

# Force Feedback Sidestick Technical Specifications

## General

2 DOF  
 $\pm 20^\circ$  each Degree of Freedom  
No cogging torque

## Long Life

Extremely rugged - one moving part  
Steel ball bearings

## Direct Drive

No mechanical transmission  
Brushless permanent magnet motor

## Force Feedback

Very powerful ( $\frac{1}{2}$  hp motor)  
High torque (2 ft-lbs.)  
Rare earth magnets

## Power Supply

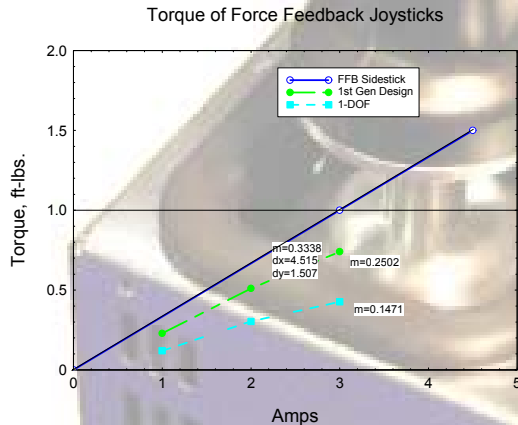
120 V AC  
Off-line MOSFET SMPS  
 $\frac{1}{2}$  hp motor

## Physical

18 lbs.  
 $6\frac{1}{4}'' \times 7'' \times 4\frac{1}{2}''$  high (base unit)  
Sidestick configuration

## Other Information

US Patent #6,320,284; other patents pending.  
Spring return to center (optional)  
Several ergonomic hand grips available.



## Responsive & Sensitive Device

Wide frequency response (1 kHz)  
High resolution ( $0.1^\circ$ )

## Operating Environment

Joystick temp. range  $-50$  to  $+125^\circ\text{C}$   
Electronics temp. range  $0$  to  $+85^\circ\text{C}$   
Humidity (100% saturated)