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Description for the mini midi controller MFC-1.1 Ver. 1.10

(Idea und programming by Dirk Meyer – www.dimehead.de, realisation UK-electronic)

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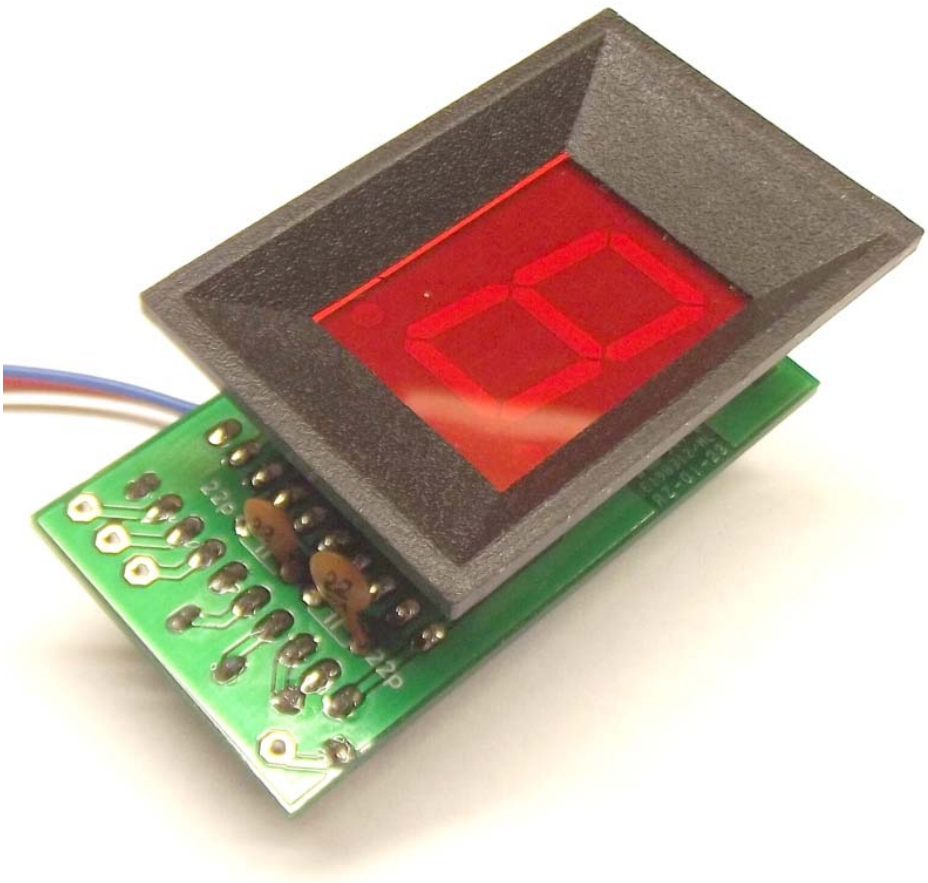

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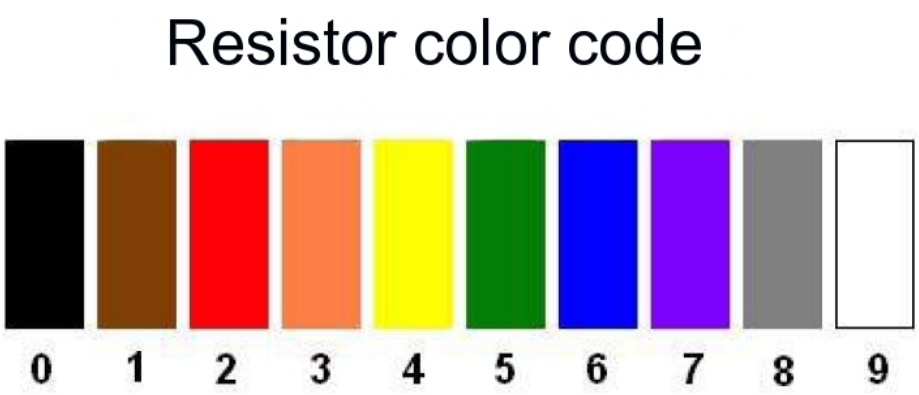
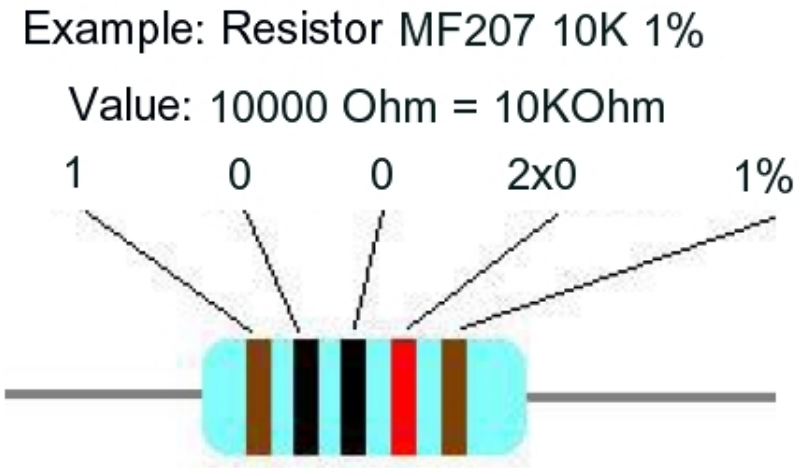
Color table for resistors MF207/204 FTE52 1% and a example





