

# X15

## X15 - multiple I/O module for PC gaming machine systems

**X15** is the latest addition to the Heber X-Line range of USB gaming peripherals. X15 provides flexible I/O interfaces for your gaming system application via connectors on the peripheral itself or via an optional Heber Standard backplane. Combined with sophisticated security, X15 provides flexible options for your gaming machine system.

**X-Line compatibility** - X15 is software API compatible with our other X-line controllers and is also electrically compatible with X10i so your X10i developments can be rapidly updated to the X15. X15 can also use the Heber Standard backplane used on our X20 X-line peripheral and also our Axis 945 systems. X15 also adds Triple-DES Encryption and Smart Card technology being backwards compatible with our X20 Smart Card security system and also provides an easy security upgrade path for X10i customers.

### PC compatibility - X15

can be connected to any Windows® or Linux PC system equipped with a USB port. X15 offers many

configurable options to suit a wide range of gaming system applications. X15 is fully compatible with Heber's Axis 945 and Axis 945 DV gaming control systems.

**Flexible I/O with optional backplane** - A wide variety of standard gaming industry peripheral devices such as note acceptors and coin hoppers, can be connected to X15 via on board box header connectors, or a Heber standard backplane can be connected to provide the I/O connections for peripheral devices.

**Battery backed SRAM** - 1MB SRAM provides more than twice the storage space found on X10i and allows even greater battery backed user storage space and real time monitoring.

**Smart Card security** - X15 incorporates a Smart Card Security Key feature, designed to stamp out software piracy. The Security Key allows you to form an intimate link between your program and the X15-equipped system.

Every X15 is pre-programmed with an unchangeable and undiscoverable Security Key code that is unique to you. Once your final program is complete you use your unique Security Code to ensure that it will only operate with your hardware, rendering any illegal copies useless.

**Audio amplification** - X15 includes a stereo amplifier with 5W rms per channel power output.

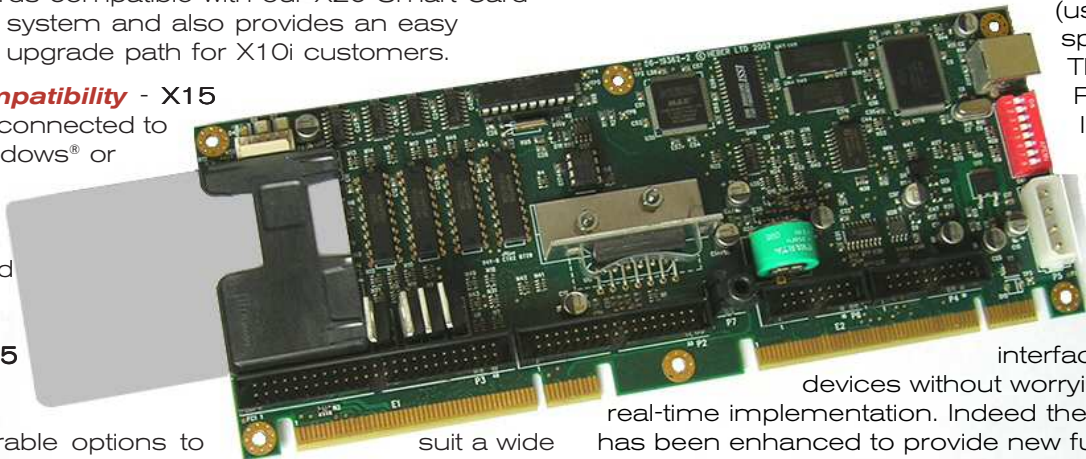
**Software** - X15 also provides a comprehensive suite of low-level real-time functions to assist a PC to interface with external devices such as coin mechanisms, hoppers, lamps, reels and switches. In addition to providing general input reading and output setting, several advanced features are available including output pulsing (using a predefined pulse width) and output fading

(using mark-space ratios). The Serial Peripheral Interface (SPI) protocol is implemented in the X15. This allows users to easily

interface SPI devices without worrying about real-time implementation. Indeed the SPI driver has been enhanced to provide new functions to specifically interface with the popular Starpoint Electronic Counter (SEC) device.

Parallel I/O is also supported for use with parallel coin mechanisms, hoppers etc. Any X15 input or output can be designated as a parallel input or output. The driver is implemented in a generic way so that most parallel devices can be used. In addition to providing the basic send/receive functionality, the X15 serial API implements many advanced features including receive with timestamp, setting a timeout message, automatic polling.

**Heber quality and reliability** - As a member of the Heber family, you can be sure of the quality and reliability of X15. Like all of our controllers, you can be assured that X15 will always perform. Every single X15 that we sell is fully tested, certified and is traceable.



