

CH Products

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Multifunction Oval

HFX Series IV Joystick

The **HFX Series IV Multifunction Oval joystick** is an ergonomic hand-operated controller capable of specialized function and high switch content. Featuring a modular design to allow for custom button configurations, the Multifunction Oval Joystick is designed to meet the specific requirements of harsh environment, off-highway applications. Configuration options include an index trigger switch, proximity sensor and a third, "Z" axis.

Features

- Dual and triple axis models
- Custom button configurations
- Ergonomic design, palm and index finger supports
- Rugged hand operated control
- Non-contact Hall effect sensing

Physical Specifications

Joystick Travel:	38° (19° from center)
Centering:	Single spring, omnidirectional
Housing:	High impact glass-filled nylon
Operational force:	1.3 Nm
Breakout force:	1.5 Nm
Maximum force:	1.7 Nm
Operating temperature:	-40°C to +85°C
Life cycles:	10,000,000

Electrical Specifications

Supply voltage:	5.0V (Except w/ voltage regulator option)
Center voltage:	2.5V
Supply current:	10mA/axis @ 5.0V
Output current:	2mA @ 5.0V
Output tolerance:	±2%

Configuration Options

- Index trigger switch
- Two or three axis
- Proximity sensor

Faceplate Configuration Options

The Multifunction Oval Joystick may be equipped with up to eight pushbutton switches and four LEDs. Please consult the factory or visit www.chproducts.com for Multifunction Oval Joystick faceplate configuration options



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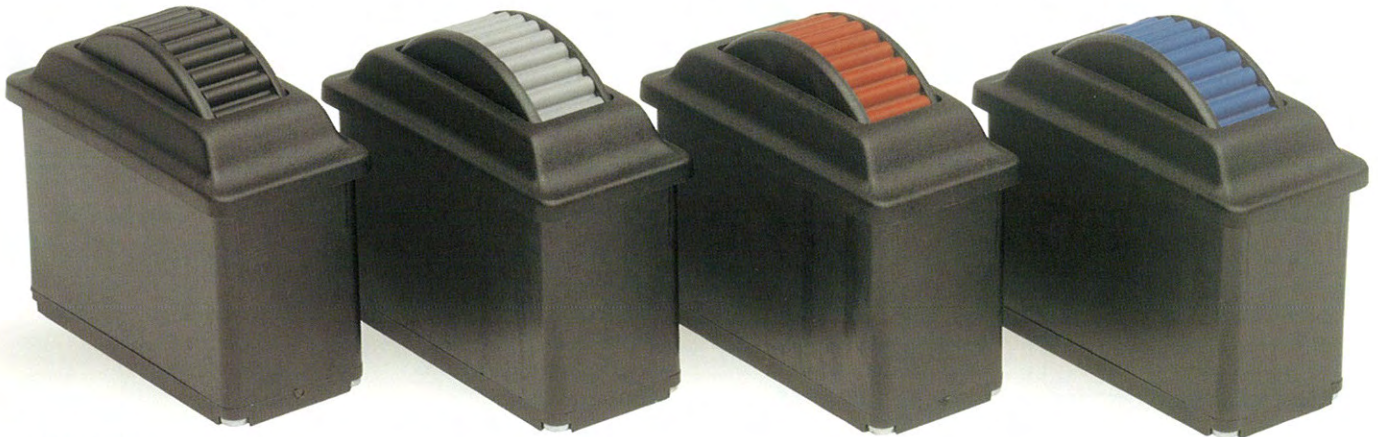
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HFX Thumbwheel

CH Products' HFX Thumbwheel is a self centering, single-axis device developed for thumb-actuated applications requiring proportional output control. Utilizing non-contact Hall effect technology for long life performance, the HFX Thumbwheel delivers up to 5,000,000 thumb actuations. Configuration options include choice of linear voltage span as well as wheel color. The HFX Thumbwheel is available as an individual component or may be incorporated into one of CH Products' custom joysticks.



Features

- Five million life cycles
- Hall effect sensing technology
- Proportional control
- Three output options
- Self centering single-axis design
- Choice of wheel color: red, gray, black or blue
- EMI/RFI filtering
- Potted electrical cavity
- RoHS compliant

Output Options

- 0V to 5.0V
- 0.5V to 4.5V
- 1.0V to 4.0V

Mechanical Specifications

Actuation force:	80 grams (0.78 Newtons)
Operating temperature:	-40°C to +85°C
Life cycles:	3,000,000
Pigtails:	28 gauge PVC insulated wire
Mounting hardware:	Steel spring retainer
Return to center:	1.0%

Electrical Specifications

Supply voltage:	5 VDC
Supply current:	10mA max
Output current:	3mA source/1.0mA sink
Output tolerance:	±2%

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CH Rocker Switch

CH Products' CH Rocker Switch is a rugged, long life cycle switch offering positive tactile feedback for safe momentary switching operation. Providing excellent mechanical and electrical performance, the CH Rocker Switch is available as an individual component or may be integrated into a custom configured CH Products' joystick.



