

SJ232

by: CH Products

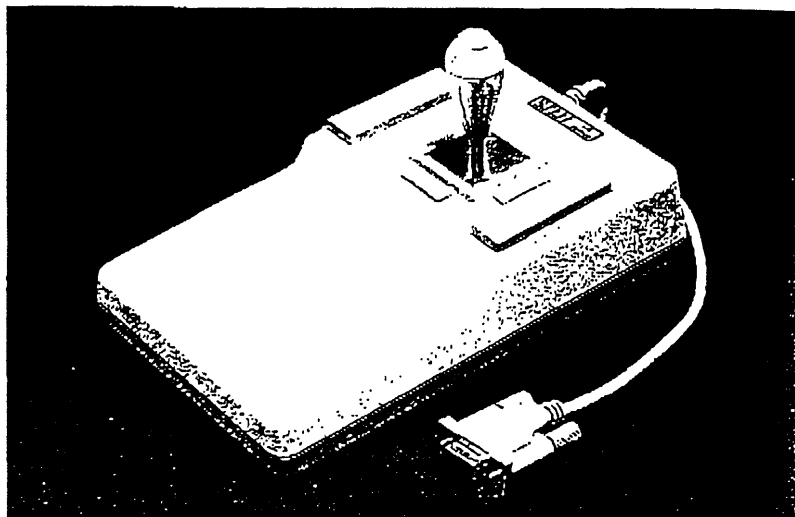
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Serial Joystick Desktop or Panel Mount

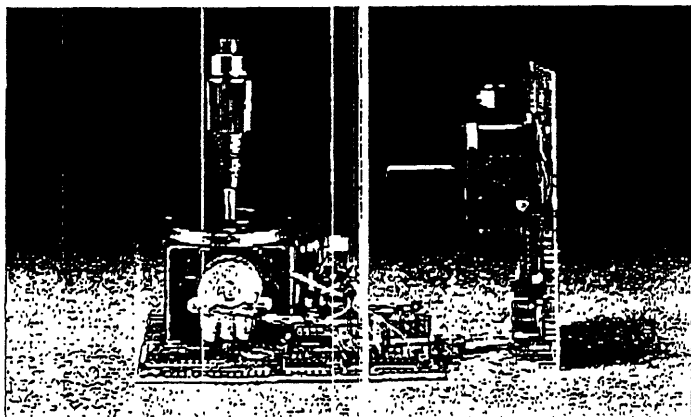
Versatile, Reliable, Industrial Quality

The SJ232 Serial Joystick combines our fine precision finger actuated joystick controls with a serial (RS232) interface card. This handy combination helps to reduce both design costs and time-to-market for new products. The SJ232 can be used as an industrial quality alternative to either a trackball or a mouse when controlling cursors or icons in screen based applications. It is also ideal as a control for stepping motors or servo motors used in motion based applications.

The SJ232 Serial Joystick is available in either panel mount or desktop configurations with many options to suit most applications. Our joystick offerings include single, dual, and three axis models with up to five buttons. The SJ232 interface card allows for custom modifications and can easily support a fourth axis control for integration of such things as turnknobs, thumb wheels, slide bars, or even a second joystick. The interface card is also designed with the capability to support up to 24 switch functions which will greatly simplify the integration of additional buttons on a custom panel or control box.



SJ232 Desktop Model P/N: SRLC2000H1J-FJS



SJ232 Panel Mount Model

P/N: SRLS20L0E1J (left) P/N: SRLM21L061R (right)

The desktop version of the SJ232 Serial Joystick can be operated in either a spring-return-to-center or free-floating mode. The ergonomic design comes complete with a built in wrist pad, non-skid rubber feet, and a shielded cable with a standard Db9 female serial port connector. The panel mount version of the SJ232 can be ordered with a rubber boot to seal out water, oils, and other contaminants. High quality components which include stainless steel springs and pivot ball insure a minimum mechanical lifecycle of 5 million handle deflections. The potentiometers used for the joystick axis are rated at two million rotational cycles. An optional 10 million cycle potentiometer is also available.

