## To generate baud rate 250,000 bps:

Select a proper baud rate which is closer to your requirement. In this example: select 230,400bps, divisor is 4 (high-speed). Then compute the Crystal Clock depending on the desired baud rate.

250,000 * 16 * 4 (high-speed-mode divisor) = 16,000,000 = 16MHz crystal

So, when you using a 16MHz crystal and selecting the baud rate 230,400 bps in your software setting, driver will select the proper divisor 4 (for 16MHz Crystal), and the UART will get the clock 16x of 250kbps. The hardware will then generate baud rate 250kbps actually. (Software setting is 230.4kbps, but the hardware is working on 250kbps)

**Note: The multi-port serial cards can have a special baud rate in OEM version. Please contact us for more information regarding the OEM products.**



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**Warning:** The baud rates higher than 115,200 bps are not guaranteed to work.

### Baud Rates Divisor with Using a 14.7456-MHz Crystal

(High-Speed Mode in VXC Cards)

| DESIRED BAUD RATE | DIVISOR USED TO GENERATE 16× CLOCK | PERCENT (%) ERROR |
|---|---|---|
| **115200** | **8** | |
| 131660 | 7 | 0.002 |
| 131657 | 7 | 0.0001 |
| 153600 | 6 | |
| 184320 | 5 | |
| **230400** | **4** | |
| 307200 | 3 | |
| 460800 | 2 | |

When setting baud rate, the VXC card driver selects a proper divisor for the UART to use a 16x clock of baud rate.

Divisor = Crystal Clock / 16 / Baud Rate

Crystal Clock = Baud Rate * 16 * Divisor

## To generate baud rate 125,000 bps:

Select a proper baud rate which is closer to your requirement. In this example: select 115,200bps, divisor is 1 (low-speed) or divisor is 8 (high-speed). Then compute the Crystal Clock depending on the desired baud rate.

125,000 * 16 * 1 (low-speed-mode divisor) = 2,000,000 = 2MHz crystal

125,000 * 16 * 8 (high-speed-mode divisor) = 16,000,000 = 16MHz crystal

So, when you use a 2MHz or 16MHz crystal and selecting the baud rate 115,200 bps in your software setting, driver will select the proper divisor 1 (for 2MHz Crystal) or 8 (for 16MHz Crystal), and the UART will get the clock 16x of 125kbps. The hardware will then generate baud rate 125kbps actually. (Software setting is 115.2kbps, but the hardware is working on 125kbps)

**Warning:** The baud rates higher than 115,200 bps are not guaranteed to work.



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# Programmable Baud Rate for VXC Series Cards

This document is available for **VXC-112A, VXC-142, VXC-142i** and **VXC-182i** cards.

### Baud Rates Divisor with Using a 1.8432-MHz Crystal

(Low-Speed Mode in VXC Cards)

| DESIRED BAUD RATE | DIVISOR USED TO GENERATE 16× CLOCK | PERCENT (%) ERROR |
|---|---|---|
| 50 | 2304 | |
| 75 | 1536 | |
| 110 | 1047 | 0.026 |
| 150 | 768 | |
| 300 | 384 | |
| 600 | 192 | |
| **1200** | **96** | |
| 1280 | 90 | |
| 1440 | 80 | |
| 1920 | 60 | |
| 2304 | 50 | |
| **2400** | **48** | |
| 2560 | 45 | |
| 2880 | 40 | |
| 3200 | 36 | |
| 3600 | 32 | |
| 3840 | 30 | |
| 4608 | 25 | |
| **4800** | **24** | |
| 5760 | 20 | |
| 6400 | 18 | |
| 7200 | 16 | |
| 7680 | 15 | |
| **9600** | **12** | |
| 11520 | 10 | |
| 12800 | 9 | |
| 14400 | 8 | |
| 16457 | 7 | 0.0009 |
| **19200** | **6** | |
| 23040 | 5 | |
| 28800 | 4 | |
| **38400** | **3** | |
| 56000 | 2 | 2.86 |
| **57600** | **2** | |
| **115200** | **1** | |



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