THE USE OF MICROPROCESSORS IN AUTOMATIC TRAIN OPERATION

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A speed calculating automatic train operating system is being developed by British Railways Board. The usage of microprocessors within this system is described. Particular reference is made to the problem of failure to safety and availability and how these are met by the use of a two out of three system.

The operational benefits attributable to the usage of a speed calculating automatic train operating system have hitherto proved difficult to justify due to the associated costs, size and reliability of the trainborne equipment.

The rapid development of microprocessor techniques is now allowing such systems to become viable. Unprocessed system data can be transmitted, validated and rapidly processed on the train. Special care must, however, be taken during the design process to ensure that adequate levels of system safety and availability are achieved.

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