Materialliste / bill of material

Quantity	Description
1	PCB „MFC-1.1“
3	Soft switch momentary PBS-24-B
1	7-digit display SC08-11ERWA /20.32mm
1	Preprogrammed ATTINY 2313P (MFC-1.1)
1	Voltage regulator 78L05
1	Diode 1N4001
1	Crystal 4Mhz HC49/U
1	DC-Jack 1614-09 TW
1	Din-Jack 5-pole 180°
1	IC-Socket LC20
2	Spacer M3 10mm
2	Ceramic capacitor 22p (22)
2	Multilayer capacitor 100nF (104)
2	Resistor 220R MF204 (red/red/black/brown/brown)
7	Resistor 470R MF204 (yellow/violet/black/brown/brown)

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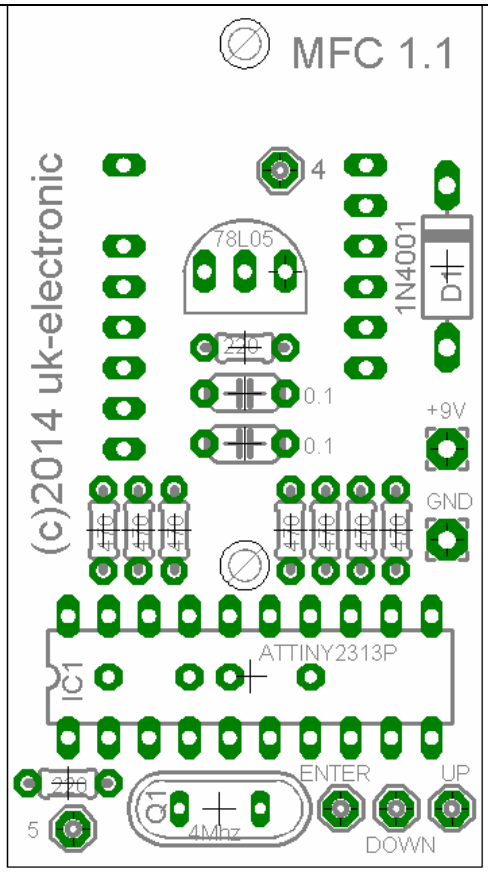
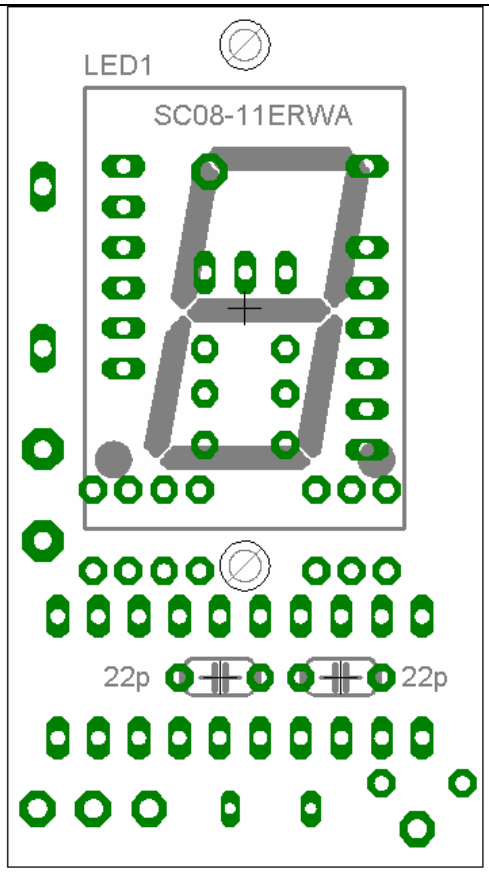
Soldering the PCB