The SJ232 Serial Joystick can be operated as either a relative or an absolute positioning control. A change in the dip switch settings is all that is required to change modes. The SJ232 will support 2 axis relative control on a standard PC using a Microsoft mouse driver. A custom driver is also provided for operation of the unit as an absolute positioning device in a Windows®95 based application. A communications protocol document is available for the development of custom drivers which will allow the SJ232 joystick to be easily interfaced to UNIX workstations as well as to other non-PC based systems. The SJ232 is both FCC and CE approved and carries a full one year warranty.

Windows® 95 is a registered trademark of the Microsoft Corporation.

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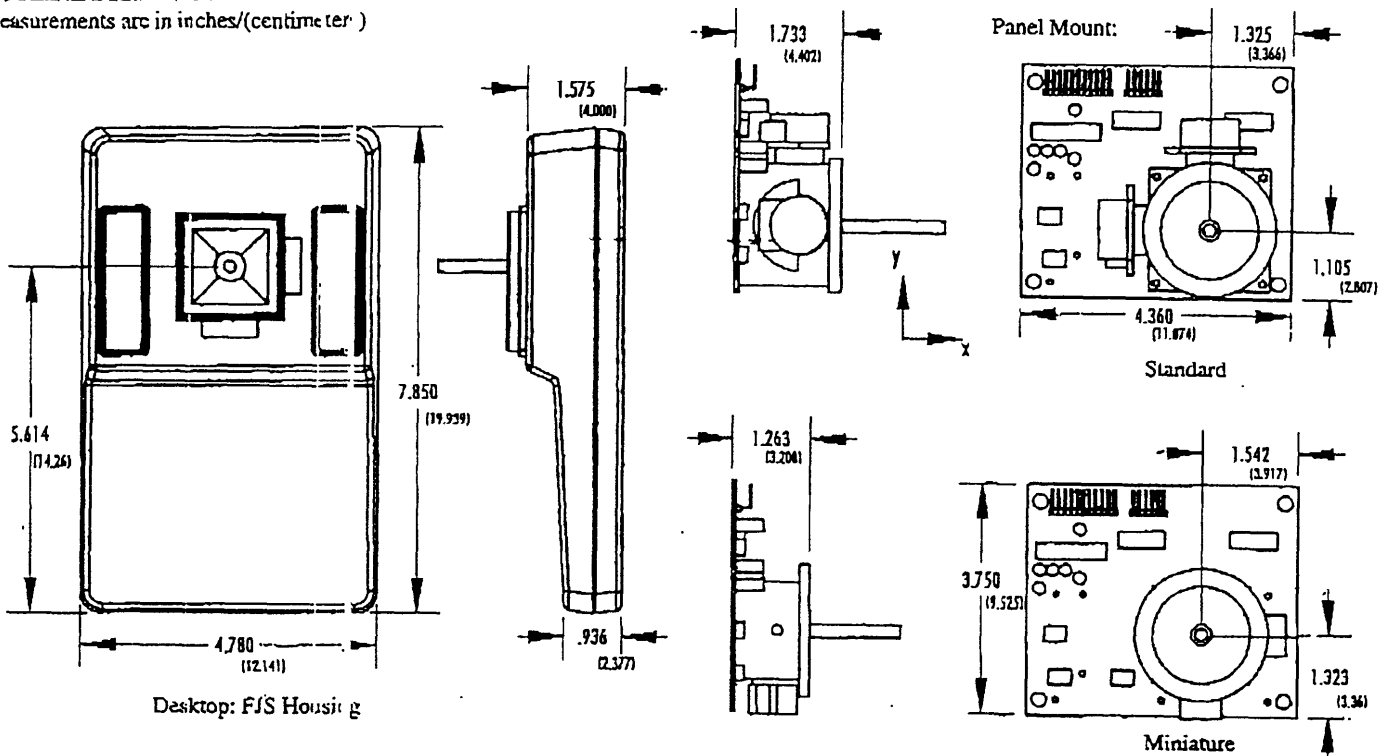
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SJ232 Series

