Example 1

How long will it take to transmit a high-resolution screen (1280 x 1024, True 16-bit color), using asynchronous serial communication? Assume 1 start bit, 1 stop bit, 7 data bits, 1 parity bit and 33.6 Kbps.

Determine the **protocol** and **channel efficiency** of this scheme.

Example 2

Assume that you want to send a stream of 7-bit ASCII characters over a 33.6 Kbps communication channel.

The system uses the following protocol:

- 8 bit characters
- 12 control characters per frame
- Either 16 or 128 characters per frame

(a). What is the effective data rate?
(b). What is the protocol efficiency of this system?
(c). How would your answers in (a) and (b) change is the channel was asynchronous but the protocol remained the same?