like, which surface usually functions capacitatively, and is perceptible thereon. It is also conceivable, however, for the piezoelectric layer to be applied to the touch-sensitive surface as long as it is thin enough and if it has been ensured that, apart from being transparent, said surface is also sufficiently deformable to transmit the mechanical command input to the interface that lies underneath.

[0011] A particularly useful embodiment of the invention makes provision for the piezoelectric layer itself to be used to input the command and generate the command signal. This is a piezoelectric layer as described above, which is capable of effecting a change of shape when actuated electrically, and which is equally capable however, of generating an electric signal when effecting a geometrical change in shape. That is, it is possible to generate an electric signal when the layer is touched and deformation results therefrom and in the next step to generate the haptic information at this position almost simultaneously, by actuating the layer electrically.

[0012] The haptically perceptible signal can be actuated in the form of one or a plurality of local mechanical impulses that are generated by a deformation of the piezoelectric layer. This means that the user receives one or a plurality of mechanical impulses resulting from the deformation of the layer that has been induced by the electrical actuation. He therefore feels an impulse-like vibration in his finger as it were. Alternatively, the option of a mechanical vibration is also conceivable, that is, the respective section of the layer is actuated at the corresponding frequency in order to generate the vibration.

[0013] The fact that a device that generates a haptic signal has been incorporated not only offers the opportunity of generating a haptically perceptible acknowledgement in the case of a successful command input. A useful embodiment of the invention makes provision for a haptically perceptible second signal to be provided via the electrically actuatable means before a sufficient touch has occurred, which signal informs the user of the activation of the local area of the screen for a command to be input. That is, the user thus receives information as to whether the area of the screen that he would like to actuate has been activated at all, that is, whether a command input is at all possible via said area. He is provided with a haptic signal indicating the general activation and thus the opportunity for command input, for example a vibration at very low frequency that he can perceive from a light touch. If he then carries out a command input at this position, he is given the first signal acknowledging successful command input, with the result that he realizes that the desired command has in fact been accepted. Said signal then, for example, has a frequency higher than the signal previously given, which indicated the general activation. Alternatively, it is also conceivable for the first and the second haptic signal to be achieved in the form of mechanical pulses that have different intensities. To provide information on general activation, there can be a very slight deformation, by 1/10 mm for example, whilst, to provide acknowledgement of the successful command input, the display can be actuated with perceptibly greater intensity to achieve a perceptibly more extensive mechanical deformation and thus a perceptibly more extensive mechanical impulse. This information is very important for visually impaired people for example, especially in association with the opportunity that is also provided according to the invention for the local area/areas of the user interface to be displayed three-dimensionally via the electrically actuatable means where a command input is fundamentally possible. Via the above option, control elements that the user can sense can be produced three-dimensionally. Associated with the option for providing a vibration signal or suchlike indicating that such a control element has been activated, the user thus has the option of detecting in a simple manner and with certainty that he is touching the correct control element and can make the correct input.

[0014] As described above, the screen according to the invention offers in particular the option of using it virtually "blind", after the user has received feedback as to whether he has actually input a command. Such commands can consist not only in the input of an individual command given via a simple single touch, but also in the manner that the corresponding position on the screen is pressed for the respective length of time in order to adjust or change a parameter or suchlike that is required for the control of a unit connected downstream or suchlike, for example, as a result of which, for example, the parameter changes, counting continually. In the case of the application described above, for the control of an x-ray machine, such a parameter that can be adjusted accordingly is for example the service voltage of the x-ray tube. Alternatively, a certain spatial position can be adopted, it being possible to adjust the x, y and z-coordinates via the screen. Now it can happen, that (insofar as said adjustment of the parameters is achieved more or less "blind") as a result of the duration of the period of activation of the screen surface section, the parameter has been changed to a region that is unacceptable, or the parameter has been changed up to the maximum or minimum limit. In order to also give the operator information relating thereto, a useful embodiment of the invention allows the duration and/or intensity of the first haptic signal that is created when the extent of touch is sufficient and thus when an electrical command signal is created to be varied as a function of the information content of the command input that has been given, in cases where the user interface is touched continuously. This means that if, for example, the user changes the parameter to a region that can be hazardous, he receives haptic information which is, for example, perceptibly more intensive than the usual haptically perceptible signal and which, in such a case, is created almost continuously, which information informs him that he is, for example, correctly raising or lowering the parameter. Likewise, the vibration frequency of the haptic signal can change perceptibly, such that the user will be informed accordingly. It is also conceivable for the haptic signal to be discontinued abruptly, which the user will likewise register immediately. The variation of the duration and/or intensity of the first haptic signal depends on the content of the information that is given via the continuous actuation, that is, it depends defacto on the parameter that has been adjusted temporarily and is liable to change, or on suchlike.

[0015] As has already been disclosed above, it is possible for control elements to be displayed three-dimensionally using the three-dimensionally deformable and electrically actuatable means such as the piezoelectric layer. In the above case, a display using input keys or "buttons" should be considered in the first instance. It is also possible, however, to display control or sliding elements, similar to the "scroll bars" that are known from conventional screen displays, with which it is possible to "browse" on conven-