FLIGHT CONTROLLER H743-WING
QUICK START GUIDE

MCU: STM32H743VIT6, 480MHz, 2MB Flash
IMU: MPU6000 (SPI1) & ICM20602 (SPI4)
Baro: DPS310 (I2C2)
OSD: AT7456E (SPI2)
Blackbox: MicroSD card slot (SDIO)

7x Uarts (1,2,3,4,6,7,8) with built-in inversion
13x PWM outputs
2x I2C
1x CAN
6x ADC (VBAT, Current, RSSI, Analog AirSpeed, VB2, CU2)
1x SPI3 breakout

Switchable Dual Camera Inputs
Switchable 5V/9V(12V) for Camera/VTX

9–36V DC IN (3–8S LiPo)
High-precision Current Sense 132A Range
BEC 5V 2A for FC
BEC 9V 2A for camera/VTX, 12V option
BEC Vx 8A cont. 10A burst for servos, 5V, 6V or 7.2V option
LDO 3.3V 200mA

ArduPilot hwdef: MATEKH743
INAV: MATEKH743
## LAYOUT

### Components
- **ICM20602**
- **DPS310**
- **STM32H743VIT6**
- **AT7456E**
- **BlackBox MicroSD Slot**
- **DFU TYPE-C**
- **Vsw: 5V/9V selection**
  - **Vx**: BEC 5V/6V/7.2V for servos, default is 5V
  - **9V rise to 12V if “9V->12V” jumper is bridged.
  - **G**: Ground

### Connections
- **RX1/RX4: UART1, TX3/RX3: UART3, TX8/RX8: UART8, TX4/RX4: UART4**
- **ARSPD_PIN 4**
- **BATT_VOLT_PIN 10, BATT_VOLT_MULT 11**
- **BATT_CURR_PIN 11, BATT_AMP_PERVLT 40**
- **BATT2_VOLT_PIN 18, BATT2_VOLT_MULT 11**
- **BATT2_CURR_PIN 7**
- **Vx**: BEC 5V/6V/7.2V for servos, default is 5V
  - **5V**: onboard BEC 5V 2A cont.
  - **9V**: onboard BEC 9V 2A cont.
  - **9V rise to 12V if “9V->12V” jumper is bridged.**

### Specifications
- **Size**: 54x36x13mm
- **Weight**: 30g w/ top and bottom plate & USB extender
- **Holes**: 0.4mm, 30.5mm mounting
- **M3 Silicon Grommets included**
ArduPilot: MATEKH743
INAV: MATEKH743

Wiring (Airplane)

Top BEC plate
Silicon wires 22-24AWG

If you don’t connect Vbat/G/Vx to top BEC plate,
you can use other BEC module to power up the servos,
certain other BEC’s outputs to use 2-12S board.

**Vsw jumper one or the other must be bridged,
otherwise Vsw pad is not getting power.
Vsw is not only for powering Camera-2,
You can power VTX or other devices via Vsw also.

**Two cameras should use identical video format,
both PAL or both NTSC

** Double check out Camera signal and power cables
before powering them up.

CAN (UAVCAN) Peripherals
CAN (UAVCAN) Peripherals

2x CAN Peripherals in parallel

ASPD-DLVR CAN Node

Unsolder 2x 0ohm resistors

M8G-CAN Node, ASPD-DLVR I2C mode