

US3781824: SOLID STATE CRASH RECORDER

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Field of Search:

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Legal Status:

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Abstract:

A solid state crash recorder in which various vehicle conditions such as acceleration and speed are continually monitored and converted into digital form with the magnitude of the conditions monitored being cyclically stored in a plurality of registers. Upon the sensing of a crash, the contents of a portion of the registers corresponding to certain vehicle conditions, such as speed and low level acceleration, are maintained so as to provide information relating to precrash conditions while information relating to other conditions, such as high acceleration, are continually fed to the remaining registers with the output thereof being routed, when a crash is sensed, to a memory circuit. In this manner, pre and post crash information relating to those conditions are memorized. Subsequently, the contents of the registers containing only precrash information are routed to the memory circuit which memorizes the precrash conditions represented thereby. When the contents of all the registers have been memorized in the memory circuit, the power supplied to the system is disabled

so as to prevent further inputs to the crash recorder.

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1. A vehicle crash recorder for recording pre and post crash information of a vehicle condition comprising: means responsive to the condition for generating a signal having a magnitude related thereto; means for sampling the magnitude of the signal at specified time intervals; means coupled to the last mentioned means and responsive to each sampling of the signal for generating a digital word comprised of a serial train of a predetermined number of bits representing the magnitude of the sampled signal; means for generating clocking pulses synchronized with the bits in the digital word; a shift register having a number of stages, the shift register being coupled to the means for generating a digital word and means for generating clocking pulses and responsive to the digital word and clocking pulses generated thereby for shifting the bits in the digital words into and out of each of the stages in sequence, the number of stages in the shift register being equal to the number of bits in a predetermined number of digital words; means responsive to a vehicle crash for generating a crash signal; and means coupled to the last mentioned means and the means for generating clocking pulses and responsive to the crash signal for inhibiting the means for generating clocking pulses after said means generates clocking pulses synchronized with the bits in a number of digital words other than the predetermined number of digital words whereby at least a portion of the digital words in the shift register prior to the crash signal provides information relating to precrash information of the vehicle condition and at least a portion of the words supplied to the shift register after the crash signal provides post-crash information of

This is a continuation-in-part of application Ser. No. 249,918, filed May 3, 1972, and assigned to the assignee of this invention.

Background/Summary:

This invention relates to a solid state crash recorder for memorizing pre and post crash conditions of a vehicle. Known crash recorders use systems whereby a recording medium is moved upon which information is recorded. In this manner, information existing prior to and during a crash, for example, may be memorized for subsequent review. It is the general object of this invention to provide for a vehicle crash recorder which does not utilize any moving parts.

It is another object of this invention to provide for an all solid state crash recorder for monitoring pre and post crash conditions of a vehicle.