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TITLE: Time Division Multiple Access
without a Bus Master

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- Patent
- Videotape
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- Memo
- Proposal
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ABSTRACT (Must contain unrestricted information): _____

Time Division Multiple Access (TDMA) protocols have the potential to provide simple but effective broadcast bus communications for embedded systems. However, bus-master based protocols such as TDMA can be undesirable in practice because the bus master node constitutes a single-point failure vulnerability and adds to system expense. We present the Jam-TDMA (J-TDMA) protocol, which eliminates the need for having a bus master through the use of a nondestructive jamming signal for frame synchronization. We give a detailed description of the J-TDMA protocol and show how to minimize the effects of speed differences among nodes on TDMA systems, which can be critical for low-cost implementations. We believe that J-TDMA reaps the benefits of TDMA protocols without suffering the reliability and system complexity drawbacks of other TDMA methods.