

- 1 Section: Introducing the l
- 2 Section: Creating a pollex
- 3 Section: Queue-based dri
- 4 Section: A buffer-based d
- 5 Section: Configuring DM
- 6 Section: A buffer-based d
- 7 Section: Stream buffers (

- At 9600 bits/sec, 16 bytes is sent in 0.0167 sec
- At 256,400 bits/sec, 16 bytes is sent in 624 micro-sec
- These calculated periods are the same as those shown empirically on page 268

7 Section: Stream buffers (FreeRTOS 10+) (page 269)

- **Added info**, page 269
 - In the FreeRTOS docs, stream-buffers are described here:
 - <https://www.freertos.org/RTOS-stream-message-buffers.html>
- **Clarification**, page 270
 - The xStreamBuffer* functions are FreeRTOS APIs, e.g.,
 - xStreamBufferCreate()
 - xStreamBufferReceive()
 - xStreamBufferSendFromISR()
- **Bug in the code** (mainUartDMAStreamBufferCont.c), page 270f
 - **Problem #1:**
 - Typo in main(): rxStream = xStreamBufferCreate(100, 1);
 - **Solution #1:**
 - In the book it is: rxStream = xStreamBufferCreate(100, 2);
 - **Problem #2:**
 - Buffer-overflow in uartPrintOutTask(), in the memset():
 - memset(rxBufferedData, 0, 20);
 - **Solution #2:**
 - memset(rxBufferedData, 0, maxBytesReceived);
- **Additional info**, page 274
 - How to set-up the second DMA-buffer is discussed in the book. The code for it is in startCircularReceiveDMA():


```
DMA1_Stream5->M1AR = (uint32_t) rxData2;
```

 - However, setting-up the first DMA-buffer isn't discussed, specifically. The code-comments state that the first buffer is specified in DMA1_Stream5->M0AR.
 - DMA1_Stream5->M0AR is set by HAL_DMA_Start() (it also sets the buffers' length).
 - HAL_DMA_Start() is called in startCircularReceiveDMA():


```
HAL_DMA_Start(&usart2DmaRx, (uint32_t)&(USART2->RDR), (uint32_t)rxData1, RX_BUFF_LEN)
```
- **Additional info**, page 275
 - DMA's double-buffer-mode is also described here:
 - *Reference manual : STM32F76xxx and STM32F77xxx advanced Arm®-based 32-bit MCUs*
 - Section 8 Direct memory access controller (DMA)
 - Section 8.3.10 Double-buffer mode
 - Blog post: "STM32F2xx DMA Controllers – Frank's Random Wanderings"
 - <https://blog.frankvh.com/2011/08/18/stm32f2xx-dma-controllers/>
- **Additional info**, page 282
 - In the FreeRTOS docs, message-buffers are described here:
 - <https://www.freertos.org/RTOS-message-buffer-example.html>

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