

UFO Doctor, Oct, 16th, 2015

1. Introduction

Miru wrote a program for the following functions:

a) Generation of a 15.6 KHz PWM signal with a t^2 increasing pulse width.

Pulse width from 1% to 50% within 22 ms, repeats every 100 msec

b) Generation of a 3ms/2ms 38/41KHz FSK signal after this Opto Signal

F.Kottelat designed the PCBs for manual controlled Opto-PWM and US-FSK Signals with drivers.

The output drivers can be switched from manual control to Arduino controls by two jumpers.

2. Test Setup

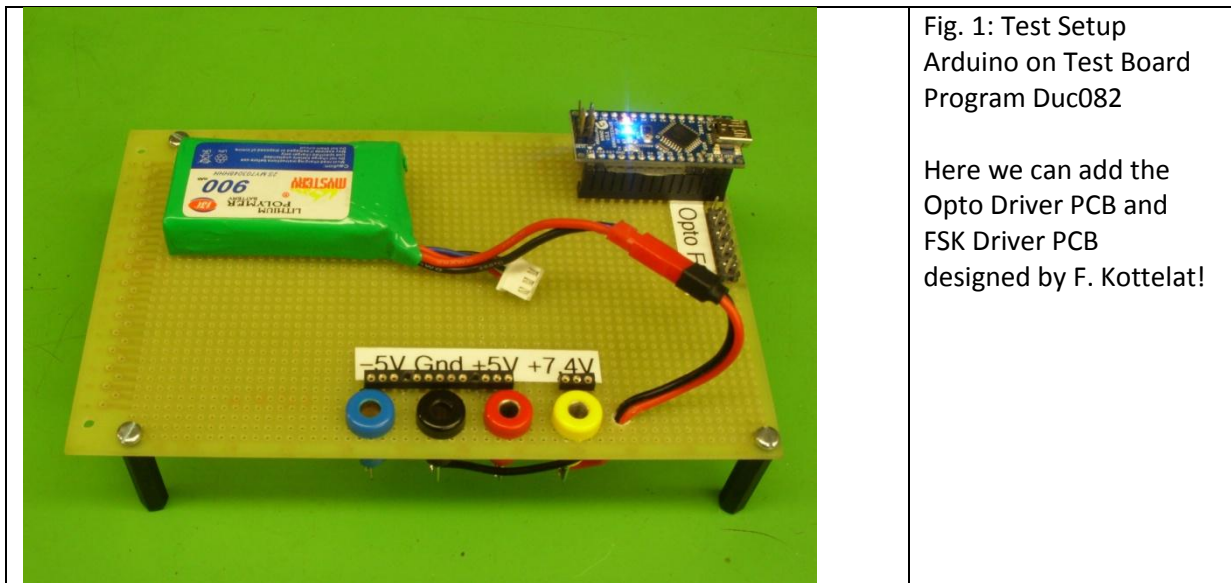


Fig. 1: Test Setup
Arduino on Test Board
Program Duc082

Here we can add the
Opto Driver PCB and
FSK Driver PCB
designed by F. Kottelat!