Features

- One million life cycles
- Momentary switching action
- Low contact resistance (.025 ohms max)
- Vibration and shock resistant
- Positive tactile feedback
- RoHS compliant
- Choice of rocker color: gray, black, blue or red
- Potted electrical cavity

Mechanical Specifications

Mechanical life:	1,000,000 cycles minimum
Actuation force:	700 grams (6.9 Newtons)
Contact resistance:	Less than 0.5ohms
Operating temperature:	-40°C to +85°C
Pigtails:	28 gauge PVC insulated wire
Mounting hardware:	Steel spring retainer

Electrical Specifications (@28VDC, 115 VAC, 60/400Hz)

1,000,000 life cycles @ 1A

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CH IP Desktop Software

IP Desktop Software is an **optional** utility that creates a joystick/mouse combination device and allows users to toggle between both devices with the press of a button. In addition to dual joystick/mouse functionality, IP Desktop Software creates an additional fourth joystick axis, "R." The IP Desktop Software is designed to work with the IP Desktop joystick in a Windows based operating system only.

Software Driver Features

Creates a joystick/mouse combination device

Creates a fourth "R" axis

Assigns functions to buttons 1 and 2:

Button 1 – Toggles between "Z" and "R" axes

Button 2 – Toggles between "Joystick" and "Mouse" modes

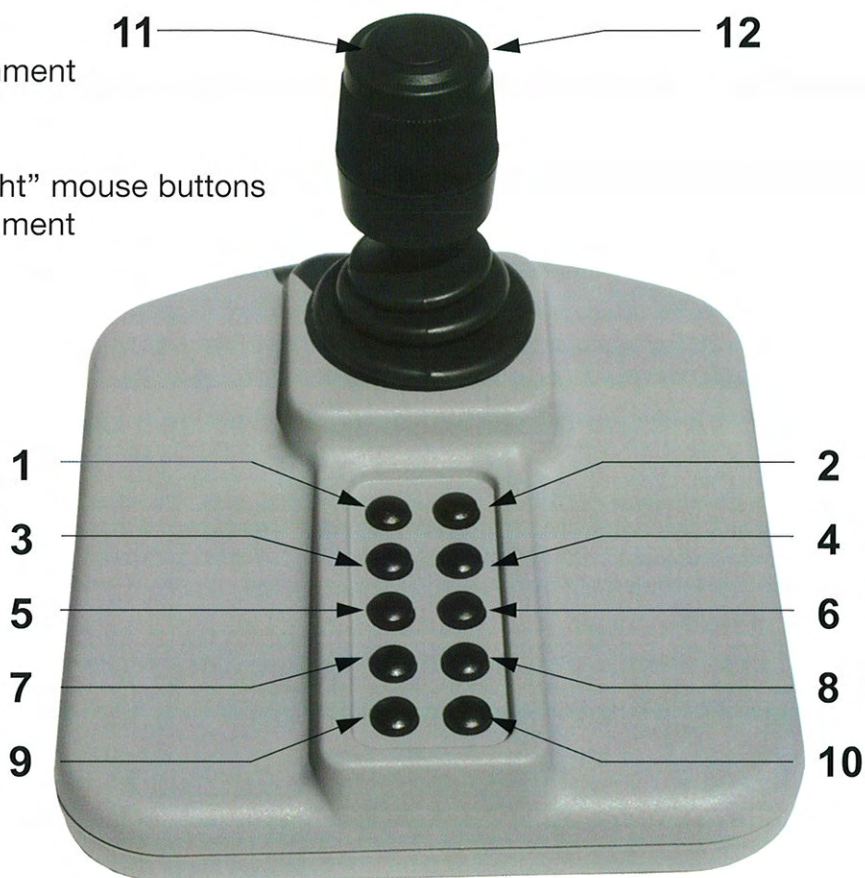
Joystick mode:

Buttons 3-12 remain available for assignment

Mouse mode:

Buttons 11-12 represent "Left" and "Right" mouse buttons

Buttons 3-10 remain available for assignment



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HFX T-BAR FADER

CH Products' T-Bar Fader is a single-axis, finger-operated Hall effect joystick designed for use in highly repetitive applications requiring unwavering, proportional analog control. Utilizing a low-profile compact design and friction-clutch lever action, the T-Bar Fader is a precision dual direction controller ideally suited for audio/video production.

