

# RS232 Driver Primer

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Not all RS232 Driver Chips are the same. This article will take you through a few of the RS232 driver chips from different manufactures.

Have you ever wanted to connect a microcontroller up to a PC serial port. One way to do it is to use a RS232 driver.

The MAXIM MAX232 seems to be the defacto standard for all these drivers but I have found that not all drivers are created equal. I'm going to talk about the data throughput and required external components.

I'm going to compare 4 driver chips.



MAX202CPE by MAXIM



MAX232CPE by MAXIM

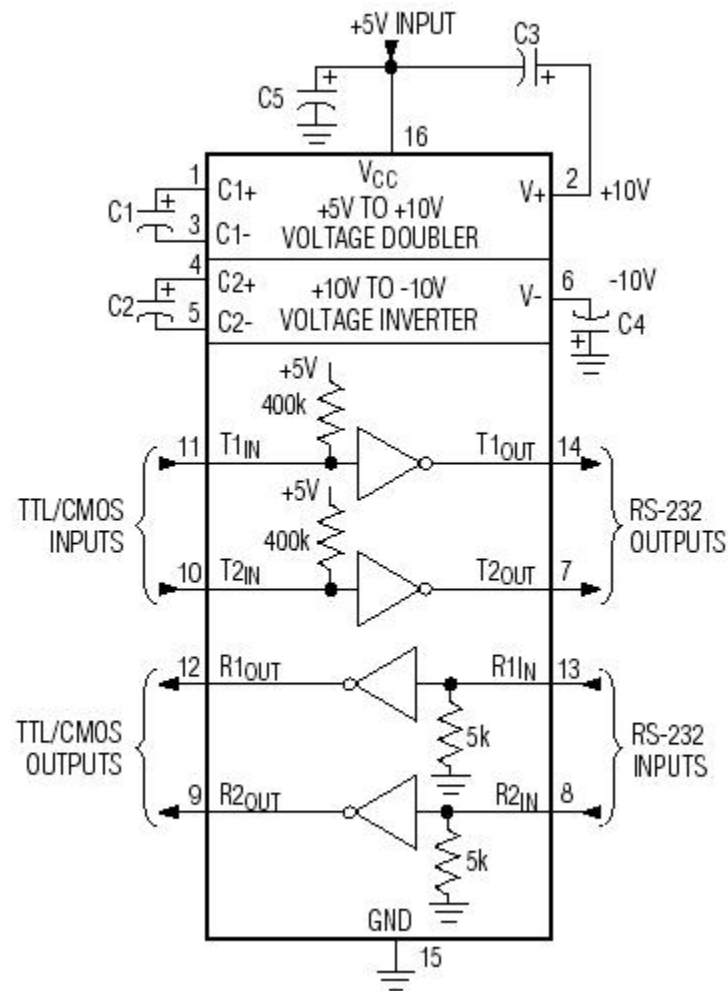


SP232ACP by SIPEX



ST232CN by ST MICROELECTRONICS

For all the chip we will use the following schematic. The actual values of the capacitors will change depending on which chip is used.



Lets look at the speed and cap values of each chip.

Chip	Max Speed	Caps values	Cost
MAX232CPE	120Kbps	1uf	Medium
MAX202CPE	64Kbps	.1uf	High
SP232ACP	120Kbps	1uf	low
ST232CN	220Kbps	Ether .1 and 1uf	low

## Personal observations

### MAX232CPE

I have used this chip widely but have found that when the data through put in some situations do not work at 115K baud. This chip is not suitable for Dios Programming.

### **MAX202CPE**

The ability to use .1 caps is nice but the low data throughput and high cost makes it a bad choice for most applications. This chip is not suitable for Dios Programming.

### **SP232ACP**

This is a good all-round chip. It is often substituted by resellers for the MAX232CPE. Jameco for one does this substitution. This chip is cheaper than the MAX232CPE and also works very well at 115K baud. I have also used .1uf caps with this chip with good results. This chip is suitable for Dios programming.

### **ST232CN**

This is my favorite chip. It is hard to find but its worth the effort. It supports almost twice the bit rate of all the other chips. Can be used with both 1uf and .1uf caps and is a very forgiving chip. This chip is suitable for Dios programming.

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### **Related Products**

[MAX232CPE](#)

[MAX202CPE](#)

[ST232N](#)

[Easy RS232 Driver](#)

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