X-keys® USB LCD Keypads

- Perfect for card and PIN entry
- 16 keys with LED indicators
- Two line LCD display with 16 characters per line
- Available with mag strip, or bar code card reader
- Exceeds capabilities of older RS 232 key pads
- Supports multiple units on the same system
- Direct software control over all functions

P.I. Engineering offers three versions of the *X-keys* USB LCD Keypad : with Magnetic Strip Card Reader (**XLCD-180-TK12**), with Bar Code Card Reader (**XLCD-181-LED**), and without a card reader (**XLCD-178-WO**). All three connect to your system via USB port.
P.I. Engineering's Software Development Kit offers the developer complete control over every aspect of input and output for the device.

Each key has a red LED visible through the key cap with all key and LED states available through the SDK. Clear key caps hold custom printed legends in place and give the keypad a professionally finished look. Built-in beep option provides feedback on key press, LCD write, or successful card swipe. More detailed information available in the readme and help files of the SDK included on the CD or downloaded from the Developer's Corner section on our web site, www.xkeys.com.

Specifications

LCD Display	16 text characters x 2 lines, .25" (6mm) H characters
Key Caps	16 keys with clear caps for custom legends (other options available)
Switch Type	Cherry MX switches with red LED indicator
Included Software	X-keys SDK for Visual Basic, Visual Studio, C++, and Visual C++
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	USB "A" plug
USB type	Compatible with USB 1.1 through 2.0
Dimensions	4.13 x 7.28 x 1.57 inches (105 x 185 x 40 mm)
Cord length	9.8' (3 m)
Weight	0.85 lbs (0.36 Kg)
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

Specifications subject to change without notice

X-keys®

USB Keypad with LCD Display by
P.I. Engineering, Inc.

Preliminary Developer's Information

This document is relevant to all X-keys USB LCD Keypads
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

August, 04

The X-keys LCD Keypad

P.I. Engineering offers three versions of ***X-keys® LCD Keypads***:

- XLCD-178-WO (without Card Reader)
- XLCD-180-TK12 (with Magnetic Strip Reader)
- XLCD-181-LED (with Optical Barcode Reader)

The X-keys LCD keypad provides convenient, direct communication between user and application via USB interface. The Software Development Kit provided by P.I. Engineering allows the programmer access to input from all 16 keys and the card reader, and output to the LCD display and individual LEDs on the 16 keys. A variety of key cap options give the keypad the flexibility of a custom layout with a professional finished look.

Features

- USB interface
- 16 x 2 LCD display
- 16 keys with LED indicators
- Clear key caps protect printed key legends
- Beep option on key press, LCD write, or valid card swipe
- Supports simultaneous connection of multiple units
- Supported by P.I. Engineering's Software Development Kit

USB Interface

Compatible with USB 1.1 through 2.0. The LCD 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 LCD X-keys.

16 x 2 LCD Display

The LCD display offers 16 text characters on each of two lines. Displaying instructions to the user, feedback from key input, or messages from your application are just a few of the possible uses. Delivery of these messages is supported in our software development kit.

16 Keys

The rugged, reliable Cherry mechanical switches are guaranteed for over 2 million operations. Each switch has a red LED indicator available for backlighting the key legend or activation via software.

Clear Key Caps

Shipped with 16 single key caps featuring clear covers that hold paper legends securely. Custom legends printed on an inkjet or laser printer may easily be fitted under the clear caps to give the keys a professional look. Optional accessories include double wide, double tall, and large square key caps. Industrial key caps, also available, make it more difficult for the user to tamper with your installed legends. Standard numbered keys are also available.

Beep Options

Audible beep response can be set for any or all of four actions: key press, LCD write, valid card swipe, or individual key.

Support for Multiple Units

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.

P.I. Engineering's X-keys SDK

The code examples and documentation included on the enclosed CD 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 Builder, and Visual C.

Specifications for X-keys LCD

LCD Display	16 text characters x 2 lines, .25" (6mm) H characters
Key Caps	16 keys with clear caps for custom legends (other options available)
Switch Type	Cherry MX switches with red LED indicator
Included Software	X-keys SDK for Visual Basic, Visual Studio, C++, and Visual C++
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	USB “A” plug
USB type	Compatible with USB 1.1 through 2.0
Dimensions	4.13 x 7.28 x 1.57 inches (105 x 185 x 40 mm)
Cord length	9.8' (3 m)
Weight	0.85 lbs (0.36 Kg)
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

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

"The No Slogan Company"

April, 05

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

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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, ¾" (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