First, the circuit board is fitted carefully against the plan shown below. For this we should start with the lowest components to be fitted, ie First, the resistors, the diode, capacitors. **The two 22p capacitors must necessarily before the fit of the socket from the back of the PCB to be soldered.** Then the socket and finally the voltage regulator and on the back of the 7-Sement display. Clean working environment, in particular the design of the solder joints should have top priority to generally exclude placement and soldering defects. An improperly soldered-in component can be removed very difficult without additional aids such as desoldering pump and desoldering braid.

TOP



BOTTOM



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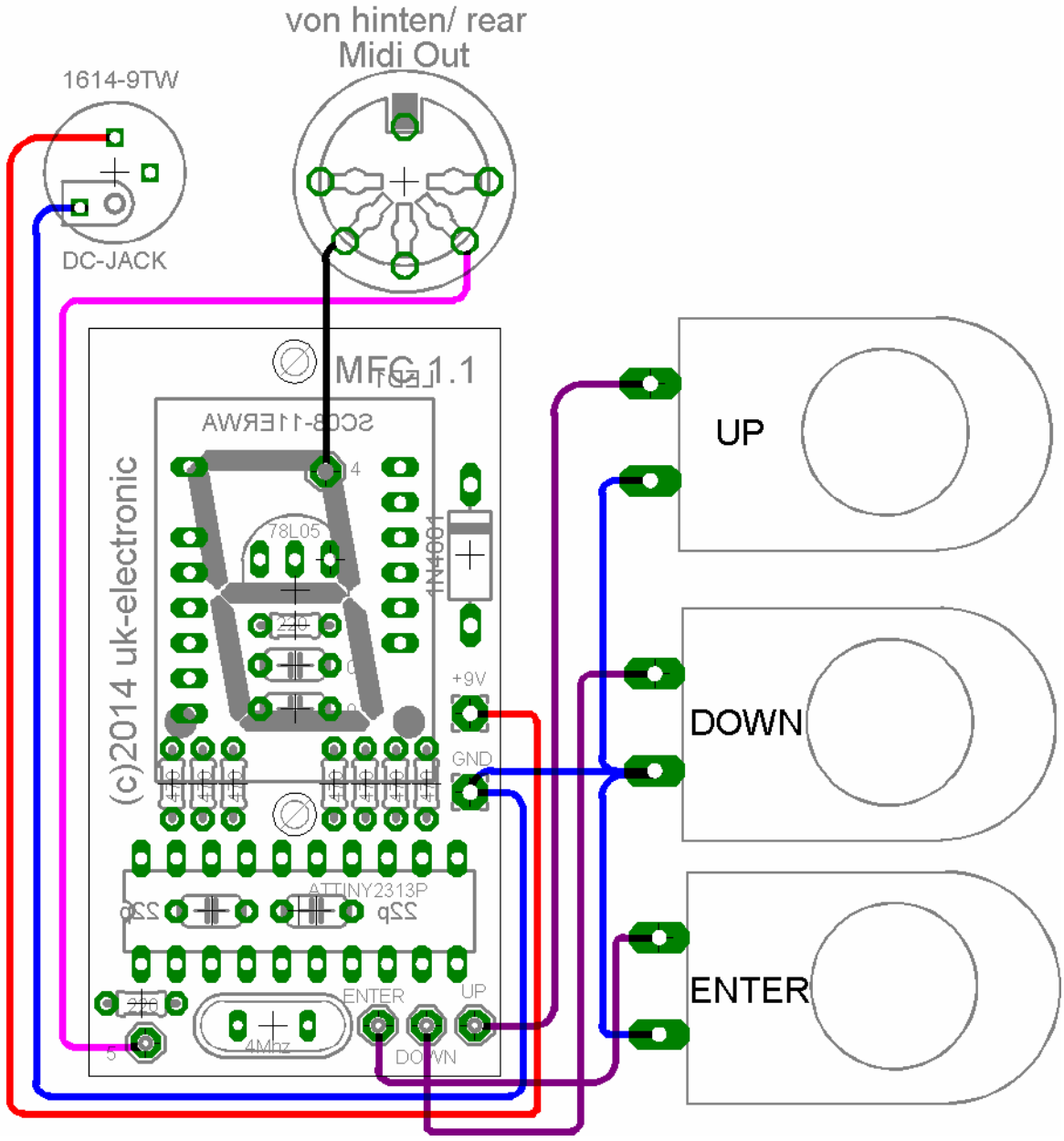
The external wiring is very simple, since only the MIDI Out jack, power supply jack and 3 pushbuttons must be wired externally. Prior to final wiring, the two threaded pins are screwed into the LED frames, the frame is then glued into a correspondingly prepared housing. Then insert the filter disk and the board with the two bosses (threaded M3) lock.



