

UFO Doctor, Nov. 9th, 2015

1. Test Setup Mama Duck



Fig. 1: Test Setup Mama Duck

2. Power consumption at 7.6V Supply

Device	Current mA	Comment
US-Generator	11	Speaker not connected
IR-Generator	13	IR-LED not connected
Arduino 2, SIGRCV	21	Mama/Baby, without RC
Orange R615	28	Supplied by Arduino 2, SIGRCV
Arduino 1, SIGTXM	25	Mama US/Opto Generator
Total with Speaker and IR-LED, Miru Duc085	160	RC enabled, synchronized

3. Signals at Arduino 1 SIGTXM (Mama)

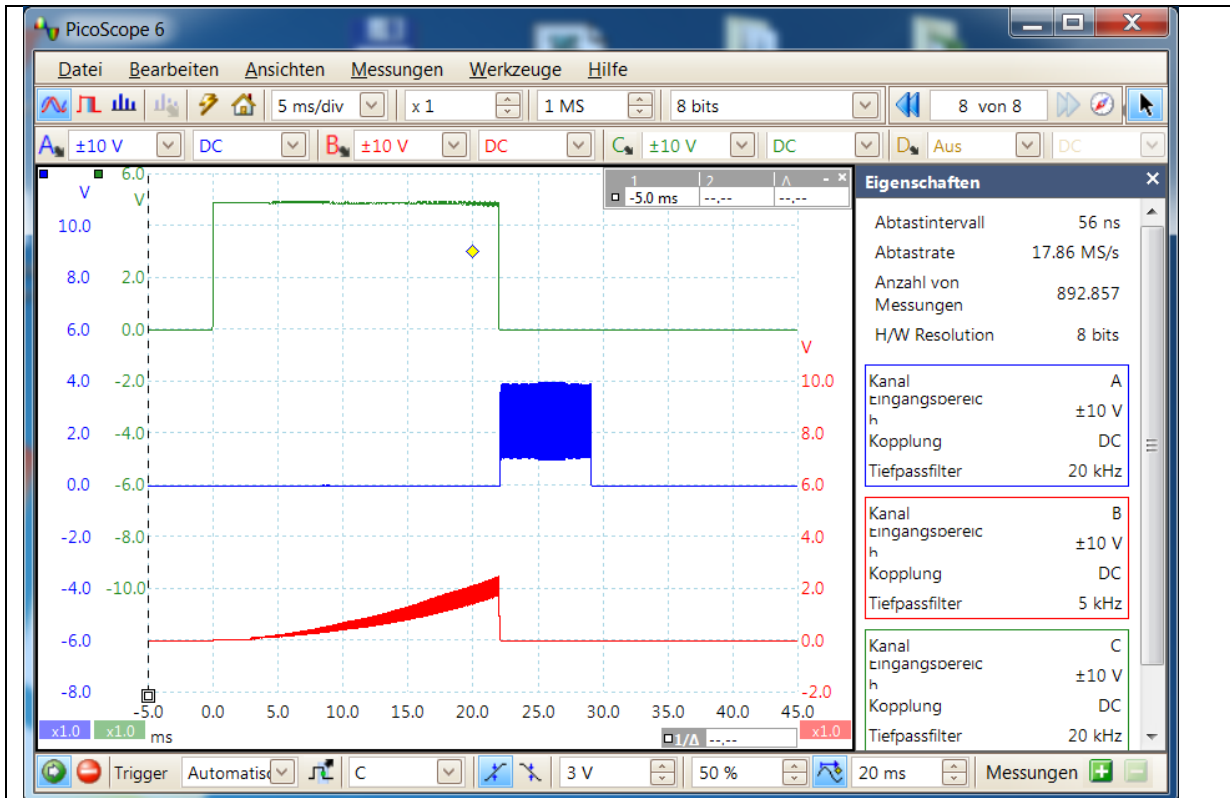


Fig. 2a: Outputs Arduino 1 SIGTXM (Mama), 5ms/Div
 Top: Sync, (RC and TX on, synchronized by "Toggle Gear")
 Middle: FSK, 7 ms duration , note f2 during 3 ms, followed f1 during 2 ms, followed f2 during 2 ms
 Bottom: Opto t^2 , 22 ms duration