Physical Specifications

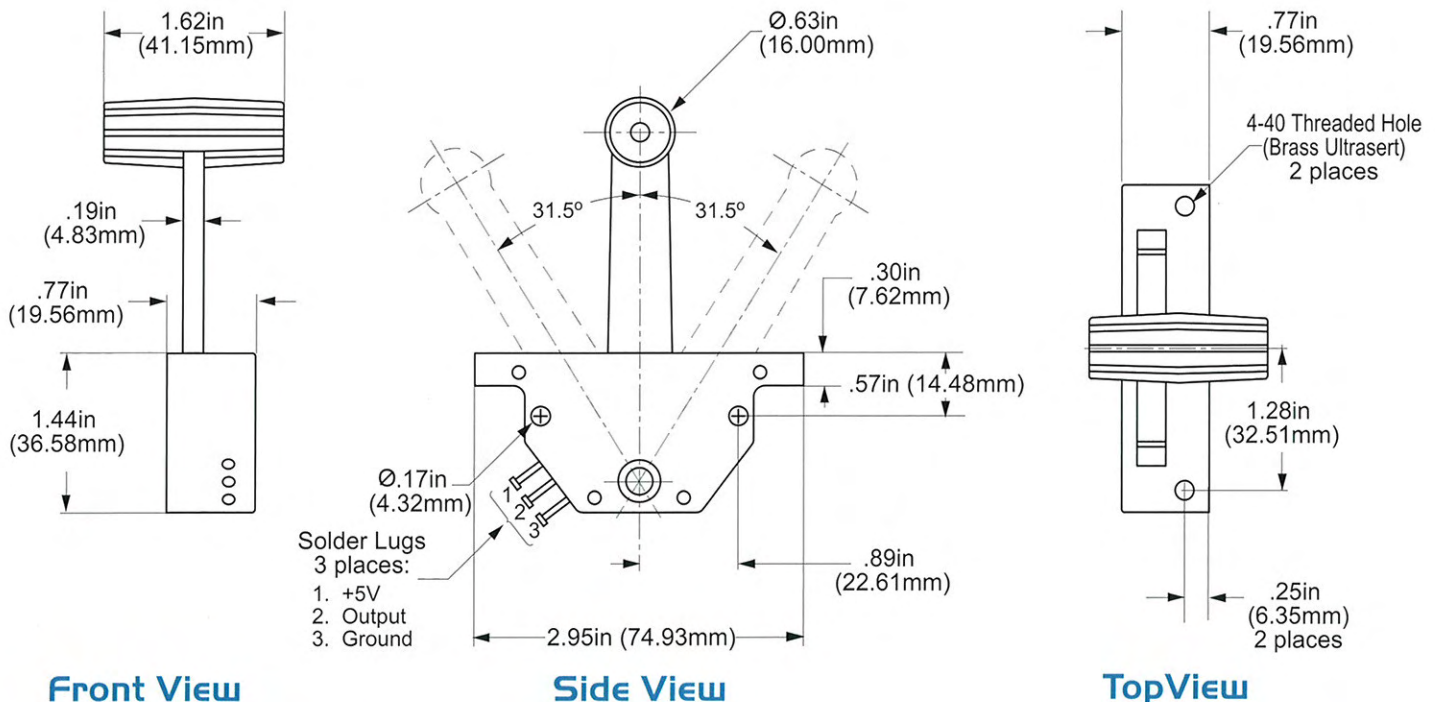
- Lever travel: 63° (31.5° from center)
- Housing: High impact glass-filled nylon
- Operational force: 0.115 Nm
- Operating temperature: -40°C to +85°C
- Life cycles: 3,000,000

Sensor Output Options

- 0V to 5.0V
- 0.25V to 4.75V

Electrical Specifications

- Output voltage: See Sensor Output Options
- Supply voltage: 5V
- Center voltage: 2.5V
- Supply current: 10mA max
- Output current: 2mA max
- Output tolerance: ± 2%



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DT225 Trackball

CH Products' DT225 trackball is designed for desktop applications requiring an ergonomic, space friendly pointing device. Available in either black or platinum, the DT225 Trackball is available with several protocol options including USB, PS/2 and Quadrature. Widely used applications include graphic design, CAD/CAM workstations as well as PC gaming.

Standard Features

- Non-contacting optical encoders
- Click and click-lock inputs
- Polished stainless steel shafts and bearings
- Standard AMP connectors

Physical Specification

Ball diameter:	2.25"
Tracking force:	12g
Weight:	460g
Life cycle (ball rotations):	5,000,000
Operating temperature:	-40°C to +85°C



Protocol Options and Specifications

USB

Input:	4.75V - 5.25V @ 25mA max
Output:	USB 1.1

PS/2 (2/BTN PS/2)

Input:	5.00V @ 25mA max
Output:	CMOS/TTL, Serial

Microsoft Serial

Input:	DTR/RTS @ 14mA max
Output:	RS-232, Serial

Quadrature

Input:	5.00V @ 30mA max
Output:	Quadrature Waveforms

Sun Workstation

Input:	5.00V @ 30mA max
Output:	CMOS/TTL

Configuration Options

Available in either black or platinum
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