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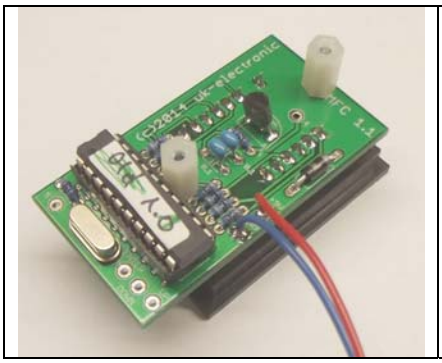

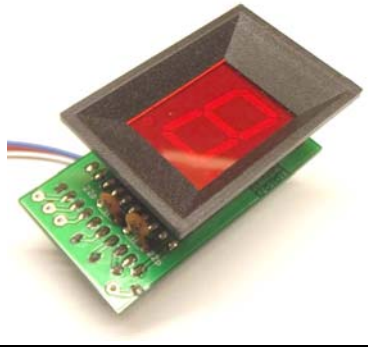
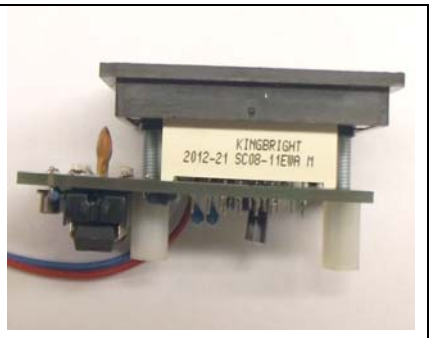

Operation

The small controller has 4 operating modes:

0: ProgrammChange 0-9 / A-F (16 programs) **with „Recall“**

You choose with the **UP / DOWN** buttons a program number from 0 to F. If you push the button **Enter,** the program change (PC) will be sending.

Recall function: Is the Enter button pressed again , goes back to the previous program number of the controller and sends them immediately. This function is a practical mode in live situations.
Example:
It is located in the rhythm program, now just select the solo program. By a simple again pressing the **Enter** button gets you back in the rhythm of the program.

1: Direct selection a program number 0,1 oder 2

All 3 buttons send in this modus immediately one program change (PC) command (0,1 or 2)

2: ProgramChange 0-F (16) with instant send (can deactivated)

With the **UP / DOWN** buttons can switching between the program numbers 0-F. The program change command (PC) will be send directly if you push the button.

The **Enter** button has the function to disable immediate sending or reactivate in this mode. This function is useful for larger program number jumps.

3: ControlChange

The 3 buttons works at **„Switch“**. It is send the controller command (CC) 16, 17 or 18. The value 0=Off, the value 127= On.

Choosing the operating mode:

The operation modus is choosing if you hold the UP-Button, if the you the device powering on. The 7-digit display is flashing and shows the configurations mode. With the **UP/ Down** Button You choose the operation mode. If you push the **Enter** button the mode is stored and the controller is return at the normal mode

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Choosing the MIDI channel:

The channel number can be selected, where the **DOWN** button is hold down and the device is powering on. The flashing of the 7-segment display indicates the configuration mode. The channel number you can select (0-15 = 0 - F) using the **UP / DOWN** button. By pressing the **Enter** button the channel number is stored and the controller will return to normal function.

All settings are stored in non-volatile EEPROM.

