

Support Group Application Note

Number: 039

Issue: 1

Author:



Changing the RS423 Data Format

The serial port of the BBC Micro by default transmits and receives data as 8-bit bytes preceded by one start bit and followed by one stop bit. This format was chosen because of its generality, however, it is often necessary to alter this format in order to communicate with other devices.

Applicable
Hardware :

BBC B
BBC B+
Master 128
Master 512
Master Turbo
Master Compact (if RS423
fitted)

Related
Application
Notes:

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The format can be altered to any of those shown below, by means of the FX/OSBYTE call with A=&9C (156) and X=appropriate value.

In order not to alter other parameters of the 6850 ACIA chip, a mask is supplied with the call specifying which bits are to be altered. This mask **MUST** be &E3 (227). The following data byte is then supplied to set the format.

VALUE	FORMAT
0	7 Bits + Even Parity + 2 Stop Bits
4	7 Bits + Odd Parity + 2 Stop Bits
8	7 Bits + Even Parity + 1 Stop Bit
12	7 Bits + Odd Parity + 1 Stop Bit
16	8 Bits + 2 Stop Bits
20	8 Bits + 1 Stop Bit
24	8 Bits + Even Parity + 1 Stop Bit
28	8 Bits + Odd Parity + 1 Stop Bit

The call is made either by:

*FX 156, VALUE (from above), 227

or by calling OSBYTE (JSR &FFF4)
with A=156, X=VALUE (as above), Y=227.