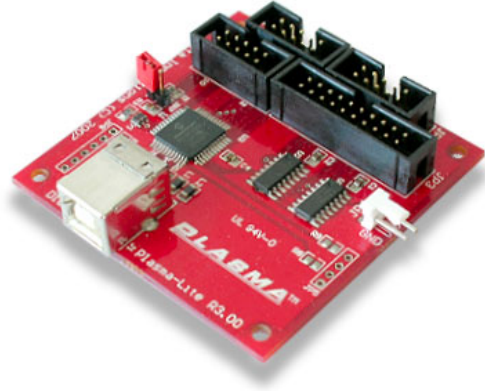


The Plasma-Lite™ V2 USB module is the next generation input device now featuring 12-bit resolution on all analog inputs, up to 16-bits on digital encoder channels, and fully software configurable.

Plasma-Lite™ V2 is designed to provide human interface through a multitude of inputs such as throttle quads, yokes, rudder pedals, racing wheels, and configuration ease and flexibility through a straightforward and user-friendly Windows visual tool.

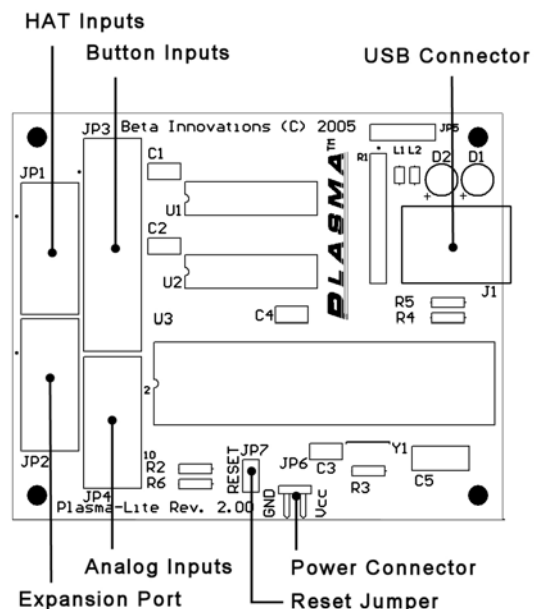


Full Speed USB HID compliant device, Plasma-Lite™ V2 utilizes default drivers included with most operating systems and is DirectX compatible.

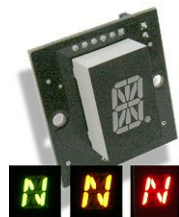
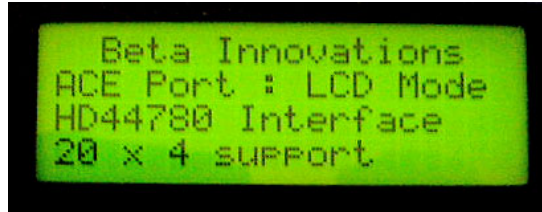
Plasma-Lite™ V2 devices use only high quality components and PCB resulting in an increased device longevity and stability.

Specifications:

- The Plasma-Lite™ V2 device is a Full Speed USB HID compliant device, which employs default drivers supplied by most OS and powered by the USB Bus.
 - Benefit: *fully Plug & Play easy installation with no performance impact on the OS. No need for external power supply, reducing overall cost.*
- Analog Axis Input - 12-bit resolution (4095 steps) on all axis inputs. Supports a variety of input devices including, potentiometers, Hall-Effect sensors, and pressure transducers or force sensors for precise control.
 - Benefit: *compatibility with an extremely wide range of analog input components. This allows the builder to select the most appropriate input device: from Hall-Effect for extremely high precision and reliability down to simple potentiometers.*
- Expansion Port – Provides expandable functionality. Currently supports ACE-4X & GT-64X input modules, up to 6, 13-Bit Absolute Encoders, 20x4 Character LCD and Analog Gauges.
 - Benefit: *eliminates obsolescence and increases usability. Allows a gradual and cost-effective expansion of the system.*
- Digital Filtering Algorithm - Features a proprietary per channel adjustable *Recursive Moving Delta Sigma* filtering algorithm.
 - Benefit: *total elimination of input component noise, spike and jitter which is the result of potentiometer "age" or external interferences which cannot be reliably and efficiently eliminated with passive methods. The digital filter is the only reliable method, which provides a noise-free and stable output throughout a wide bandwidth (critical for sensitive control inputs such as joysticks and racing wheels).*