3. Signals provided by Arduino with Duc082

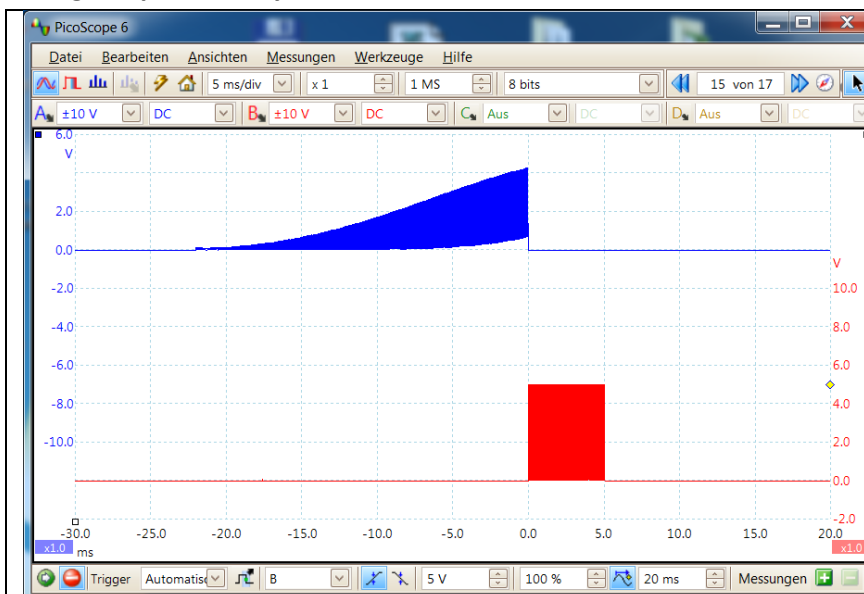


Fig. 2: Both FSK and Opto
Signals.
Time Scale 5 msec/Div
Cycle time 100 msec

Top: Opto-Signal
+/-10 V, LP-Filter 1 MHz
Increasing pulse length
with t^2

Below: FSK-Signal
+/-10 V, LP-Filter 0.1 MHz
0-3 msec 38.095 kHz,
3-5 msec 41.026 kHz

4. Experimental Mama Board

Arduino Nano Aktorik Oct. 16th, 2015
 Pin 9: US FSK Out, D6, PD.6
 Pin 13: Opto PWM Out, D10, PB.2
 Pin 16: Arduino LED, D13, PB.5
 Pin 30: Vin max 15V,
 Pin 27: +5V Out, max 150mA
 Pin 29: Gnd

