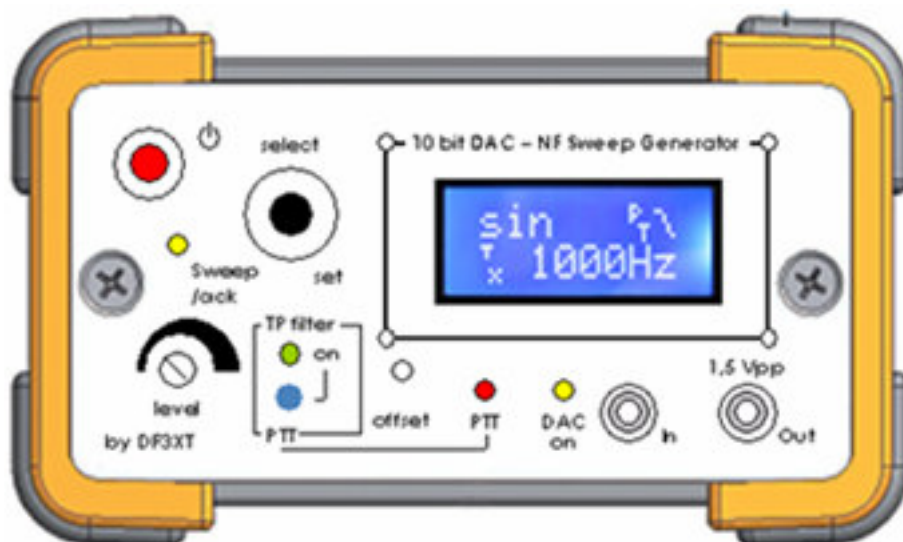
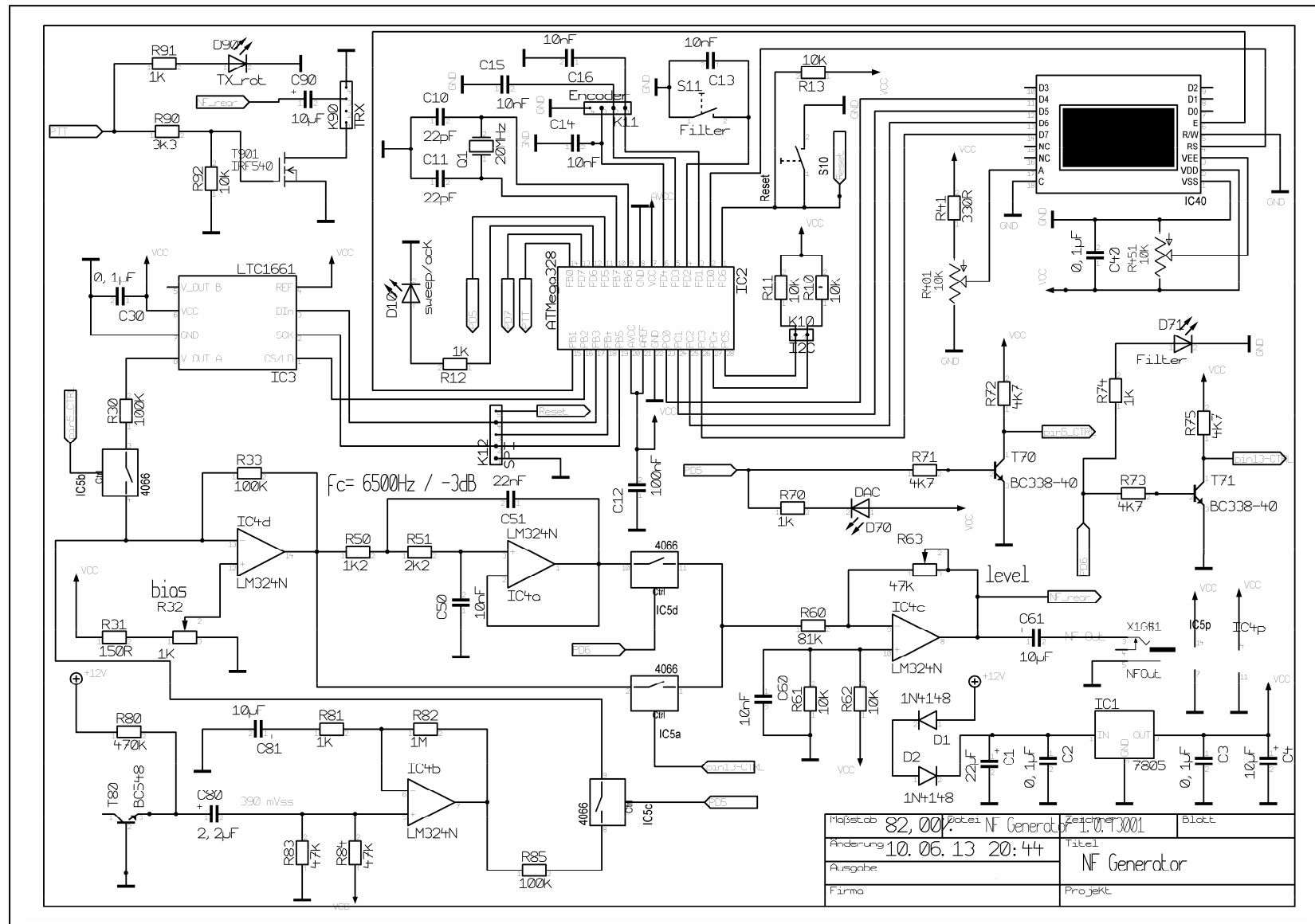