# X15

## Technically Speaking

### X15 Backplane Option

X15 can be plugged into an optional backplane via two edge connectors. The backplane provides interfaces for serial communication with gaming machine peripheral devices, as well as inputs/outputs and Smart Card security. The backplane also provides a power supply source to X15 when a power supply is connected, or a power supply can be connected directly to the X15 board.

## X15 Specification

### Communication ports

- USB 1.1 and USB 2.0 compatible host interface
- 2 serial channels:
  - Port A software configurable to RS232, or ccTalk levels
  - Port B software configurable to TTL, or ccTalk levels

### I/O ports

- 16 off Inputs (5V CMOS thresholds with 5V pull-ups)
- 4 off Switch inputs with power-down monitoring
- 20 off Outputs (open drain up to 250mA each)
- 4 off Outputs (open drain up to 3A each)
- 6 off Outputs (5V CMOS)
- 8 off Bi-directional lines (5V CMOS IP or 250mA OP)
- 1 off Current sensed +12V output
- 1 off 8 way DIL switch

### Audio

- 5W + 5W rms stereo amplifier

### Security

- Security Key function to protect against piracy
- Processor with real time clock and battery backup (greater than 60 days hold up time)
- Monitoring of 4 switch inputs while powered down
- Dallas® unique electronic serial number on every board (readable in software)

### Indicators

- +5V and +12V supply LEDs

### Connectors (Box Header Compatible with X10i)

- USB type B connector
- General I/O: 50 way, 34 way and 16 way headers
- Hard disk-type power connector (+12V input only required)
- Communication ports: 20 way header
- Audio in: 3 way 3.5mm jack socket

### Memory

- 1MB battery-backed user Static RAM
- 32KB EEPROM

### Supported operating systems

- Microsoft® Windows® 2000/XP/XP Embedded
- Linux

### Power supply

- Regulated +12V DC input  
(5V logic supply taken from USB connection)

### Dimensions

- 90mm x 230mm (3.54" x 9.06")

## Heber Backplane Connectors

### Serial communication ports

- 2 serial channels routable to:
- ccTalk Port
  - RS232 Port
  - TTL
  - BACTA Standard Port

### Security

- iButton® Interface

### LED Indicators

- +3.3, +5V, +12V, -12V power supply LEDs

### Connectors

- General I/O: 40 way, 34 way, 14 way headers
- Serial I/O: 16 way, 10 way headers
- 6 way Power connector (+12V)
- Communication ports: 20 way header
- SEC Meter connector
- 1 off 8 way DIL switch

### Power supply

- Regulated +12V DC input

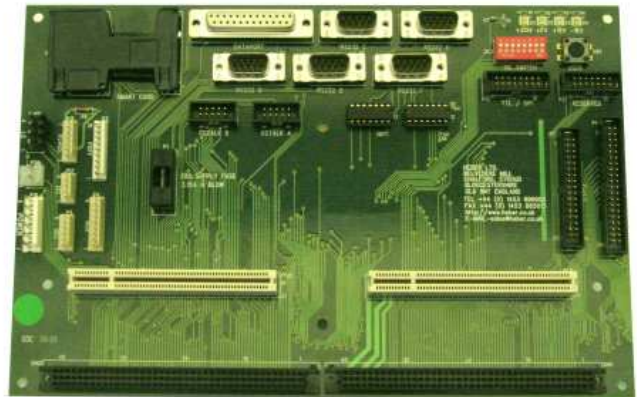
### Dimensions

- 170mm x 260mm (6.70" x 10.24")

### Safety, EMC Compliance and Quality (X15 and Backplane)

- EN60950, EN55022:1997, EN55024:1998
- Design and manufacture to ISO9001:2000

## Optional Heber Standard Backplane



## Axis 945 Specification

For further information about Axis 945 please see:  
*Axis 945 datasheet 80-19453*

## Axis 945 DV Specification

For further information about Axis 945 DV please see:  
*Axis 945 DV datasheet 80-19697*

Precise specifications may change without prior notice. E&OE.  
All trademarks are acknowledged.

80-19376-2

### HEBER LIMITED

Belvedere Mill, Chalford  
Stroud, GL6 8NT, UK

Tel +44 (0) 1453 886000  
Fax +44 (0) 1453 885013

Web site: [www.heber.co.uk](http://www.heber.co.uk)  
Email: [sales@heber.co.uk](mailto:sales@heber.co.uk)

Customer Support:  
Email: [support@heber.co.uk](mailto:support@heber.co.uk)