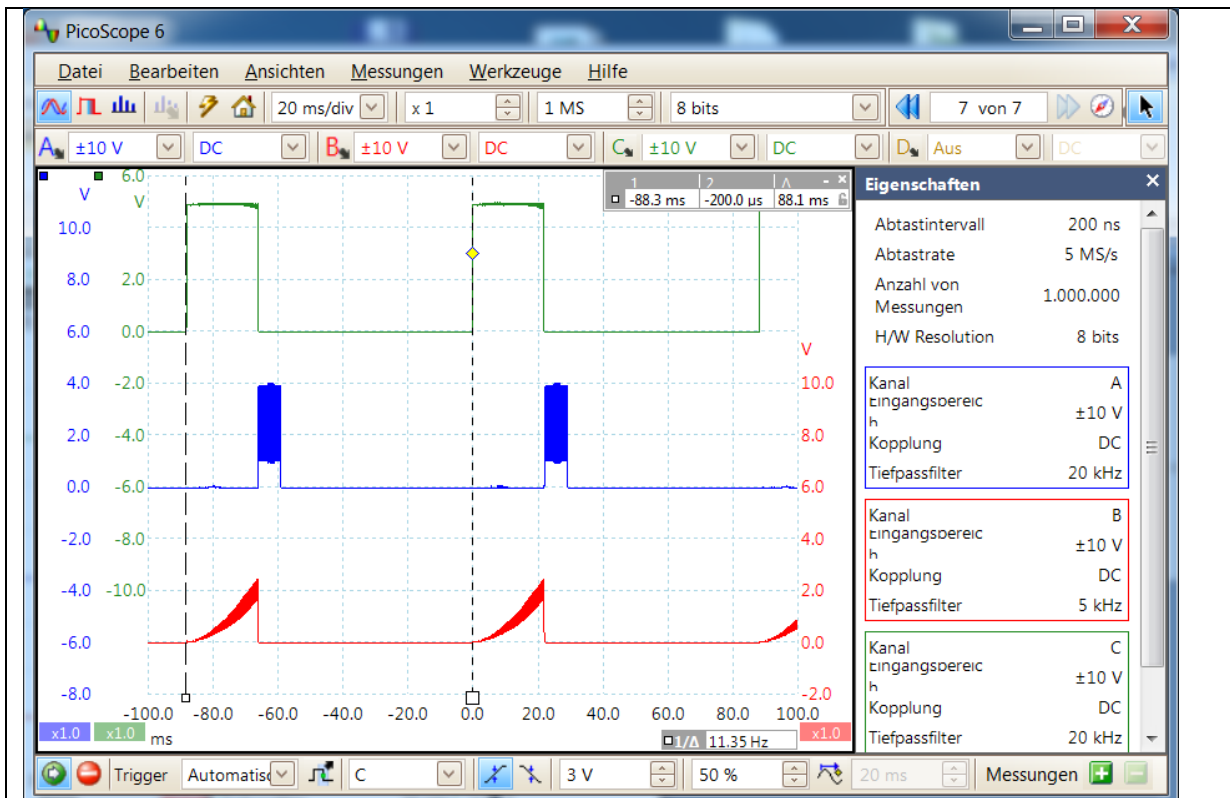


Fig. 2b: Outputs Arduino 1 SIGTXM (Mama), but 20ms/Div, Period 88ms

4. Main Board Circuits

Mama Board (with two Arduino Nano)

