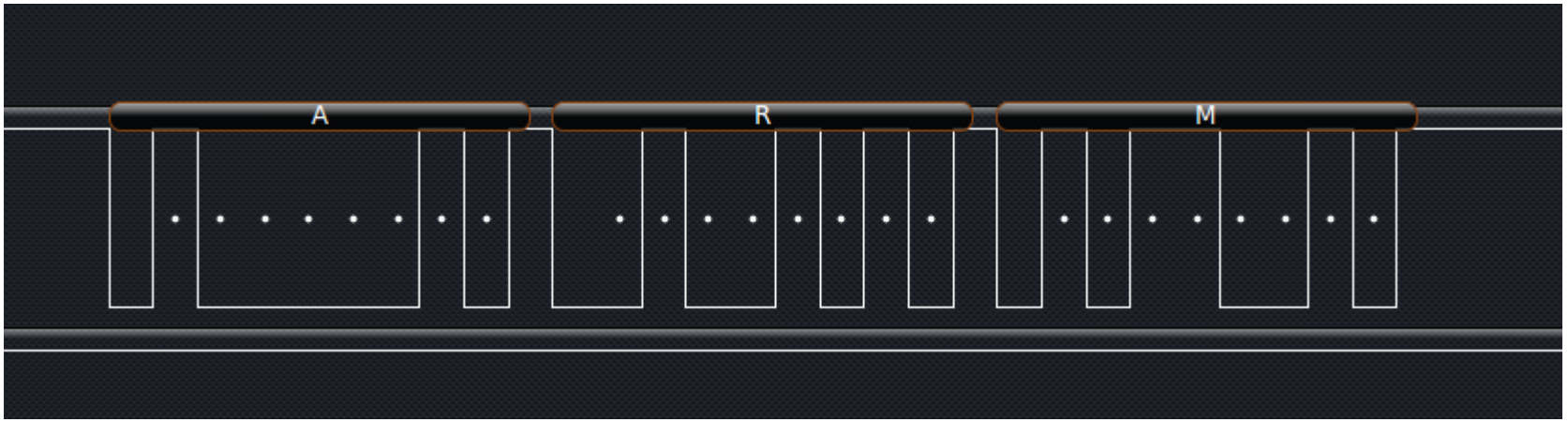
ARM delavnica

UART



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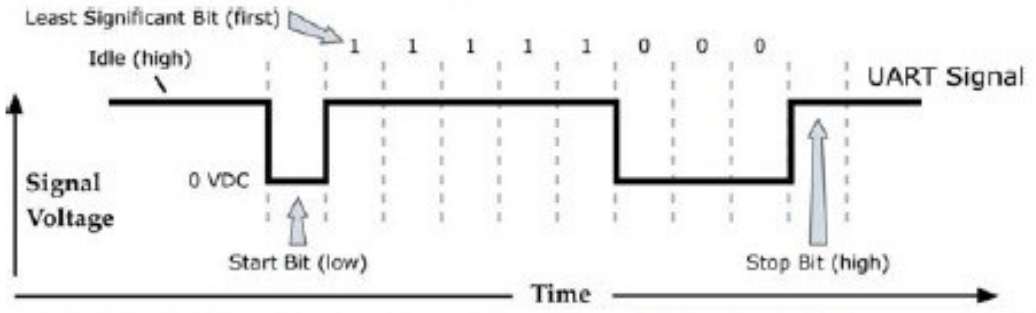
Kaj je UART?

- Komunikacijska periferna enota
- **U**niversal **A**synchronous **R**eceiver/**T**ransmitter
- Dve liniji:
  - RXD - receive data
  - TXD - transmit data
- Linije za uro ni (asinhroni prenos), zato morata tako pošiljatelj kot sprejemnik imeti podatek o hitrosti prenosa podatkov
- Prilagojeni napetostni nivoji (TTL ali RS232)

Oblika paketa

Figure 2-02. UART data packet 0x1F (decimal number "31") as transmitted through the RF module
Example Data Format is 8-N-1 (bits - parity - # of stop bits)



- Start bit
- Podatkovni biti
- (Paritetni bit)
- Stop bit (1, 1.5 ali 2)

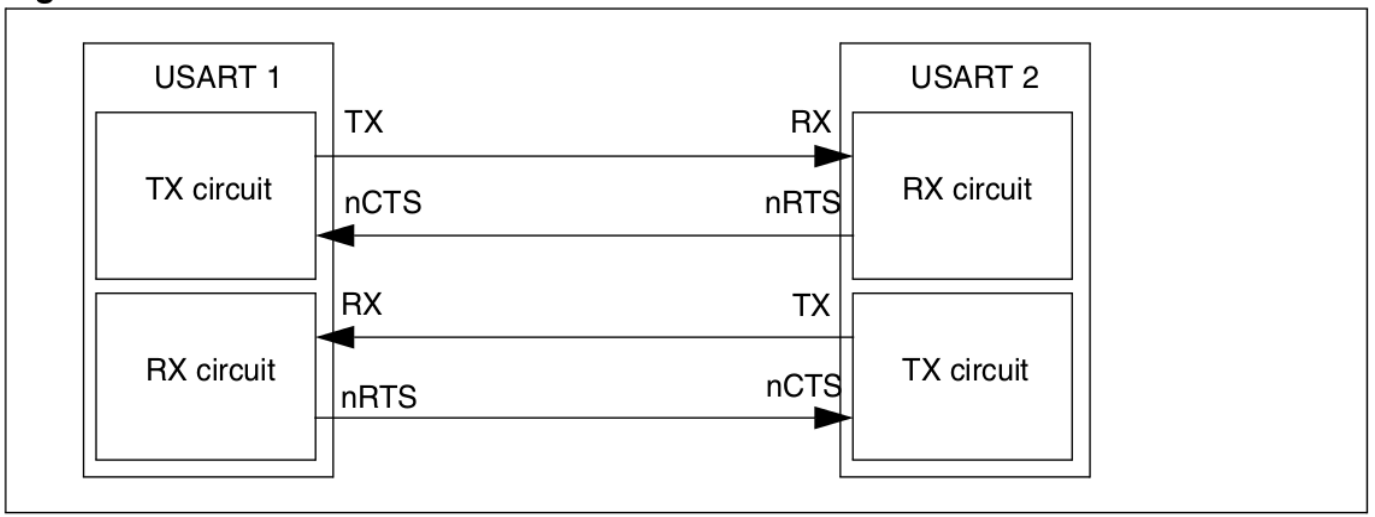
Hitrost prenosa podatkov

- Enota 1 baud
- "Symbols per second" ali "pulses per second"
- Standardne vrednosti: 4800, 9600, 19200, 38400, 57600, 115200 itd.
- Pri standardnih nastavitvah (1stop bit, brez paritete) je 1 bps = 10 baud.

Flow control

- Hardware : CTS, DTR signala
- Software : XON / XOFF protokol

Figure 266. Hardware flow control between 2 USARTs



RTS and CTS flow control can be enabled independently by writing respectively RTSE and CTSE bits to 1 (in the USART_CR3 register).