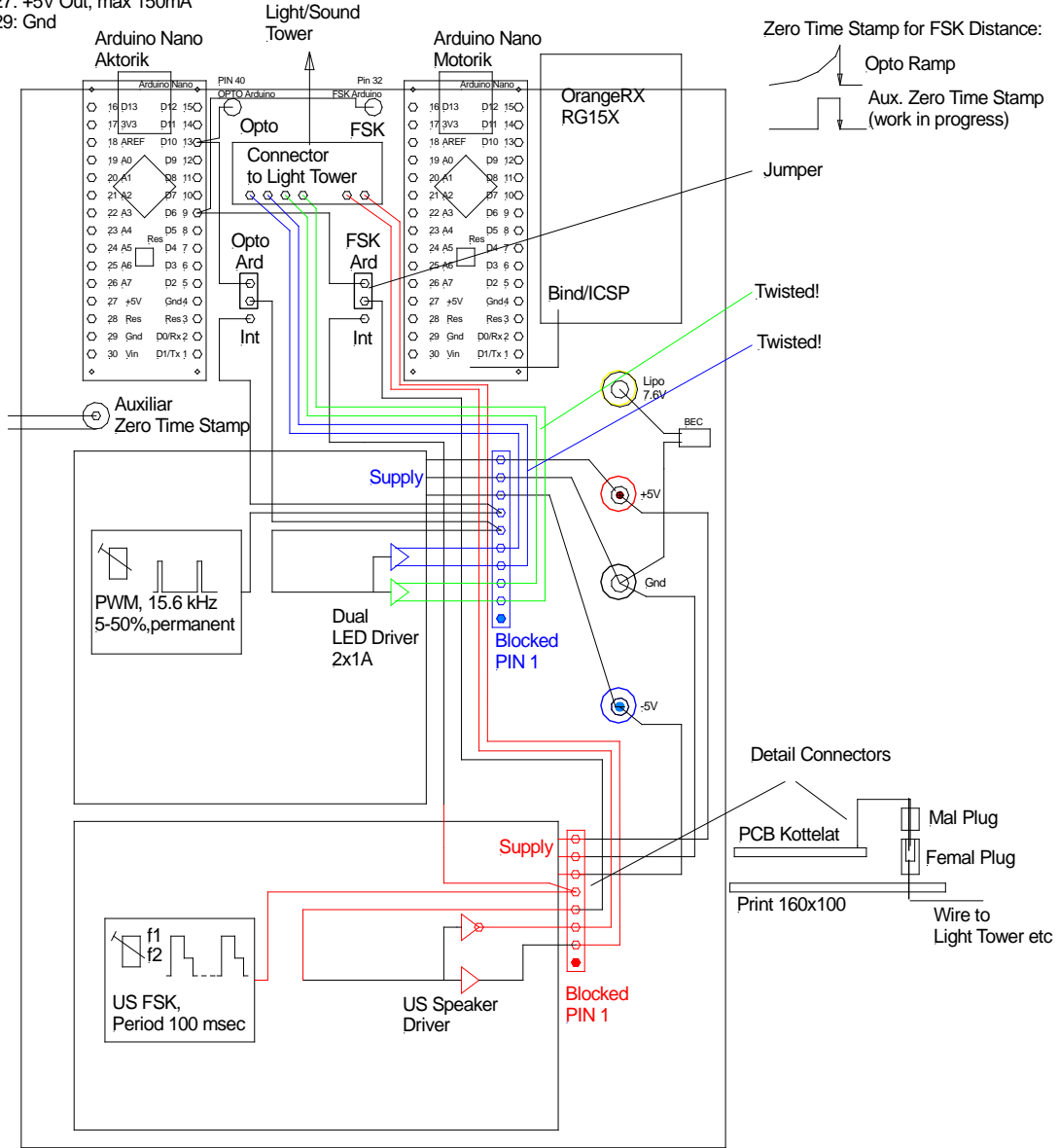


Fig.3: Experimental Mama Board with connections to Opto and FSK PCBs.

