United States Patent [19]

Meadows

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[54]	TOUCH PANEL	WITH	ADAF	TIVE	NOISE
	REDUCTION				-

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[21] Appl. No.: 455,892

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Related U.S. Application Data

[63] Continuation of Ser. No. 58,320, Jun. 4, 1987, abandoned.

[51]	Int. Cl. ⁵	G09G 5/00
[52]	U.S. Cl	340/712; 178/18;
		3/1/22

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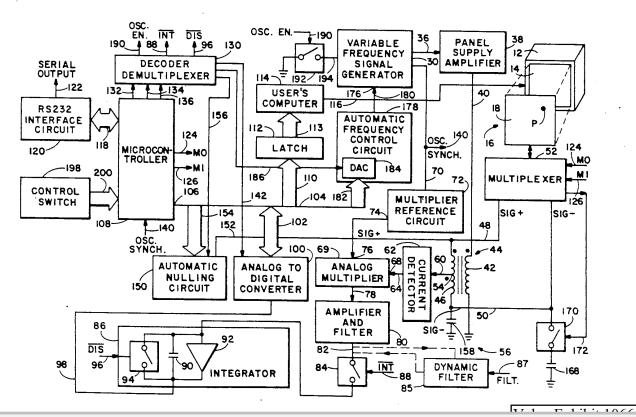
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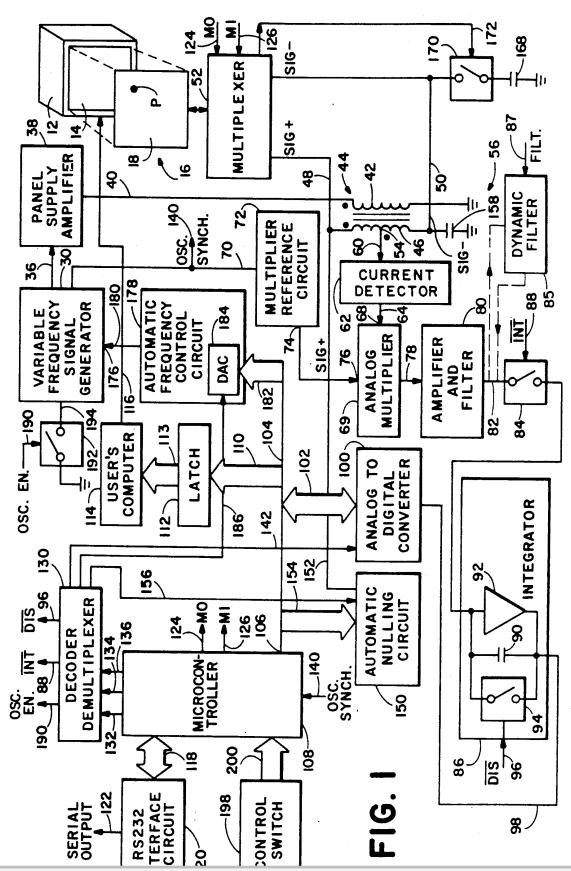
[57] ABSTRACT

A touch panel has panel scanning signals selectively applied to the four sides of a touch sensing surface of the panel so as to establish alternating current voltage gradients in desired directions across the touch sensing surface. When the panel is touched, touch signals result and are utilized by a touch location circuit in determining the location of touch. The impedance touch current resulting from a user's touch may also be determined and used. The touch panel circuit automatically filters the touch signals to an extent which varies depending upon the rate of movement of touch from one location on the touch sensing surface to a subsequent location. Filtering is decreased with the increasing rates of movement. The touch panel thereby minimizes the effects of noise on touch location determination.

