

TOSHIBA

SP-870-011

RS232C

--RS-232C Communication Using UART--

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1. Target MCU

This sample program is created targeting at the TLCS-870/X series.
When using an MCU other than the TLCS-870/X series, refer to the data sheet for that MCU.

2. Overview

This sample program performs RS-232C communication using UART.

3. Description

The program performs RS-232C communication with personal computers or other devices.
Communication format: 9600 baud, 8 bits, even parity, 1 stop bit
Using 128-byte transmit and receive buffers, the program transfers data until it detects the end code (in this example, 0x00) or the buffer length is reached.
Upon the completion of receiving data, the receive completed flag is set to 1, after which the main routine can process data. If an error (parity, framing, or overrun) occurs, the program reports it using the error occurrence flag.
When transmitting data, the program sets data in the transmit buffer and then sets the transmitting flag to start transmission.

4. Passing Data

Use the following variables to exchange data with the main routine or other routines:

[Variable: GUARTFG] Transmit/receive flags

bit 7 FDUSND =0: Not transmitting =1: Transmitting

bit 6 FRCVCP =0: Not received =1: Received

bit 5 FRCVER =0: Normal =1: Error in reception

[Variable: GSNDCNT] Transmit byte counter

[Variable: GRCVCNT] Receive byte counter

[Variable: GSNDBUF] Transmit data buffer (128 bytes)

[Variable: GRCVBUF] Receive data buffer (128 bytes)

5. Interrupts

- TC5 interrupts (10-ms cycle): To confirm start and completion of transmission
- TX interrupts
- RX interrupts

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