



**Minuteman I computer  
uses discrete components**

weight -- 62 pounds

volume -- 1.5 cu ft

No. of circuit boards -- 75

No. of components -- 14,711

Memory -- 2,944 words

**Minuteman II computer  
uses TI integrated circuits**

weight -- 32 pounds

volume -- 0.4 cu ft

No. of circuit boards -- 25

No. of components -- 5,126

Memory -- 6,966 words



# See the difference in Minuteman computers

**TI integrated circuits help make Autonetics' D37B computer for the Air Force Minuteman II smaller, lighter and more reliable . . . with more than twice the operational capacity of its predecessor. These "Minuteman series" integrated circuits are now available for your designs.**

You can see many differences between the two computers at left, but the biggest difference — reliability — doesn't show in the photograph. Autonetics division of North American Aviation, Inc., the Air Force's prime contractor for Minuteman II's guidance and control system, estimates that the new computer will be several times more reliable than that for Minuteman I.

TI's experience with integrated circuits since 1958 has developed the special technologies, the advanced packaging concepts, and the volume production capabilities which made this new D37B computer possible. Working with Autonetics' designers, TI produced custom **SOLID CIRCUIT**® semiconductor networks for logic, input/output and memory functions which account for 90 per cent of the computer's electronics. The new computer has more than double the capacity of its predecessor . . . yet is considerably smaller and lighter in weight than the computer for Minuteman I.

Also, despite its larger operational capacity, the Minuteman II computer's assembly is simpler. It contains only about a third as many components and soldered connections are significantly reduced compared to the earlier model. Since connections are the least reliable parts of most equipments, reliability increases greatly when connections are reduced.

TI "Minuteman series" integrated circuits provide additional reliability benefits, since they incorporate two or more circuits in a single silicon block for *further* reduction of components and connections.

Greater system simplicity also opens the way to cost reduction. Material, inventory and assembly costs can be drastically reduced. Here again, "Minuteman series" semiconductor networks from TI offer special advantages over conventional integrated circuits: First, multi-circuit networks minimize parts requirements. Second, since most of the TI circuits are designed for several different applications in Minuteman II, the variety of circuits which must be inventoried can be substantially reduced.

For your new systems, TI offers the experience and capabilities which helped make possible the Minuteman II computer . . . as well as the inertial platform and flight control electronics, that also include large numbers of TI integrated circuits. TI engineers are ready today to help you apply specially designed integrated circuits to your unique problems.

Also, for your immediate applications, TI has made available a large number of standard catalog circuits which are production-proved and ready for use. The new "Minuteman series," for example, is now widely available to industry and includes 18 networks — logic, memory, input/output, and linear — which are functionally compatible and can perform 75 to 95 per cent of the circuit functions in a military general-purpose computer.

Ask your TI sales engineer or your authorized TI distributor for data sheets, or write to Integrated Circuits department (443), Dallas.

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