any modifier symbols being held down by the opposite hand. Step **812** records the time the key symbol is sent for future reference by decision diamond **808**. Processing then returns to step **770** to await the next proximity image scan.

[**0309**] Until the finger lifts off or another taps asynchronously, processing will pass through decision diamond **798** to check whether the key symbol should be sent again. Step **806** computes the symbol repeat interval dynamically to be inversely proportional to finger proximity. Thus the key will repeat faster as the finger is pressed on the surface harder or a larger part of the fingertip touches the surface. This also reduces the chance that the user will cause more repeats than intended since as finger proximity begins to drop during liftoff the repeat interval becomes much longer. Decision diamond **808** checks whether the dynamic repeat interval since the last typematic symbol send has elapsed, and if necessary sends the symbol again in **810** and updates the typematic send time stamp **812**.

[**0310**] It is desirable to let the users rest the other fingers back onto the surface after typematic has initiated **804** and while typematic continues, but the user must do so without tapping. Decision diamond **805** causes typematic to be canceled and the typematic element deleted **778** if the user asynchronously taps another finger on the surface as if trying to hit another key. If this does not occur, decision diamond **182** will eventually cause deletion of the typematic element when its finger lifts off.

[**0311**] The typing recognition process described above thus allows the multi-touch surface to ergonomically emulate both the typing and hand resting capabilities of a standard mechanical keyboard. Crisp taps or impulsive presses on the surface generate key symbols as soon as the finger is released or decision diamond **792** verifies the impulse has peaked, ensuring prompt feedback to the user. Fingers intended to rest on the surface generate no keys as long as they are members of a synchronized finger press or release subset or are placed on the surface gently and remain there along with other fingers for a second or two. Once resting, fingers can be lifted and tapped or impulsively pressed on the surface to generate key symbols without having to lift other resting fingers. Typematic is initiated ether by impulsively pressing and maintaining distinguishable force on a key, or by holding a finger on a key while other fingers on the hand are lifted. Glancing motions of single fingers as they tap key regions are easily tolerated since most cursor manipulation must be initiated by synchronized slides of two or more fingers.

[**0312**] Other embodiments of the invention will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. It is intended that the specification and examples be considered as exemplary only, with a true scope and spirit of the invention being indicated by the following claims.

1. A sensing device that is sensitive to changes in self-capacitance brought about by changes in proximity of a touch device to the sensing device, the sensing device comprising:

two electrical switching means connected together in series having a common node, an input node, and an output node;

a dielectric-covered sensing electrode connected to the common node between the two switching means;

a power supply providing an approximately constant voltage connected to the input node of the series-connected switching means;

an integrating capacitor to accumulate charge transferred during multiple consecutive switchings of the series connected switching means;

another switching means connected in parallel across the integrating capacitor to deplete its residual charge; and

a voltage-to-voltage translation device connected to the output node of the series-connected switching means which produces a voltage representative of the proximity of the touch device to the sensing device.

2-121. (canceled)

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