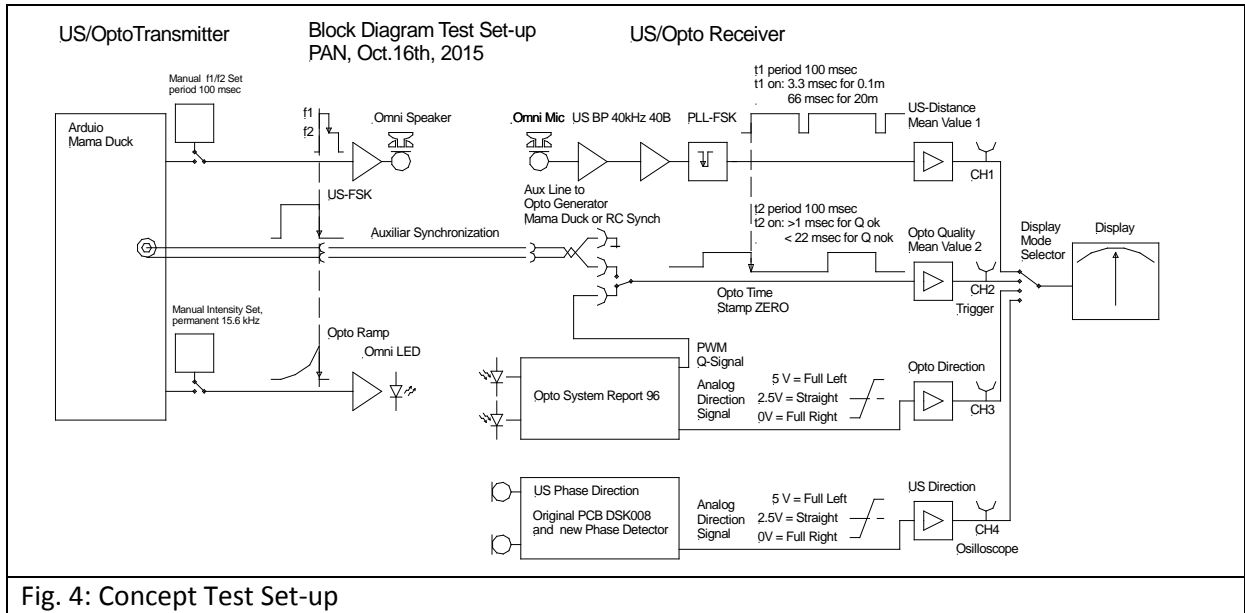


Fig. 4: Concept Test Set-up

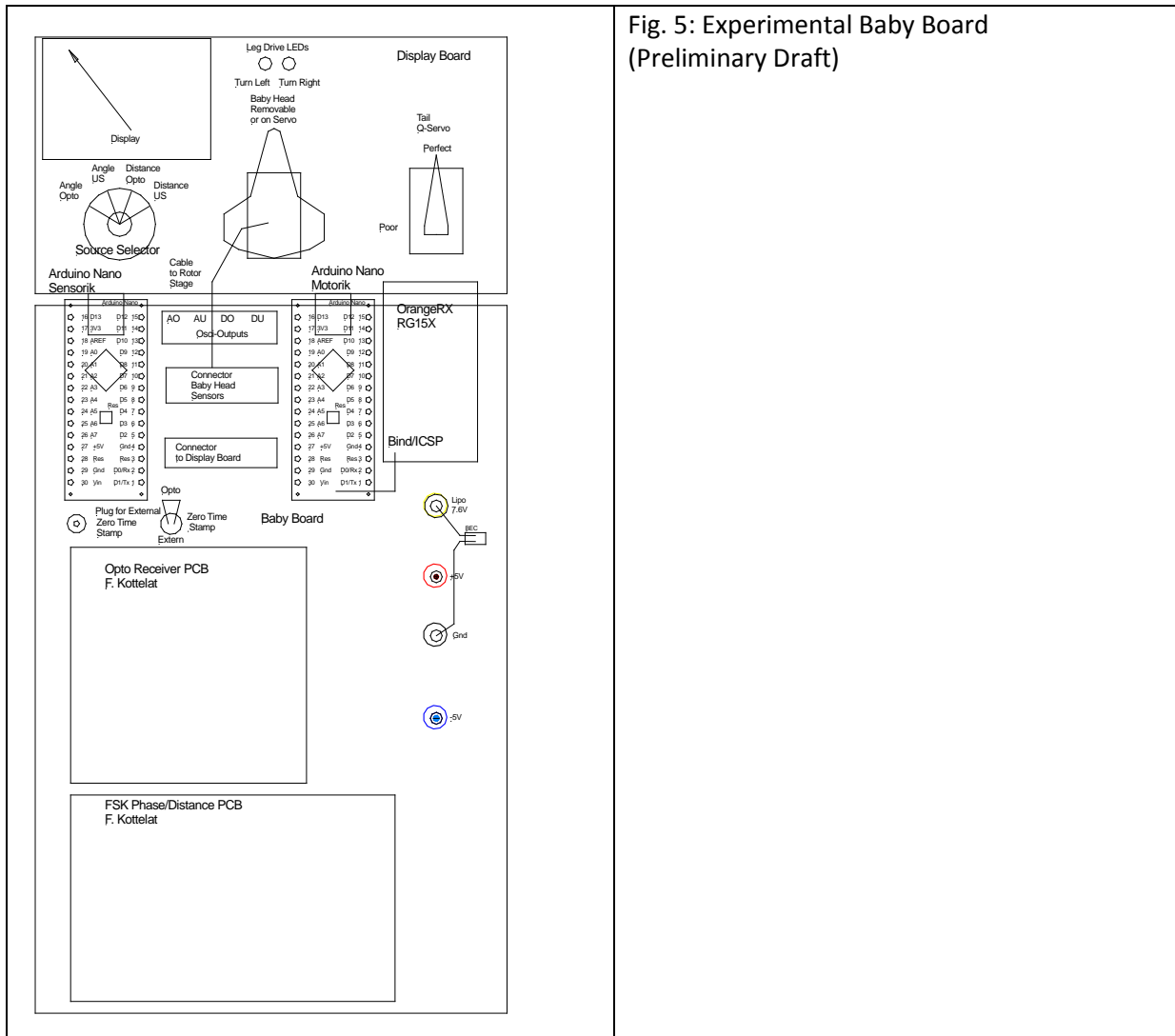


Fig. 5: Experimental Baby Board (Preliminary Draft)