How to setup a Multiwii Airplane

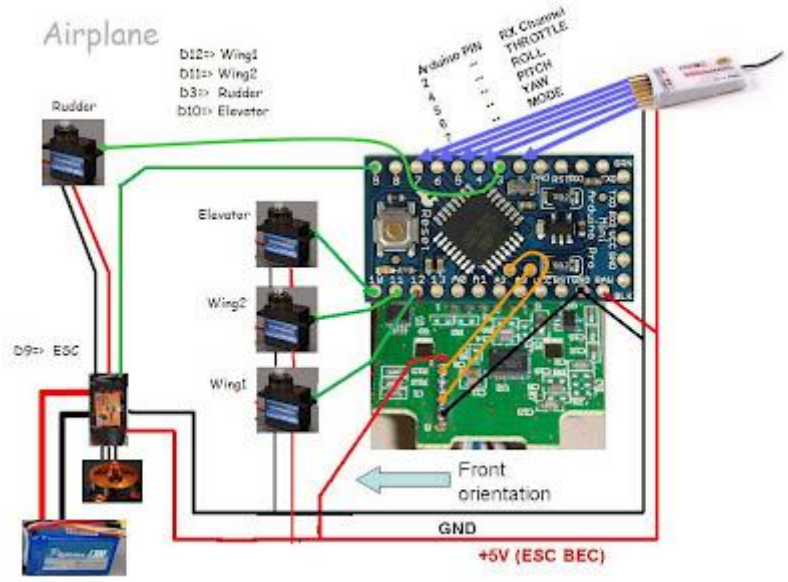
Same Hardware as a MultiWii copter.
Arduino PRO MINI. 5V 16MHz
- Gyro Ex Nintendo Wii motion plus.
- Accelerometer Ex Nintendo Nunchack.(Optional)
Acc only needed forAutoleveling.

Information about MultiWii can be found here.
MultiWii Forum
The MWii Project can be found here.

Start with a trimmed suitable plane.
Ex....
Dynam EZ-Hawk
MPX Easystar
HK Bixler.
.....

Connect servos to the Arduino.

	MINI	MEGA	AirPlane	Heli-90	Heli-120	Engine nr:
servo[0] =	A0	D34/44	-	-	-	
servo[1] =	A1	D35/45	-	-	-	
servo[2] =	A2	D33/46	-	-	-	
servo[3] =	D12	D37	Wing:1	Nckservo	Nckservo	
servo[4] =	D11	D6	Wing:2	Roll	Left	motor[3]
servo[5] =	D3	D2	Rudder	Tail	Tail	motor[2]
servo[6] =	D10	D5	Elev	Coll	Right	motor[1]
servo[7] =	D9	D3	Engine	Engine	Engine	motor[0]



Setup Transmitter
Set EXPO to 0 in gui.
Expo should be set on TX.

Set TX channels to full rates it shoud reach between 1000-2000us in the Gui.
Correct the direction on all servos with the TX Reverse settings.

Setup in PassThruMode.
Set all TX trims to zero and check the value when the sticks centers.
If it's not 1500 change #MIDRC in the code.
Adjust servomid in the code to center the ControlSurfaces.

Gyro or Acc assisted Mode.
Check if Gyro move servos in right directions.
Lift a wingtip and Ailerion goes up.
Lift the tail and Elevator goes up.
Rudder moves in same direction as the tail.
Reverse servos if needed.

If the gyros feels to sensitive, Use GyroSmootening in config.

For best result.
TX trims in mid and trim servoMid in the code in PassThruMode.
Setup the servotRates in the code NOT on the TX.

The settings is done in Config.h .

```
**************************************************************************
#define SERVO_OFFSET      { 0,  0,  0, -20,  40,  0,  20,  0 } // Servo MID Offset
#define SERVO_RATES       {100, 100, 100, 100, 100, 100, 100, 100 } // Rates in %
#define SERVO_DIRECTION { 1,  1,  1,  -1, 1,  1,  1,  1 }   // Invert servos by setting -1
**************************************************************************
```

Servos
Totally 8 servos is available.
Default mix uses.
2 Wingservos (one is inverted)
1 Elevator
1 Rudder
1 Trottelservo or esc.

There's 3 free servos to use. A0,A1 & A2
For use of a gimbal or other functions.

Adjust the mixes in outputfile for more advanced setups.

Passthru
Sends Rc commands direct to servos.

GyroMode
The plane should feel stable but still be able to loop & roll.
Stallspeed is lower and it can be necessary to "Push" it down in landings.

AccMode *(Level mode)*
Levels the plane when sticks is in center.LevelMode also limits how much the plane can tilt.

First flight

Engine must be *Armed* to prevent motorstart by accident..
It can be Armed from AXU-channel if it's setup in the gui .
Or with stick combination min throttle & max rudder.

Take of in Passthru.
Switch mode on safe height.
Activate Assisted modes and feel the difference.

Initial settings for my first testflight.
Gyro P=2
Acc P=5

Level-P value will Reduce the maximum throw in Level-Mode.
P=9 Will give similar throws as in Gro-Mode.