Serial Joystick

OUTLINE DRAWING:

Measurements are in inches/(centimeter)



Standard Features: Industrial quality line precision joystick - Serial (RS232) interface card - Supports up to 4 analog axis inputs and up to 24 distinct button inputs - Variable BAUD rates of 1200 and 9600 BPS - Both relative & absolute positioning modes - Either spring-return or free-floating operation - Compact low profile design - Many options to suit most requirements - Microsoft™ mouse protocol support - Wintab™ driver for Windows™ 3.1x/Win95 applications - Easy installation

Electrical Specifications:

Format: Input Output
 Serial (RS232).... *DTR @ 5 mA Max and RS232
 *RTS @ 5 mA Max
 Serial (+5V)..... +5 VDC @ 5 mA Max CMOS/TTL
 Serial (+9V)..... +9 VDC @ 5 mA Max CMOS/TTL
 *Voltage for DTR and RTS ranges between +6V to +15 V

Cable: (26 AWG, 10 strand wires, shielded, PVC jacket)
6-Pin Socket Pin-out: DB9 (female Connector Pin-out:
 Pin 1: Brown (RTS) Pin 2: Red (RD)
 Pin 2: Red (RD) Pin 3: Orange (TD)
 Pin 3: Orange (TD) Pin 4: Yellow (DTR)
 Pin 4: Yellow (DTR) Pin 5: Green (GND)
 Pin 5: Green (GND) Pin 6: Blue (DSR)
 Pin 6: Blue (DSR) Pin 7: Brown (RTS)
 Shell: Drain wire

Note: Cable is provided with desktop SJ232 and must be ordered separately for panel mount models

Potentiometer:

	CTS	NEI	*Copal
Electrical:	HP Series	Sensorcube	CRV-16
Element	(option J) Conductive	(option R) Conductive	Conductive
	Carbon	Plastic	Plastic
Resistance (ohms)	100K	5K	5K
Tolerance	±9%, ±5%	±10%	±20%
Power Rating	.25W	1W	1W
Linearity	±5%	±1%	±1%
Temp. Range(°C)	0 to +85	-65 to +125	-10 to +65
CRV	1%	1%	2%
Electrical Travel	50°	50°	260°
Mechanical:			
Rotation	300°	310°	300°
Terminals	Solder Lug	Solder Lug	Solder Lug
Rotational Life	2,000,000	10,000,000	1,000,000
*CRV-16 pot used in 3rd (Z) axis handles no. 8 & 9			

Switches: Rated at 5 million (minimum) cycles at 500mA @ +12VDC, normally open, single pole, single throw, momentary contact.

Physical Specifications:

Joystick Travel	2" from center in all directions (2" standard panel mount)	Main Ball Pivot	Precision ground stainless steel
Mechanical Life	5 million (minimum)	Stick Shaft	3/16" chrome plated brass
Mounting Panel Thickness	0.50 to 0.1875 inches	Springs	coil type stainless steel
Return to Center Repeatability	±1% (panel mount) ±% (desktop)	Housing	glass filled nylon
		Temp. Ranges:	Storage -40°C to +85°C Operating .. -25°C to +80°C

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Typical Applications: Remote Camera & CCTV Controls - Test & Measurement Equipment - Medical Imaging Systems -
Automated Machine Controls - Video Editing & Production Equipment - Industrial & Scientific Instrumentation

