

Montblanc Operation outline

<Pen operation on Tablet>

- The touch sensor is usually built into the panel of Tablet.
- Pen ASIC is an IC that controls pen operations.
- The pressure sensor detects the load applied to the pen tip electrode as a capacitance.
- In active mode of Pen, the pen pressure level is calculated according to the pressure sensor capacity detected by ASIC.
- Pen information (pen pressure level, switch ON/OFF, etc.) is output from ASIC to the pen tip electrode at the carrier frequency corresponding to each operation mode.
- The pen tip electrode transmits pen signals to the touch sensor through capacitive coupling with the panel.
- The following methods are available as protocols for communication between the pen and Tablet.

AES / WGP / USI/ MPP/ AIT

<Sleep / Wake up>

- The pen will sleep when the following conditions are met.
 - Do nothing and let it sit for 10 minutes.
 - Press and hold 4 minutes the pen tip or side switch knob.
- In case of Sleep state of the pen,
when a movement is applied to the pen (such as picking up the pen), an internal accelerometer reacts and wakes the pen.

<Charging>

- The pen has a Li-ion battery inside.
- When the pen is held in place on the Tablet, wireless power is supplied using a NFC compatible method.
(The pen is held to the Tablet by built-in magnets.)

<Bluetooth>

- The pen has a built-in Bluetooth module.

<Haptics>

- The pen has a built-in Haptics module consists Haptics driver and actuator.
- Haptics is controlled by BLE module.
- Haptics feedback is based on the following information from ASIC and Bluetooth.
 - Pressure data
 - Velocity
 - Brush select
 - Notification of pen and system status