Arduino Nano Nr 1, Miru Prog SIGTXM

Pin 30, Vin max 15V

Pin 29, Gnd

Pin 9, FSK Out, D6

Pin 13, Opto Out, D10

Pin 16, Sync int, LED Arduino, D13

Pin 5, RC-Sync In, D2, from Motorik Pin 16

Arduino Nano Nr 2, Miru Prog SIGRCV, ID M

Pin 30, Vin max 15V

Pin 29, Gnd

Pin 5, Proxy Power, D2

Pin 8, PWM Motor Left, D5

Pin 9, PWM Motor Right, D6

Pin 16, Sync, LED Arduino, D13

Pin 21, Estop in, A2

Pin 25, Proxi in, A6

Jumper 3,4,5 settings for
Standard Run with Arduino Control
and RC Sync enabled by "Toggle GEAR"

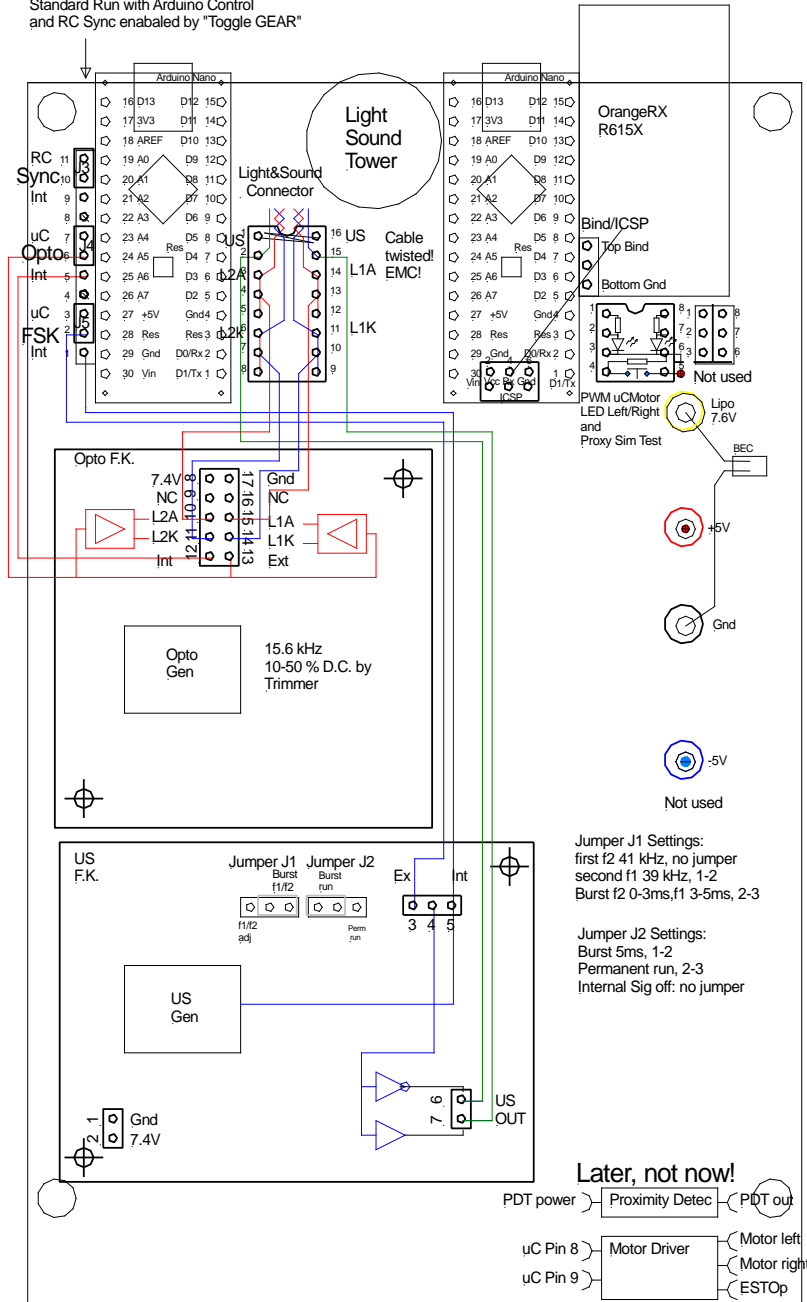


Fig. 3: Main board with US/Opto Generators, two Arduino and OrangeRX