SJ232 Serial Joystick Part Number and Configuration & Availability Guide

Description	Designation	Feature	Feature Availability											
Joystick Type	SRIS	Standard												
	SRLM	Miniature						M	M	M	M			
	SRIG	Compact										C	C	C
Model Number	1	100-2 Axis												
	2	200-2 Axis w/Pushbutton												
	3	300-3 Axis												
	4	400-4 Axis w/Pushbutton												
Construction	0	Nylon Plastic	X	X	X	X						X	X	X
	1	Wellamid					X	X	X	X	X			
Mounting Bezel	C	Split Bezel - Textured (FM)	X	X	X	X	X	X	X	X	X			
	O	Computer Bezel										X	X	X
	X	Rubber Boot Kit (FM)	X	X	X	X	X	X	X	X	X			
	O	Square Bezel Snap-on (FM)	X	X	X	X	X	X	X	X	X			
	U	Round Bezel Snap-on (FM)	X	X	X	X	X	X	X	X	X			
	X	Without Bezel	X	X	X	X	X	X	X	X	X			
Centering	0	Spring Centering		X	X	X	X	X	X	X	X	X	X	X
	1	Friction Clutch		X	X	X	X							
	3	Center Detent - X Axis	X	X	X	X								
	4	Center Detent - Y Axis	X	X	X	X								
	5	Center Detent - Both Axes	X	X	X	X								
	6	Torque Set					X	X	X	X	X			
Stick Handle	0	Concave Tip-Long (600-024)	X					X				X		
	6	Straight Tip-Short (600-020)	X											
	7	3rd Axis - #7 handle			X					X				X
	8	3rd Axis - #8 handle				X								X
	9	3rd Axis w/pushbutton-#9				X					X			X
	A	Straight Tip-Mid (600-019)					X							
	B	Straight Tip-Long (600-018)					X							
	C	Balanced (600-017)												
	D	Pushbutton - Option E		X				X				X		
	H	Pushbutton - Option H											X	
	X	Without handle	X					X				X		
Trim Control	0	Above Panel Trim	X	X	X	X								
	1	Below Panel Trim	X	X	X	X	X	X	X	X	X	X	X	X
Potentiometer	I	CTS (HP 100) 100K	X	X	X	X						X	X	X
	R	NEI (Sensorecube) 5K						X	X	X	X			
	Z	Special Pot	X	X	X	X								
Housing	FJS	VI Housing w/2 buttons										X	X	X
	MIS	VI Housing w/2 buttons										X	X	X
	MJ0	VI Housing w/0 buttons										X	X	X
	MJ4S	VI Housing w/4 buttons										X	X	X

Notes:

1. X denotes availability of features.
2. For additional product options, ask your representative for a complete product catalog.
3. Example: SJ232 Part Number: SR LC2000H1J-FJS = Serial Joystick, Compact model 200, 2 Axis with pushbutton, nylon plastic, computer bezel, spring centering, option H handle, below panel trim, CTS 100K pots, FJS housing.
4. CE standards to which conformity is declared: EN50081-1:1991, EN50082-1:1991

*Additional charge

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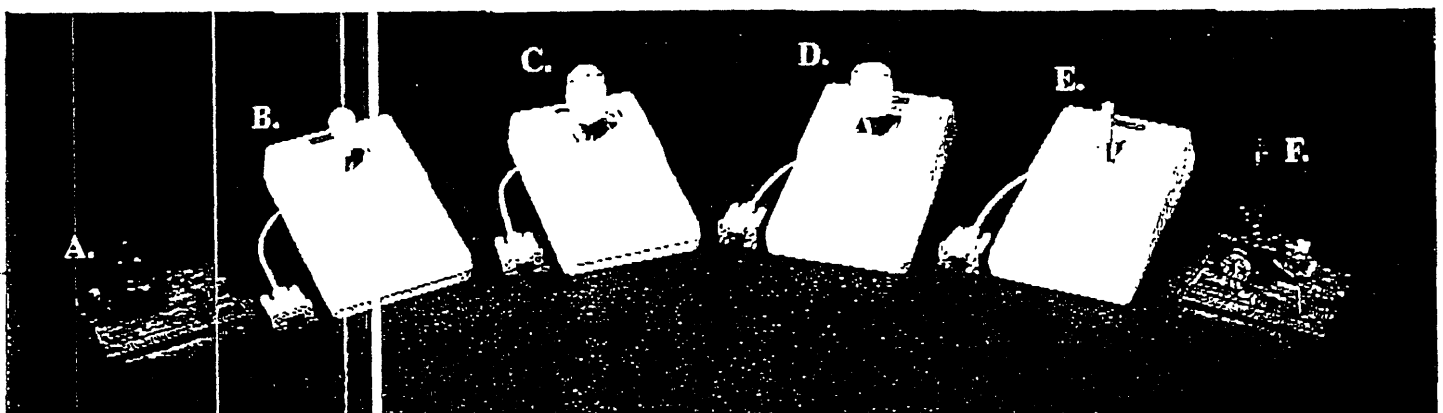
CONFIGURATION NOTES