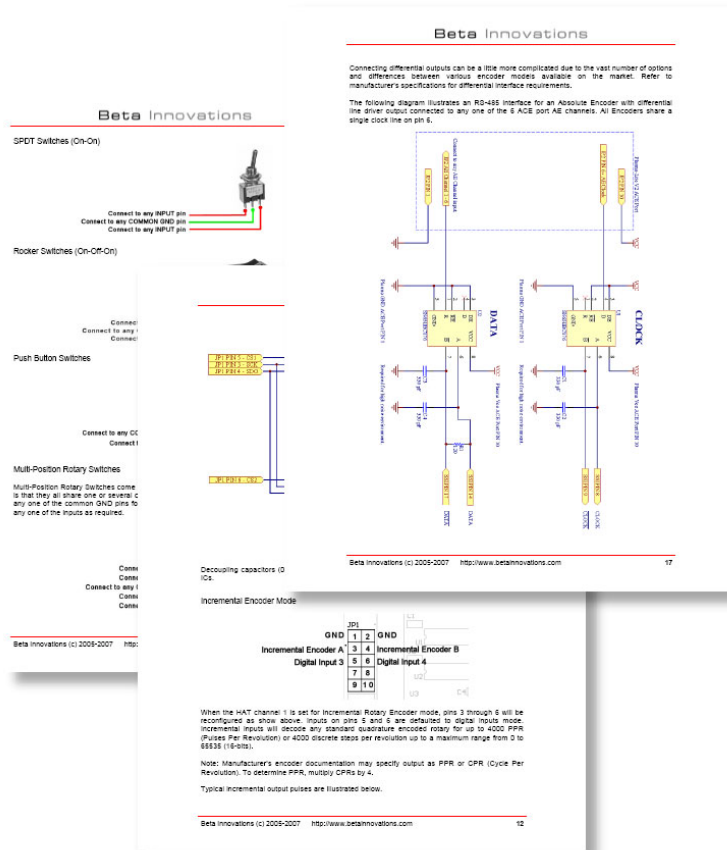


- Hardware Calibration / Tweaking - Calibration values are store on chip including trim and deadzone settings.
 - Benefit: *elimination of 3rd party calibration / tweaking software utilities. No need to re-calibrate in Windows when connecting module to new USB port or different PC's. Once calibration data is stored in hardware, the module becomes a true plug-n-play device ready to be used on any PC.*
- 20x4 LCD Support - Any HD44780 compatible character LCD can be controlled. Can be used with various simulator plugins or controlled through custom applications developed with the SDK
 - Benefit: *display custom data or multiple simulation parameters through industry standard LCD interface.*
- POV HAT Support - 2 Digital 8-way POV HAT inputs configurable as 8 additional buttons and 7-segment display output for H-Shifter or Sequential Shifter indicator.
 - Benefit: *it is possible to emulate any type of joystick and/or fine-tune functions to specific games/applications.*



