

Super Caps

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USE OF SUPER CAPS WITH TRIMBLE EMBEDDED GPS RECEIVERS

The Components Technology Division of Trimble does not recommend the use of super capacitors for battery backup. The reason for this recommendation is because of the power dissipation characteristics of the super capacitor. The super capacitor will not last nearly as long as batteries. The real time clock draws more current than the ram memory in the embedded product design, and this disparity means that when the super cap starts losing power then the satellite information that has been retained in memory could be valid and the real time clock could be bad. This will cause a condition where when main power is applied; the receiver will be in a state where it will not be able to lock on to satellites even though it has a valid almanac and ephemeris. The only way to recover from this is to do a cold start. Batteries last a lot longer and the chances of getting into this state are much reduced. Super caps are good for hours whereas batteries are good for years.



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