

M68HC11 and X2402 Family

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0120 *****
0121 * READ 8 BITS FROM THE DUT. THE RESULTS ARE RETURNED IN DATA. *
0122 *****
0123
0124 E07D 86 02      INBYT:  LDAA  #SDAIN      MAKE SDA AN INPUT
0125 E07F A7 09      STAA  DDRD,X
0126 E081 BD E1 24    JSR   CLOCK      GET ACK
0127 E084 86 08      LDAA  #$08      PREPARE TO SHIFT IN 8 BITS
0128 E086 97 83      STAA  COUNT
0129 E088 C6 00      LDAB  #$00
0130 E08A BD E1 24    LOOPI: JSR   CLOCK      CLOCK DATA
0131 E08D 44          LSRA
0132 E08E 59          ROLB
0133 E08F 7A 00 83    DEC   COUNT
0134 E092 26 F6      BNE   LOOPI      LOOP UNTIL 8 BITS ARE READ
0135 E094 D7 82      STAB  DATA      STORE VALUE READ INTO DATA
0136 E096 86 03      LDAA  #SDAOUT     MAKE SDA AN OUTPUT
0137 E098 A7 09      STAA  DDRD,X
0138 E09A 39          RTS
0139
0140 *****
0141 * WRITE 8 BITS TO THE DUT. THE DATA TO SEND IS IN DATA. IF THE LAST *
0142 * BIT TO SEND IS A ONE THE SDA LINE IS MADE AN INPUT BEFORE THE EIGHTH *
0143 * CLOCK PULSE TO AVOID BUS CONTENTION WHEN THE DUT ACKNOWLEDGES. THE *
0144 * ROUTINE FINISHES WITH SDA IN AN INPUT STATE. *
0145 *****
0146
0147 E09B 86 08      OUTBYT: LDAA  #$08      PREPARE TO SHIFT OUT 8 BITS
0148 E09D 97 83      STAA  COUNT
0149 E09F 1D 08 01    BCLR  PORTD,X #SDABIT  MAKE SDA A 0
0150 E0A2 96 82      LDAA  DATA
0151 E0A4 D6 84      LOOPO: LDAB  PDDATA
0152 E0A6 C4 01      ANDB  #$01
0153 E0A8 84 80      ANDA  #DMASK      IS THE DATA TO BE SHIFTED A 1 OR A 0
0154 E0AA 27 0F      BEQ   ISO        JUMP IF DATA SHOULD BE 0
0155 E0AC 1C 08 01    BSET  PORTD,X #SDABIT  MAKE SDA A 1
0156 E0AF 96 83      LDAA  COUNT      CHECK TO SEE IF LAST BIT TO SEND
0157 E0B1 81 01      CMPA  #$01
0158 E0B3 26 09      BNE   IS1
0159 E0B5 86 02      LDAA  #SDAIN      MAKE SDA AN INPUT IF A 1 IS THE LAST BIT
0160 E0B7 A7 09      STAA  DDRD,X
0161 E0B9 20 03      BRA   IS1
0162 E0BB 1D 08 01    ISO:  BCLR  PORTD,X #SDABIT  MAKE SDA A 0
0163 E0BE BD E1 24    IS1:  JSR   CLOCK      SEND CLOCK SIGNAL
0164 E0C1 96 82      LDAA  DATA
0165 E0C3 48          ASLA
0166 E0C4 97 82      STAA  DATA
0167 E0C6 7A 00 83    DEC   COUNT
0168 E0C9 26 D9      BNE   LOOPO      LOOP UNTIL ALL 8 BITS HAVE BEEN SENT
0169 E0CB 86 02      LDAA  #SDAIN      MAKE SDA AN INPUT
0170 E0CD A7 09      STAA  DDRD,X
0171 E0CF 39          RTS
0172
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