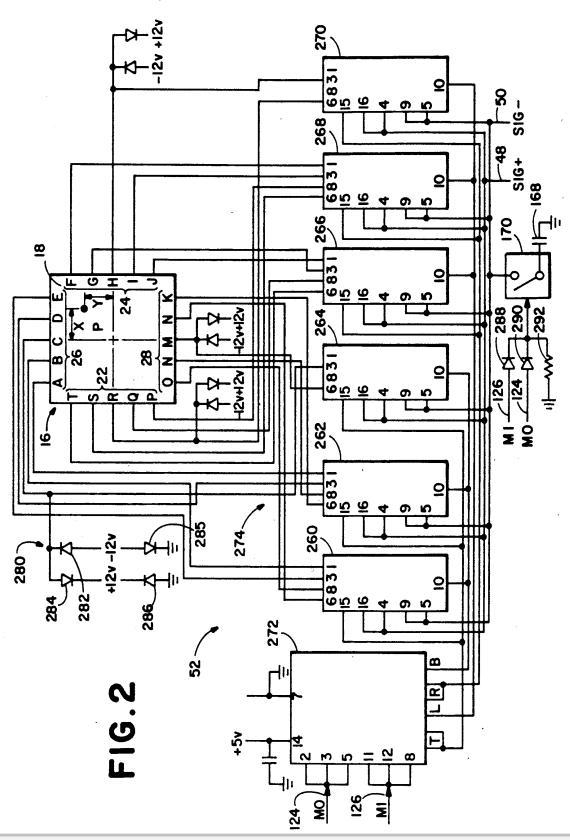
21 Claims, 12 Drawing Sheets



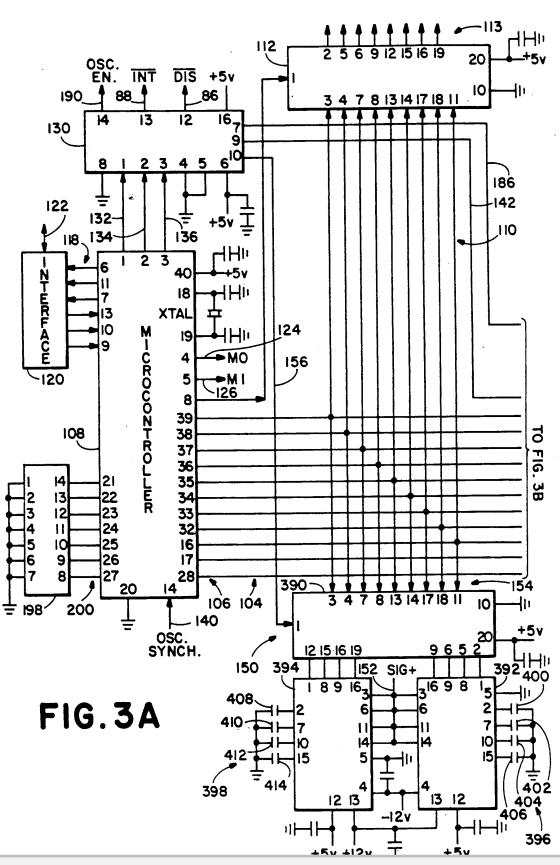
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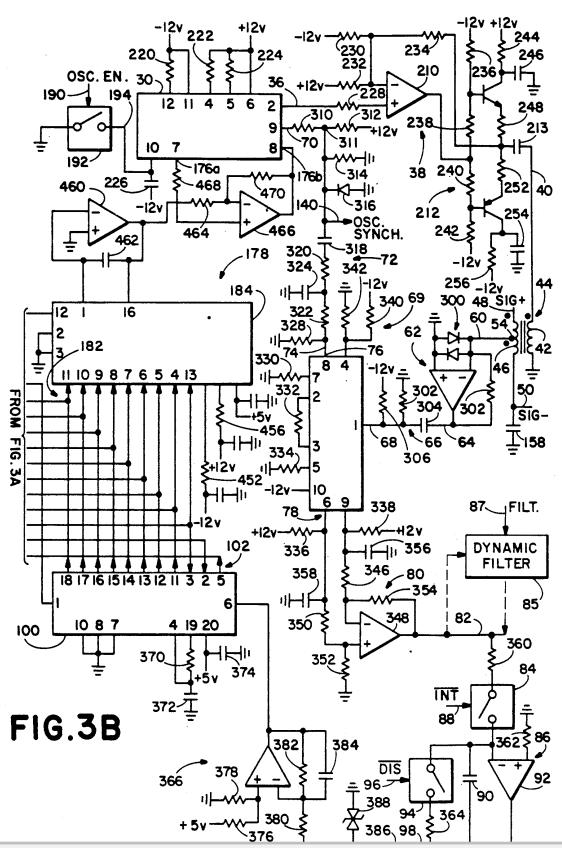














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