

Re: How inaccurate is a 555 or 7555 REALLY?

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- *From:* bill.sloman@xxxxxxxx
 - *Date:* 2 Dec 2006 21:02:32 -0800
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WildIrish wrote:

.002% would be good enough for me.... but i don't know where to find examples on making a tiny quartz crystal divide down to 420hz in a tiny package (I don't have more than about 3/4" box to fit things into.) or any other component oscillators that can reach 420hz with the least number of components.

Any basic circuit diagrams online that someone can point me to would be greatly appreciated! Sine wave output preferred, but I think square will do if that ads complexity (I bet it would). Again please remember I'm a novice with minor experience :)

32768Hz divided by 78 gives you 420.103Hz, which is 0.0244%.

That is a seven bit divider – which you can set up with a single 74HCT40104

<http://www.ortodoxism.ro/datasheets/philips/74HCT40103D.pdf>

which is available in a 10mm by 6.2mm surface mount package – rather smaller than your 19mm square target space

10MHz divided by 23810 gives you 419.992Hz which is rather better.

If you poke around the standard crystals available off the shelf from a broadline supplier like Farnell you should be able to find something gets you closer to 420Hz – 10MHz is pretty much the the worst possible place to start.

Dividing by 23810 calls for a 15-bit divider – two 74HCT40103 parts in series, or a single programmable logic part which you would be able to find in a 44-pin square package – the first example I came up with occupied a 12mm square., which is about the same as a pair of surface

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mount 40103 parts. Phil Alison should be able to show me up by finding something smaller.

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