Operational description for Digitizer Model PTK-440, PTK-640, PTK-840, PTK-1240

The intentional radiated frequencies are 667kHz. All the other frequencies are unintentional radiated.

A. Antenna

The digitizer has two groups of multiple loop coils there are X(horizontal)-coordinates receiving coil, and Y(vertical)-coordinates coil.

Y-coil has both the receiving coil and the transmitting coil functions.

Radio frequency energy is emitted while Y-coil is functioning as a transmitting coil by the command of CPU.

X-coil and Y-coil is approximately 26mm wide and as long as the height, for the X-axis, and width, for the Y-axis, of the effective area of the digitizer. X-coil and Y-coil consists of 8 turn(loops) wired on the sensor board.

B. Original oscillation frequency and intentional radiated frequency

We make the 666.7kHz intentional radiated frequencies from the original oscillation frequency of 16.0MHz by G/A(Gate Array W4027F).

C.Operation

The digitizer looks for a pointing device, such as a stylus, by feeding electrical current of above-mentioned frequencies through the Y-coil which is functioning as a transmitting coil.

The coil prepared in the pointing device is excited with a transmitting coil, produces an induced current, and operates as a pointing device.

Y-coil is changed to receiving coil for reception by the command of CPU, and changes to the receiving state for the signal from the pointing device.

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

D. Comment on pointing device

The pointing device does not have battery and oscillator.