1. **Centering** - The desktop serial joystick has user selectable spring release tabs which allow the joystick to be used in either a spring return or a free floating mode. The panel mount joysticks are configured as either spring return or free floating devices and can not be modified after being built. Therefore, **IT IS IMPORTANT** to determine prior to ordering whether the application requires either a spring return or a free floating panel mount serial joystick. The standard panel mount joystick can be ordered with friction clutch free floating centering, option 1. The friction clutch option can be adjusted with a hex key to vary the amount of friction being applied to the pivot ball. The miniature panel mount joystick can be ordered with torque set free floating centering, option 6. The torque set option is not adjustable.
2. **Center Detent** - A spring loaded center detent option is available for the standard panel mount serial joystick with friction clutch free floating centering. The center detent option provides for tactile feedback when the stick handle is moved across the center position. This is handy for motorized applications requiring a center off position. The center detent option is available on either or both axes.
3. **Potentiometers** - Both the desktop and panel mount serial joystick come standard with the 2 million cycle CTS HP100 pots, option J. The 10 million cycle NEI Sensorcube pots, option R, may be substituted.
4. **Miniature Panel Mount Joystick** - The miniature joystick may be substituted in the panel mount configuration when ordered with the NEI Sensorcube potentiometer option R.

Configurations Examples

	Spring Centering	Torque Set
Model 100	P/N: SRLM11C031R	P/N: SRLM11C631R
Model 200	P/N: SRLM21L0E1R	P/N: SRLM21L6E1R
Model 300	P/N: SRLM31C081R	P/N: SRLM31C681R
Model 400	P/N: SRLM41L091R	P/N: SRLM41L691R

5. **Bezels** - The desktop serial joystick should be configured with the square, option O, computer bezel. There are no other bezel options for the desktop serial joystick. The panel mount serial joystick comes configured with the round, option C, split bezel. The rubber boot kit, option L (p/n: 600-022 for standard and 600-059 for miniature), is also available. The round, option U, snap-on bezel can be ordered for the standard model, while the square, option Q, snap-on bezel is available for either standard or miniature model 100 panel mount serial joysticks. The option Q bezel cannot be ordered with the ball tip handle, option C.
6. **Housings** - The desktop serial joystick includes the FJS 2 button housing in IBM gray (black is optional). The Ø button MJØ housing may be substituted. The 2 button MJS housing or the 4 button MJ4S housing are also available.
7. **Springs** - The standard panel mount serial joystick may have 50% stronger springs installed in either the X, Y, or Z axis (#8 or #9 handle only). The miniature panel mount serial joystick may have either 50% or 100% stronger springs installed in the X or Y axis with 50% stronger springs available for the Z axis (#8 or #9 handle only). There are no spring options for the desktop joystick.
8. **Buttons** - The serial joystick is configured to support up to 8 button inputs. If needed, the PCB can be upgraded to support up to 24 button inputs.
9. **Cables** - The desktop serial joystick comes standard with a 7 foot gray cable with Db9 connector (p/n: 900-525G). This cable may be ordered separately for the panel mount serial joystick. The cable is also available in black (p/n: 900-525B).
10. **Single Axis Joystick** - Both the standard and miniature panel mount serial joysticks can be ordered with either the X or Y axis locked. There is no single axis option for the desktop serial joystick.



A:SRLM11L061R B:SRLC200JH1J-FJS C:C400091J-MJ4S D:SRLC300081J-MJS E:SRLC100031J-MJ0 F:SRLS20L0E1J

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