Support Group Application Note
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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:

Support Group
Acorn Computers Limited
Acorn House
Vision Park
Histon
Cambridge CB4 4AE

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.