## PL-400

PL-400 is an input / output integrated device for a computer, using Wacom sensor with the erasing UltraPen and a 13.3 inch TFT color LCD monitor.

The tablet continuously transmits data to and from a UltraPen.
When transmitting, the tablet sends a signal to the UltraPen. The UltraPen stores energy from the signal.

When receiving, the UltraPen sends a signal that carries coordinate, switch, and pressure data back to the tablet. The tablet sends this data to the computer.

PL-400 provides a Pen computing.
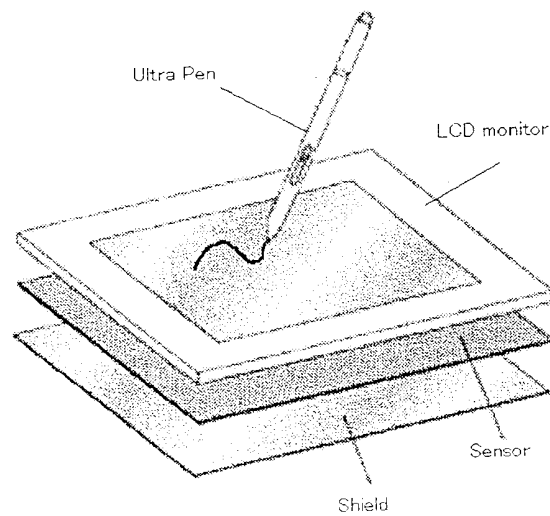
The intentionally radiated frequencies

The intentionally radiated frequencies are 531.25kHz, 562.50kHz and 593.75kHz. All the other frequencies are unintentionally radiated.

A. Antenna

The sensor board has two groups of multiple loop coils in X (horizontal) and Y (vertical) directions. Radio frequency energy is radiated from these coils.

Each coil is approximately 28.8mm wide and as long as the height, for the X-axis, and width, for the Y-axis, of the effective area of the tablet. Each coil consists of 2 turns (loops) of copper conductor.

B. Original oscillation frequency and intentionally radiated frequency

We make three (531.25kHz, 562.50kHz and 593.75kHz) intentionally radiated frequencies from the original oscillation frequency of 16MHz by ASIC (Gate Array W7003F).

C. Operation

The tablet looks for a pointing device, such as a stylus, by feeding electrical current of above-mentioned frequencies through the coils in both X axis and Y axis. The current fed through each coil is 140mA(TYP).

The tablet is able to detect the position of a pointing device because of the induction caused between the coil of the pointing device and two coils, one from X-axis and the other from Y-axis, of the sensor board.

D. Comment on pointing device

The pointing device operates completely passively and has no battery or active oscillator.