

Disabling the Receiver

Compared with the transmitter, the receiver prohibits immediate. Is receiving data will be lost. Disabling the Receiver (RXEN When cleared), the receiver will not take up RxD Pin, the receive buffer will be flushed.

Receiving asynchronous data

USART A clock recovery and a data recovery unit for handling asynchronous data reception. Synchronization logic for clock recovery from RxD Baud clock pin and the interior of the asynchronous serial data. The data recovery logic used for data acquisition, filtering and each one of the input data through a low pass filter to improve the noise performance of the receiver. Asynchronous Receiver operating range depends on the accuracy of the internal clock of the baud rate of the input frame data bits and one contains.

Asynchronous Operational Range

The working range of the receiver depends on the degree of mismatch between the received data with the internal baud rate. If the transmission is too fast or too slow in bit rate data transmission, the receiver or internally generated baud rate is not the same frequency, the receiver can not be synchronized with the start bit. In order to ensure that the receiver will not miss the start bit of the next frame of samples, the input data and the internal receiver baud rate is not much difference, the ratio between them with a margin of error will be described baud rate. The following two tables are given the maximum baud rate error range in the normal mode and the permissible speed mode.

In normal mode the maximum error range of the receiver baud

Data bits + parity length and The maximum	error range (%)	Recommended error range (%)
5	+ 6.7 / -6.8	± 3.0
6	+ 5.8 / -5.9	± 2.5
7	+ 5.1 / -5.2	± 2.0
8	+ 4.6 / -4.5	± 3.0
9	+ 4.1 / -4.2	± 1.5
10	+ 3.8 / -3.8	± 1.5

The maximum reception speed mode Baud Rate Error

Data bits + parity length and The maximum	error range (%)	Recommended error range (%)
5	+ 5.7 / -5.9	± 2.5
6	+ 4.9 / -5.1	± 2.0
7	+ 4.4 / -4.5	± 1.5
8	+ 3.9 / -4.0	± 1.5
9	+ 3.5 / -3.6	± 1.0
10	+ 3.2 / -3.3	± 1.0

As can be seen from the table, the normal mode the baud rate allows a greater range of variation. The recommendations of the baud rate error range is assumed premise receiver and transmitter equally divides the maximum total error derived. There are two possible reasons for the receiver baud rate error. First, the stability of the system clock of the receiver operating voltage and temperature. This is generally not a problem when using a crystal to generate the system clock, but when using the internal oscillator, the system clock may be biased. The second reason is not necessarily the baud rate generator by dividing the system clock to obtain exactly the desired baud rate. At this point you can adjust UBRR Value, such low error can be accepted.