For any question please contact Dirk Meyer via mail (info@dimehead.de)

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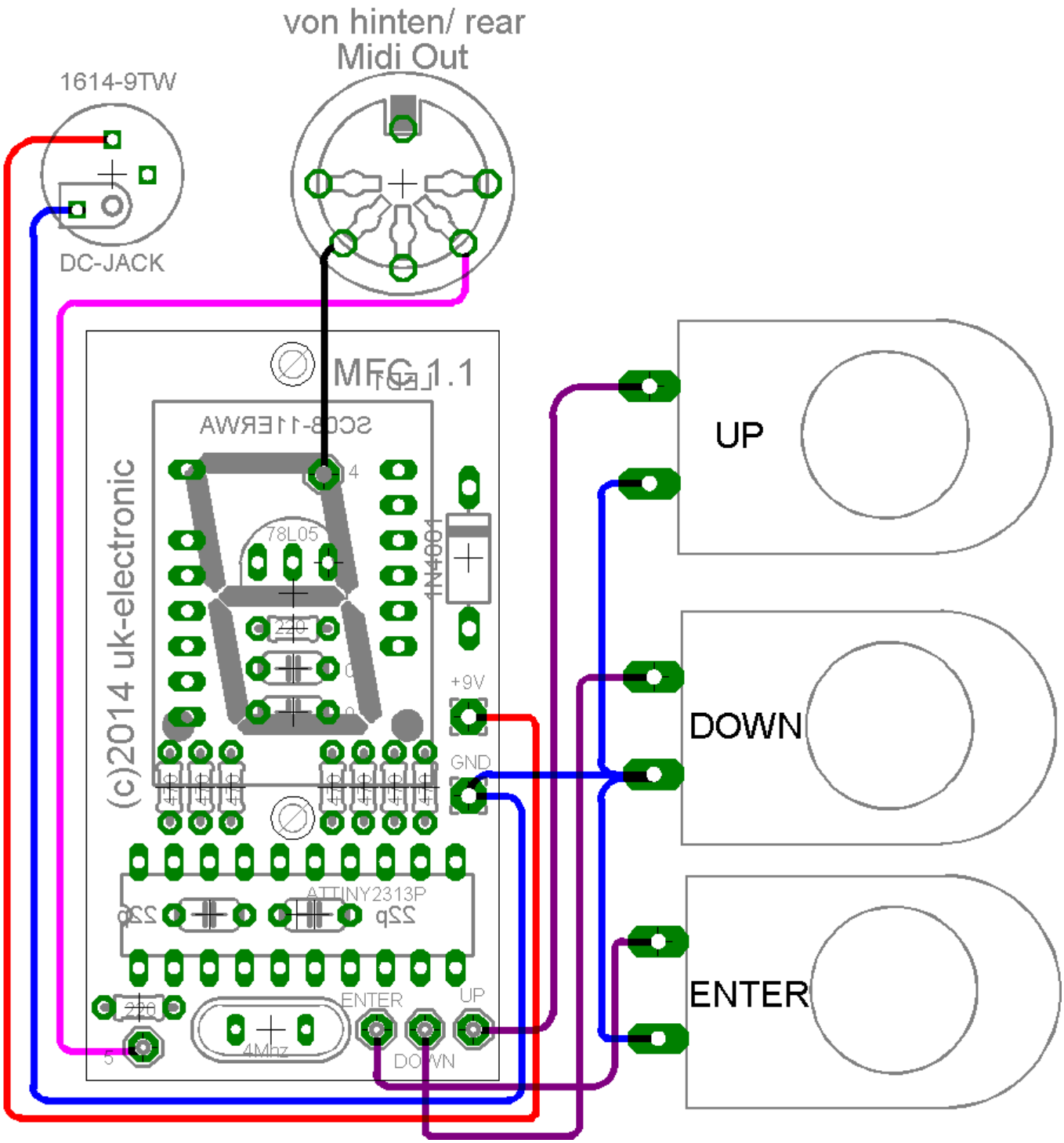
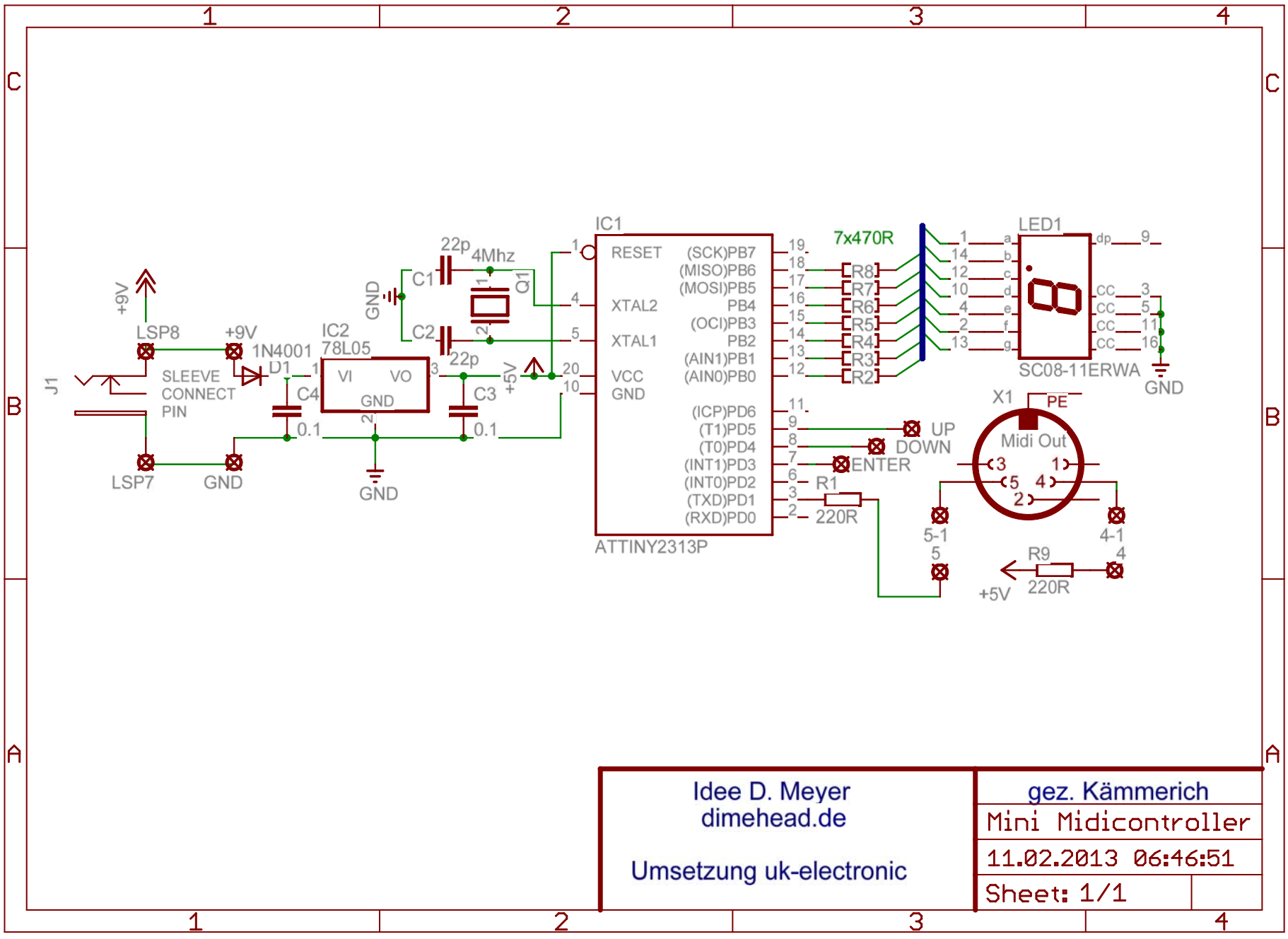

von hinten/ rear
Midi Out
1614-9TW
DC-JACK
MFG 1.1
(c)2014 uk-electronic
78L05
1N4001
+9V
GND
ATTINY2313P
ENTER
UP
DOWN
4Mhz
UP
DOWN
ENTER


1
2
3
4
C
B
A
+9V
LSP8
SLEEVE
CONNECT
PIN
J1
LSP7
GND
+9V
1N4001
D1
C4
0.1
IC2
78L05
VI
VO
GND
GND
GND
C1
22p
4Mhz
Q1
C2
22p
+5V
C3
0.1
IC1
RESET
XTAL2
XTAL1
VCC
GND
(SCK)PB7
(MISO)PB6
(MOSI)PB5
PB4
(OCI)PB3
PB2
(AIN1)PB1
(AIN0)PB0
(ICP)PD6
(T1)PD5
(T0)PD4
(INT1)PD3
(INT0)PD2
(TXD)PD1
(RXD)PD0
ATTINY2313P
7x470R
R8
R7
R6
R5
R4
R3
R2
LED1
SC08-11ERWA
GND
UP
DOWN
ENTER
R1
220R
X1
PE
Midi Out
5-1
4-1
R9
220R
+5V
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gez. Kämmerich
Mini Midicontroller
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