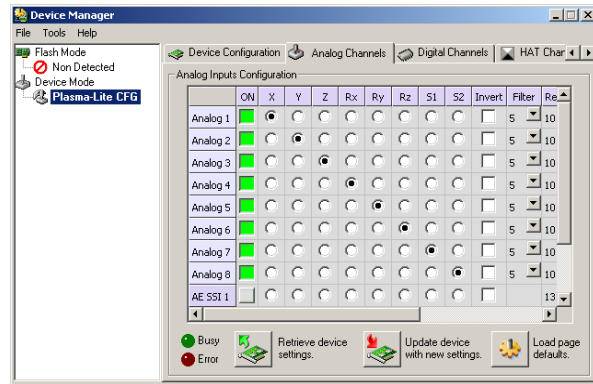
- Incremental Encoder Support - up to 4000 PPR (1000 CPR x 4 decoding). Usable axis range from 0 to 65535 (16-Bits).
 - Benefit: *Ideal for multi-turn high fidelity positional encoders such as racing wheels or control dials, etc. This feature offers an extremely accurate positional input suitable for gaming or industrial-grade applications.*
- Button Inputs - 16 button inputs (Active Low) Supports a variety of input devices including common switches: push buttons, toggles, etc. Various modes supported including master switch, rotary and toggle. Up to 88 button inputs available with expansion card.
 - Benefit: *direct digital inputs easily add functionality without the need for complicated diodes and multiplexed keyboard matrix circuits. The "active low" inputs keep noise down, allowing for long-running non-shielded wires reducing costs while adding reliability and simplicity.*
- Rotary Encoder support - button inputs can be reconfigured for support of up to 8 rotary encoders.
 - Benefit: *added flexibility in input definition. No need for additional rotary decoder circuits. Just define the digital inputs as needed and you have a fully decoded and filtered input for multiple-type rotary encoders.*
- Flash Loader Mode - Incorporates a Flash Loader for easy firmware update via USB.
 - Benefit: *online firmware version checking provides easy, fast and painless updates, keeping the firmware up-to-date and down-time to minimum.*

- Windows configuration tool – All Plasma-Lite™ V2 functions are easily configurable through a fully visual interface.
 - Benefit: *eliminates input “programming” errors and facilitates maintenance and fast customization. No need to learn new “programming languages” and maintain cryptic configuration files.*
- SDK – All Plasma-Lite™ V2 functions can be easily accessed through custom applications. Samples are provided in various programming languages and fully documented.
 - Benefit: *allows developers complete flexibility and control through custom interfaces.*
- Detailed User Manual – provides schematics and examples for all supported features through clear diagrams and easy to understand descriptions.
 - Benefit: *thorough documentation written with both the novice and advanced users in mind eliminating all wiring guesswork.*

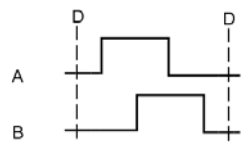


Device Manager Windows Configuration Tool specifications:

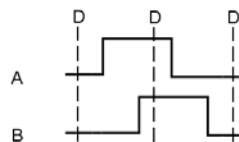
The Device Manager Windows configuration Tools uses a fully point-and-click, GUI environment that enable the configuration and control of all Plasma-Lite™ V2 functions:



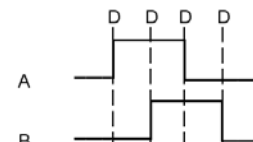
- Analog Channels:
 - Channel activation/deactivation
 - Axis mapping
 - Axis reversal
 - Spike filter
 - Digital filter level
 - Axis resolution
 - Centering button (Absolute Encoder & Incremental Encoder Channels)
 - Incremental mode (Absolute Encoder Channels)
- Axis Tweaking:
 - Channel activation/deactivation
 - Min Trim
 - Deadzone
 - Max Trim
 - Axis Combining
 - Hardware Calibration (Automatic or Manual)
- Digital Channels:
 - Channel activation/deactivation
 - Master switch
 - Input Modes: Normal, Toggle, Pulse, Momentary, Rotary
 - Pulse width
 - Rotary Decoding:



Gray Code 1X



Gray Code 2X



Gray Code 4X

- HAT Channels:
 - Channel activation/deactivation
 - Digital buttons input mode
 - 4000 PPR Incremental Rotary mode
 - 7-Segment display mode
 - RXC Card support
 - NITRO Card support
 - LBG10-DG support
- Expansion Port:
 - ACE-4X 32 button input card
 - GT-64X 64 button input card
 - 13-Bit SSI Absolute Encoders
 - 10-Bit MAB25 Absolute Encoders
 - Character LCD 20 x 4

Visit us at www.betainnovations.com and discover our new expansion modules and accessories.