

BTC 3-axis PWM stabilization board



The BTC 3-axis PWM stabilization board is a complete solution for driving and motion stabilizing 1, 2 or 3 axis gimbals using standard PWM servos. It incorporates an Inertial Motion Unit (IMU), microcontroller and USB driver for a compact, low power, single board solution. The board accepts 1 to 3 standard servo PWM cables for both input and output.

The BTC 3-axis PWM stabilization board functions by driving the gimbal in response to two inputs - movement commanded by the user, and reaction to external motion detected by the IMU, resulting in a steady view of the desired target regardless of chassis rotation.

The device defaults to operating in “velocity mode”- a command is interpreted as a rotation speed proportional to the distance from center. This mode is preferred for manual control via a joystick or other self-centering input. The BTC 3-axis PWM board can also be configured to accept position commands, for greater compatibility with autopilots or other control systems.

For use with non-BTC gimbals, two settings per servo can be configured via the USB port: travel per microsecond of PWM input and servo centering

Specifications:

Length x Width x Height	1.8” x 1.8” x 0.225”
Weight	7.3 grams
Max Power draw:	40mA @ 5-12 VDC
Output PWM rate:	50Hz
Input PWM rate:	20-100Hz
PWM width:	900-2100 default

Comparison Chart:

BTC 3 Axis Single Board		BTC 3EX System – VectorNav IMU
Sample rate	125 Hz	300 Hz
Precision	16 bit	32 bit
Accuracy	Pan and Roll - 1° Yaw - 4°	Pan and Roll - 0.5° Yaw - 2°