For every byte transferred, each bit (b0 to b7) is presented in sequence on the SC/MP SIN input and clocked with a rise on Sense B.

To allow SC/MP processing time, use delays of minimum 60uS between all bit transitions – no upper limit but speed will decrease (*see note below)

Each packet is a number of bytes of data (typically 16) plus bytecount and addressing, and packets are contiguous, no line ends or formatting The format is similar to Intel Hex, but omits the record-type and checksum fields. Note that CS2 is a binary stream of bytes, not ascii text.

Transmitted data sequence is:

Byte 1 - number of bytes in packet, typically up to 16 data bytes, or zero signals 'End of File' and that the execute address follows.

Byte 2 - High byte of load address, or, if number of bytes is zero, High byte of execute address

Byte 3 - Low byte of load address, or, if number of bytes is zero, Low byte of execute address

Byte 4 onwards - Packet data (say 1 to 16 bytes, as specified by bytecount)

Note the loader decrements the execution address before starting so you don't need to compensate for the SC/MP's PC

A typical file, loading at 0F20-0F3F & with an exec address of 0F20 looks like this (remember this is a binary stream, not text like Intel Hex):

0x10, 0x0F, 0x20, 0x00, 0x11, 0x22, 0x33, 0x44, 0x55, 0x66, 0x77, 0x88, 0x99, 0xaa, 0xbb, 0xcc, 0xdd, 0xee, 0xff 0x10, 0x0F, 0x30, 0x10, 0x11, 0x12, 0x13, 0x14, 0x15, 0x16, 0x17, 0x18, 0x19, 0x1a, 0x1b, 0x1c, 0x1d, 0x1e, 0x1f 0x00, 0x0F, 0x20 Etc for (Bytecount) bytes Load address LSB, or exec address LSB if Bytecount is zero Data for this packet (16 bytes as defined by Bytecount) Synchronous byte transfer, continuous flow, no line ends or breaks Bytecount for this packet. If zero, execute address follows Bit zero is transferred first (SIN feeds E MSB with right-shift), eq 0xAD or exec address MSB if Bytecount (next byte...) * The delays between transitions can be adjusted for optimum transfer speed. Coolsnaz2 uses 60uS for each bit (120uS total SB cycle), and 180uS delay after each byte to allow MK14 to process it. _oad address MSB, 60 to 200uS * With a RealView VDU card he uses 180uS (bit) and 360uS (byte) delays since the VDU takes processing time. There is no upper limit and 350uS throughout is a compromise - and still very fast!

The CS2 Loader is at address 0x052 within SCIOS. On the MK14 press 'reset', 5, 2, Go. Display will blank and you can begin your transfer. On completion, the program will auto-run if an address is provided by the sending device, otherwise press reset, enter start address and "Go".