- Promotional photos are real eye-catchers with rich contrast.
- The entire display area is suitable for capturing signatures. Panels such as "Cancel" etc. may be overwritten, without causing it to malfunction.

**Error-free to apply**

Only intended data is recorded. Resting with the palm on the display does not interfere.

- Rings which touch the display do not trigger any malfunctions. There is no impact if a ring on the little finger or ring finger touches the "Cancel" button by accident.

**Familiar writing feel**

- Writing on the anti-glare surface feels like writing on paper.

**Natural signature image**

- The signature appears in "digital ink" without delay. Shortly before touching the surface for

writing, the pen sends initial signals accurately to the sensor layer and starts signature capturing exactly at touchdown. Positions can be distinguished to less than 0.1 mm.

- The extraordinary quality of the signature images surprises almost every first-time user: as most people are used to the mixed quality when capturing signatures on devices which are used by many courier services, they are excited about their signature image on signature tablets from Wacom.

**Conclusive data**

- Signature tablets calibrate on their own. Biometric signals of location, time and pressure are recorded accurately and in detail utilizing 512 evenly spread levels of pressure. If the authenticity of signatures is in doubt, forensic experts may examine meaningful data for in depth verification.

**Intelligent Solutions**

- Connects via standard USB port or thin clients. Signature tablets may also be integrated in terminal server environments.
- 1.5 m cable included for connection to the mini-USB socket on the signature tablets. The cable is also available in 3 and 5 m lengths.
- If a longer cable is required, it can be connected directly to the signature tablet. The direct connection eliminates errors that can arise by extension connections.
- A special locking device into the mini-USB connector provides a solid grip of the cable, so this connection to the signature tablet is protected from unplugging.

**Proven millions of times**

This technology is sold in the millions. In pen tablets by Wacom as well as in third-party products. Many Tablet PC manufacturers use this technology for their business range – for example Fujitsu, HP, Lenovo and Panasonic. In 2011, Samsung launched the first smartphone with this pen technology – the Galaxy Note.