NF-Generator V1.0
April 2014
Funkamateur 5/14

Autor: DF3XT, HB9EFQ
R. Müller-Westermann
HB9EFQ@Yahoo.com



1. Schaltplan:








2. Stückliste:

Anzahl	Name	Wert	Anzahl	Name	Wert
1	C1	22µF, Elko	1	K90	TRX
2	C10,C11	22pF, Keramik	1	Q1	20MHz
1	C12	100nF, Keramik	8	R10,R11,R13,R40,R45,R61,R62,R92	10k
6	C13,C14,C15,C16,C60	10nF, Keramik	6	R12,R32,R70,R74,R81,R91	1k
4	C2,C3,C30,C40	0,1µF, Keramik	3	R30,R33,R85	100K
4	C4,C61,C81,C90	10µF, Elko	1	R31	150R
1	C50	10nF, Folie	1	R41	330R
1	C51	22nF, Folie	1	R50	1k2
1	C80	2,2µF, Elko	1	R51	2k2
2	D1,D2	1N4148	1	R60	81k
1	D10	LED gelb	3	R63,R83,R84	47k
1	D70	LED gelb	4	R71,R72,R73,R75	4k7
1	D71	LED grün	1	R80	470k
1	D90	LED rot	1	R82	1M
1	IC1	78S05	1	R90	3k3
1	IC2	ATmega328P	1	S10	Miniaturtaster
1	IC3	LTC1661	1	S11	Miniaturtaster
1	IC4	LM324N	2	T70,T71	BC338-40
1	IC40	LCD 2x8	1	T80	BC548
1	IC5	74HC4066	1	T90	IRF540
1	K10	I²C	1	X1	NFOut
1	K11	Encoder mit Taster			
1	K12	SPI			

3. anzuschliessende Signale:

Kontakt	Beschreibung
K10	4-Pol MiniDIN
K11	Encoder (Drehgeber ALPS) Click PD3, L-PD1, R-PD4
K90	5-Pol DIN / 6-Pol MiniDIN
K12	6-Pol MiniDIN
S10	auf Platine
S11	Drucktaster mit Kappe
X1	3.5 mm Klinke

4. Fuse Bits (ATmega 328P):

 Chip	
Name	MEGA328P
Calibration 0	AA
 Lockbits	FF
Lockbit 65	11:No restrictions for SPM or LPM accessing the boot loader section
Lockbit 43	11:No restrictions for SPM or LPM accessing the application section
Lockbit 21	11:No memory lock features enabled for parallel and serial programming
 Fusebits	FF
Fusebit C	1:Divide Clock by 8 Disabled
Fusebit B	1:CLOCK Output disabled
Fusebit KLA987	111111:Ext. Crystal Osc.
 Fusebits High	D1
Fusebit High K	1:PIN PC6 is RESET
Fusebit High J	1:debugWIRE Disabled
Fusebit High I	0:SPI enabled
Fusebit High H	1:WDT enabled by WDTCR
Fusebit High G	0:Preserve EEPROM when chip erase
Fusebit High DE	00:Bootsize 2048 words
Fusebit High F	1:Select RESET vector (0000)
 Fusebits Extended	FF
Fusebit Extended RSQ	111:Brown out Disabled

5. ERAM (EEProm)

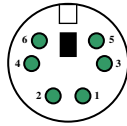
	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
000	FF	FF	FF	FF	FF	FF	FF	00	00	00	FF	FF	FF	FF	FF	FF
010	00	01	06	DA	02	00	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
020	00	00	07	30	02	00	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
030	00	01	03	B8	01	00	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
040	00	01	01	E8	03	01	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
050	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
060	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
070	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
080	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
090	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0A0	50	00	00	28	00	94	11	01	FF	FF	FF	FF	FF	FF	FF	FF
0B0	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

- 07: Menü bei Start, 09: I²C
- 10: (Gen) Button Type | Filter | Wavetype | Frequency | Sweep
- 20: Preset 1: Button Type | Filter | Wavetype | Frequency | Sweep
- 20: Preset 2: Button Type | Filter | Wavetype | Frequency | Sweep
- 40: Preset 3: Button Type | Filter | Wavetype | Frequency | Sweep
- 0A: (Sweep) Time | Bounce | Reverse | Freq. Start | Freq.Stop

6. Belegung der Buchsen

SPI Buchse:

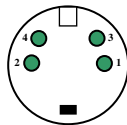
6 Pol mini DIN Draufsicht (Steckersicht)



Pin	Farbe	Funktion
1	Braun	SCK
2	Weiss	Masse
3	Schwarz	Reset
4	Grün	Miso
5	Gelb	Mosi
6	Rot	+5V

I²C Buchse:

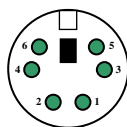
4 Pol mini DIN Draufsicht (Steckersicht)



Pin	Farbe	Funktion
4	Rot	+5V / INT
3	Gelb	SCL
1	Schwarz	Masse
2	Grün	SDA

TRX Buchse:

6 Pol mini DIN Draufsicht (Steckersicht)



Pin	Farbe	Funktion
1	Braun	NF Out Ausgang am Transistor des Boards
2	Weiss	Masse
3	Schwarz	PTT
4	Grün	NF In Signal IN des Boards für OP Amp
5	Gelb	n/a
6	Rot	n/a

7. Anhang

Reihenfolge beim Brennen des ATmega:

1. Schreiben: Fuse Bits
2. Schreiben: nf_gen_eeprom.eep (EEPROM)
3. Schreiben: nf_gen_0.74.hex (Flash)