

X-keys®

USB 84 and 128 key keyboards by
P.I. Engineering, Inc.

Preliminary Developer's Information



**This document is relevant to all X-keys USB 84 and 128 key keyboards
For the most current and detailed information, please see the help section of our
Software Development Kit on the included CD or download it from our web site:
www.xkeys.com**

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P.I. Engineering offers six versions of X-keys® 84 and 128 key keyboards

- XK-239-WO (84 keys without Card Reader)
- XK-240-TK12 (84 keys with Magnetic Strip Reader)
- XK-241-LED (84 keys with Optical Barcode Reader)
- XK-242-WO (128 keys without Card Reader)
- XK-243-TK12 (128 keys with Magnetic Strip Reader)
- XK-244-LED (128 keys with Optical Barcode Reader)

The X-keys 84 and 128 key keyboards provide convenient, direct input from the user to the application via USB interface. The Software Development Kit provided by P.I. Engineering allows the programmer access to input from all keys, an 8 position locking switch, and the optional card reader. Output to LED indicators (four on the 128, three on the 84) is also supported by the SDK. A variety of key cap options give the keypad the flexibility of a custom layout with a professional finished look.

USB Interface

Compatible with USB 1.1 through 2.0. The X-keys is a low speed USB device which reports data to the HID Consumer Page and uses P.I. Engineering's SPLAT Mode to communicate with your application. The USB port is also the sole source of power for the X-keys.



Card Reader Options



The LED card reader supports a wide range of bar codes (see specifications below). The Magnetic Strip card reader is capable of reading ISO 7811 standard track 1 and track 2.

P.I. Engineering's X-keys SDK

The code examples and documentation included on the CD or available via download (visit www.xkeys.com) offer programmers and software developers a start to establish communication between an application and the X-keys device. Included are examples in Visual Basic, C ++, and more.

Unit Identification numbers may be easily assigned to individual X-keys to provide a convenient method for differentiating between them. These Unit IDs are saved in the X-keys non-volatile memory and maintained even if the unit is unplugged.

Locking Switch

The eight position rotary lock switch comes with a master key, and six more keys with limited access to positions 1-7 (see table). All keys enter and exit at position 0.



Key	001	002	003	004	005	006	007
Positions	1	2	2, 3	2-4	2-5	2-6	2-7

Key Cap Options



Custom legends printed on an inkjet or laser printer may easily be fitted under the clear caps to give the keys a professional look. Clear covers hold paper legends securely. Optional accessories include double-wide, double-tall, and large square key caps. Industrial key caps, also available, prevent users from tampering with your legends. Key spacers cover switches to separate keys or create specific patterns in a professional looking housing.

Foot Pedal Option

Our three pedal Foot Switch (part # XK-A-173) may be connected to the X-keys to provide hands free input. The RJ11 port provided may alternatively be used to connect three switches.



Specifications for X-keys 84 and 128 key keyboards

Included Software	X-keys SDK with examples in Borland C++ Builder, Visual Basic 6.0, Visual C++ 6.0, Visual Basic.NET, Visual C++.NET, and Visual C++ 6.0/.NET MFC
Key Caps	Single clear caps for custom legends provided (other options available)
Key Switch Type	Cherry type MX mechanical switch, 3/4" (19 mm) on center, silent tactile feel
Locking Switch	8 position rotary switch (7 keys included)
Bar Code Reader	Full ASCII Code 39, Interleaved 2 of 5 Code, 2 of 5 Code, EAN 8 and EAN 13 UPCE and UPCA, Code 128, CODABAR, Code 93, Code 11
Magnetic Strip Reader	ISO 7811 standard track 1 and track 2
Connector and Cord	USB "A" plug with 9.8' (3 m) hard wired cord
USB type	Compatible with USB 1.1 through 2.0
Dimensions	84 Key: 10.2 x 7.5 x 1.8 inches (259 x 191 x 46 mm)
	128 Key: 14 x 9.2 x 2 inches (356 x 234 x 51 mm))
Foot Pedal Port	RJ11 (4 wire telcomm)
LED Indicators	84 Key: 3 Function Indicators (green)
	128 key: 1 Power Indicator (green), 4 Function Indicators (3 green, 1 red)
Weight	84 Key: 2.2 lbs (1 Kg)
	128 Key: 3.7 lbs (1.7 Kg)
Operating Temperature	0-70°C (32-158°F)
Power Source	USB port power, nominal voltage = 5 vdc
Power Consumption	W/O reader: Low power USB device, less than 85 ma @ 5 vdc
	W/mag. strip reader: Low power USB device, less than 95 ma @ 5 vdc
	W/barcode reader: High power USB device, less than 120 ma @ 5 vdc
Warranty	1 yr repair or replacement on hardware (see details below)

