

```
#include <avr\io.h>
char putch_USART_MSPI(char cx);
void initMegaMSPI(unsigned baud);
char confDat[7] = {0x01, 0x00, 0x00, 0x01, 0x00, 0x00, 0x45};
char dispDat[9] = {0x88, 0x02, 0x12, 0x81, 0x20, 0x00, 0xC2, 0x67, 0xFC};

void main(void)
{
    unsigned char i;
    initMegaMSPI(0x03);
    PORTD &= 0xFE; // enable SPI transfer to MC14489
    for(i = 0; i < 7; i++) // transfer configuration data
        putch_USART_MSPI(confDat[i]);
    PORTD |= 0x01; // perform MC14489 configuration

    PORTD &= 0xFE; // enable SPI transfer to MC14489
    for(i = 0; i < 9; i++) // transfer display data
        putch_USART_MSPI(dispDat[i]);
    PORTD |= 0x01; // update display data
    while(1);
}
// -----
// This function enables the CPI module to master mode and set baud rate to 4 MHz.
// -----
void initMegaMSPI(unsigned baud)
{
    UBRR1 = 0; // enable SPI to master mode, set baud rate to 4 MHz
    DDRD &= 0xD4; // configure PD5, PD3, PD0 for output, PD1 for input
    DDRD |= 0x29; //
    UCSR1B = (1<<RXEN1) | (TXEN1);
    UCSR1C = (1<<UMSEL11) | (1<<UMSEL10) | (0<<UCSZ10) | (0<<UCPOL1) ;
    UBRR1 = baud; // set up baud rate
}
// -----
// This function outputs a character to USART1 in MSPI mode.
// -----
char putch_USART_MSPI(char cx)
{
    while(!(UCSR1A & (1<<UDRE1)));
    UDR1 = cx;
    while(!(UCSR1A & (1<<RXC1)));
    return UDR1;
}
```