Specifications subject to change without notice

How to Find Us

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Limited Warranty

For all **X-keys** products purchased and installed in the United States and Canada, P.I. Engineering warrants that the **X-keys** product will be free from defects in materials and workmanship under normal use and service, and will meet the specifications presented by P.I. Engineering at the time of original purchase, for one year as evidenced by a copy of the purchase receipt. Under this warranty, P.I. Engineering will, at its sole option, repair or replace any **X-keys** product which is defective, provided that you are responsible for (i) the cost of transportation of the product to P.I. Engineering or its designated service facility, and (ii) any loss or damage to the product resulting from such transportation.

Upon discovery of a defect in the product within the Warranty Period, you should notify P.I. Engineering Technical Support via telephone to obtain an RMA (return authorization number) and instructions for shipping the product to a service location designated by P.I. Engineering. You should send the product, shipping charges prepaid, to the designated location, accompanied by the return authorization number, your name, address, and telephone number, proof of purchase, and a description of the defect. P.I. Engineering will pay for return of product(s) to the customer.

P.I. Engineering shall have no responsibility to repair or replace the **X-keys** product if the failure has resulted from accident, abuse, mutilation, misuse, or repair/modification performed by any entity other than P.I. Engineering.

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This limited warranty is valid for and only applies to products purchased and used inside the United States (and its territories) and Canada.

This limited warranty is governed by the laws of the United States of America and the state of Michigan.

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Products from P.I. Engineering

Visit our web site (www.xkeys.com) for detailed descriptions

X-keys® Professional

- 58 user programmable keys
- USB or PS/2
- Put all of your shortcuts at your fingertips

X-keys® Desktop

- 20 user programmable keys
- USB or PS/2
- An efficient companion to your keyboard

X-keys® Stick

- 16 user programmable keys
- USB or PS/2
- Add 16 function keys to your keyboard

X-keys® Foot Pedal

- 3 user programmable pedals
- USB or PS/2
- Use your foot to activate keyboard commands or mouse clicks.

X-keys® Switch Interface

- 12 ports for 1/8" mini plugs
- Any external switch can activate keyboard commands

X-keys® Joystick Controller

- Precision MDM joystick integrated with 46 programmable keys
- For any application requiring accurate, reliable control

X-keys® Jog & Shuttle Editor

- Jog & Shuttle knob integrated with 46 programmable keys
- Great for non-linear editing applications

X-keys® LCD Keypads

- LCD display with 16 programmable keys
- Optional Bar Code or Mag strip reader

Custom/OEM Products

- Y-mouse & Y-key key boards add dual ports to your OEM system
- X-keys matrix boards create a programmable key matrix for your custom input device

ReDAC I/O Module

- 24 Analog and 48 Digital inputs
- 24 Digital Outputs
- Supported by P.I. Engineering SDK

ReDAC Gauge Module

- 5 ReDAC Gauge and 12 Digital outputs
- 16 Digital Inputs
- Supported by P.I. Engineering SDK

ReDAC Duplex Gauges

- Analog output from digital data
- 2" face with dual needles
- Requires ReDAC Gauge Module

Y-mouse® Dual Mouse Adapter

- Use a mouse and a trackball simultaneously on a single port (PS/2 or Serial)
- Great for adding an alternative pointing device to your system

Y-key key® Dual Keyboard Adapter

- Use two keyboards on one computer
- Great for adding an alternative keyboard to your system

Y-mouse® Keyboard and Mouse Adapter for USB

- Convert standard PC (PS/2) keyboards or mice to USB
- Like a mini docking station on your laptop

Y-see two® Video Adapter

- Connect two monitors to a single video port
- Great for presentations to clients or classes

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