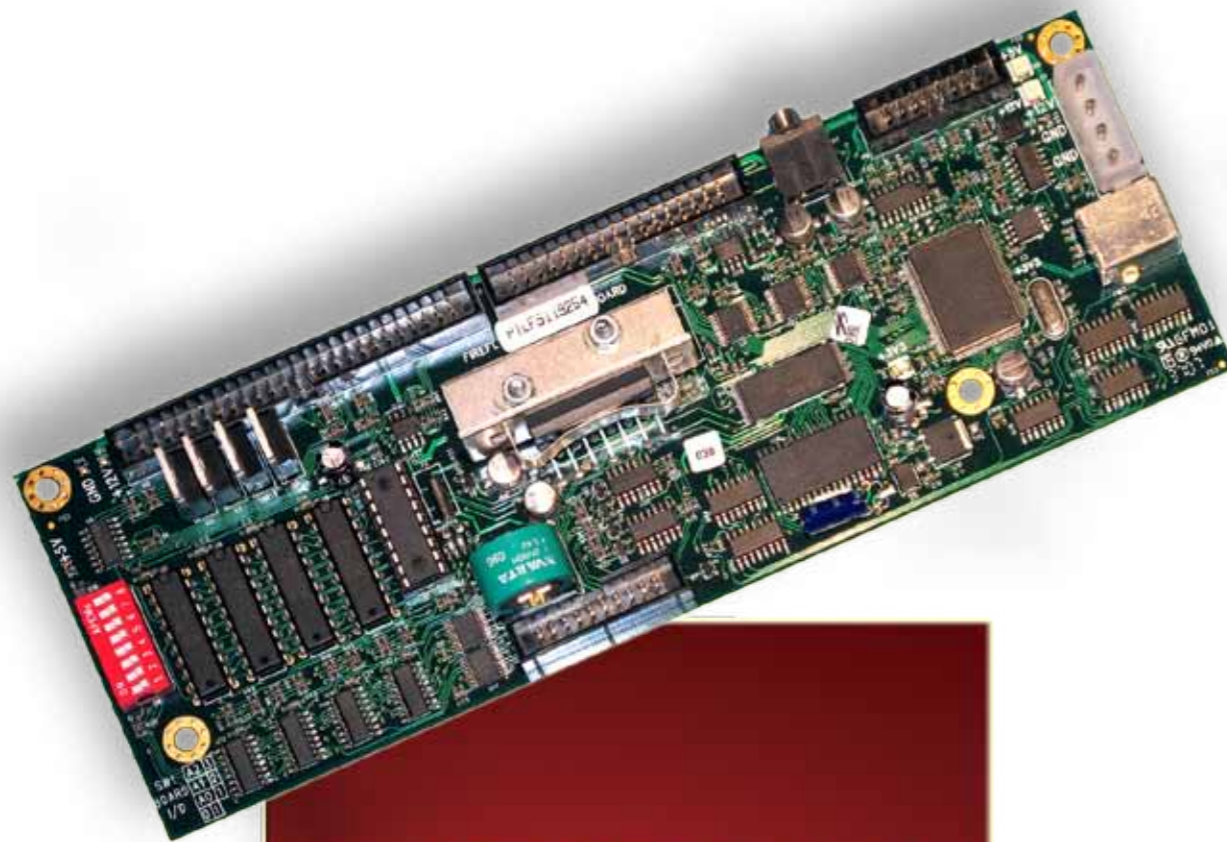
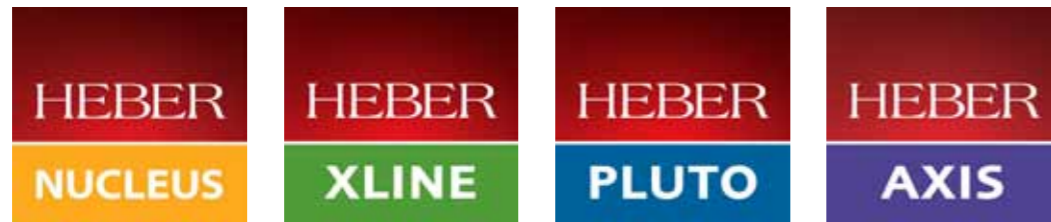


What can X10i be used for ?

Features & Functions of Heber X10i



X10i is a USB interface to allow a Windows or Linux equipped PC to control, measure, interface and monitor external equipment and components that you wish to connect to the PC system.

It can allow the PC to be used as a graphical interface whilst all the interfacing and time-critical measurements are done by the X10i board, with simple messages sent back and forth to the PC so interaction with the software or user can occur.

X10i is designed to off-load the hardware interface and “real-time” measurement and control from the Operating System to a dedicated processor so that the user can focus on getting the data they require from the outside world into the PC in an easy and efficient way.

X10i has more than 20+ Man-years of software development in the low-level code, drivers and API functions, allowing all sorts of uses in many industries and markets worldwide. With more than 100,000 units sold and in-use the X10i interface from Heber is a reliable, well supported USB device that you can rely on for many years to come.

With support for Linux, Windows XP / XP embedded and Windows 7 you can use X10i with whichever platform you prefer.

X10i is available with easy to use API, and the programming interface to X10i is all well defined and easy to implement. Most functions do all the hard work for you and return results you can use in your application directly or with little further processing or formatting, making them quick to use and build into your application.

On-line support for X10i programming is available for C, C++, C# and BlitzMax

Interfaces for money handling peripherals are also available for X10i within Heber’s “MoneyManager”. Other custom software applications are available by agreement.

[Datasheet 80-21226-1 05/10](#)

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Heber Limited, Belvedere Mill,
Chalford, Stroud GL6 8NT, UK

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Applicable Markets and Products

- Gaming
- Casino
- Vending
- Arcade
- Amusement
- Photo Booth
- Kiosk
- Access Control
- Point of sale (POS)
- Products needing control of cash-in and cash-out
- Security
- Fire Systems and “Red Goods”
- Retail security and control
- Process control
- Home Automation
- Industrial machine control
- Cashless networked systems
- Robotics
- Force-feedback and telepresence
- Telemetry
- Sensor measurement for industry and test
- Functional test interface.
- CCTV
- Intruder Alarms
- Counter terror
- Medical
- Green technology interface (low-power)
- Education and Training
- IP and Network solutions
- For the inventor and system builder
- Hobby and Enthusiast
- Handheld and panel mount equipment
- Medical interfaces
- 3D plotter
- CAD/CAM, CNC interface – 3D Machining, 3D printing
- Motor speed control / Stepper motor
- Virtual Reality
- HID Interface
- Simulators

Further customisation

X10i is based on Hardware and software building blocks that can be customised, replicated or modified upon request or for specific markets, projects or clients, please ask.

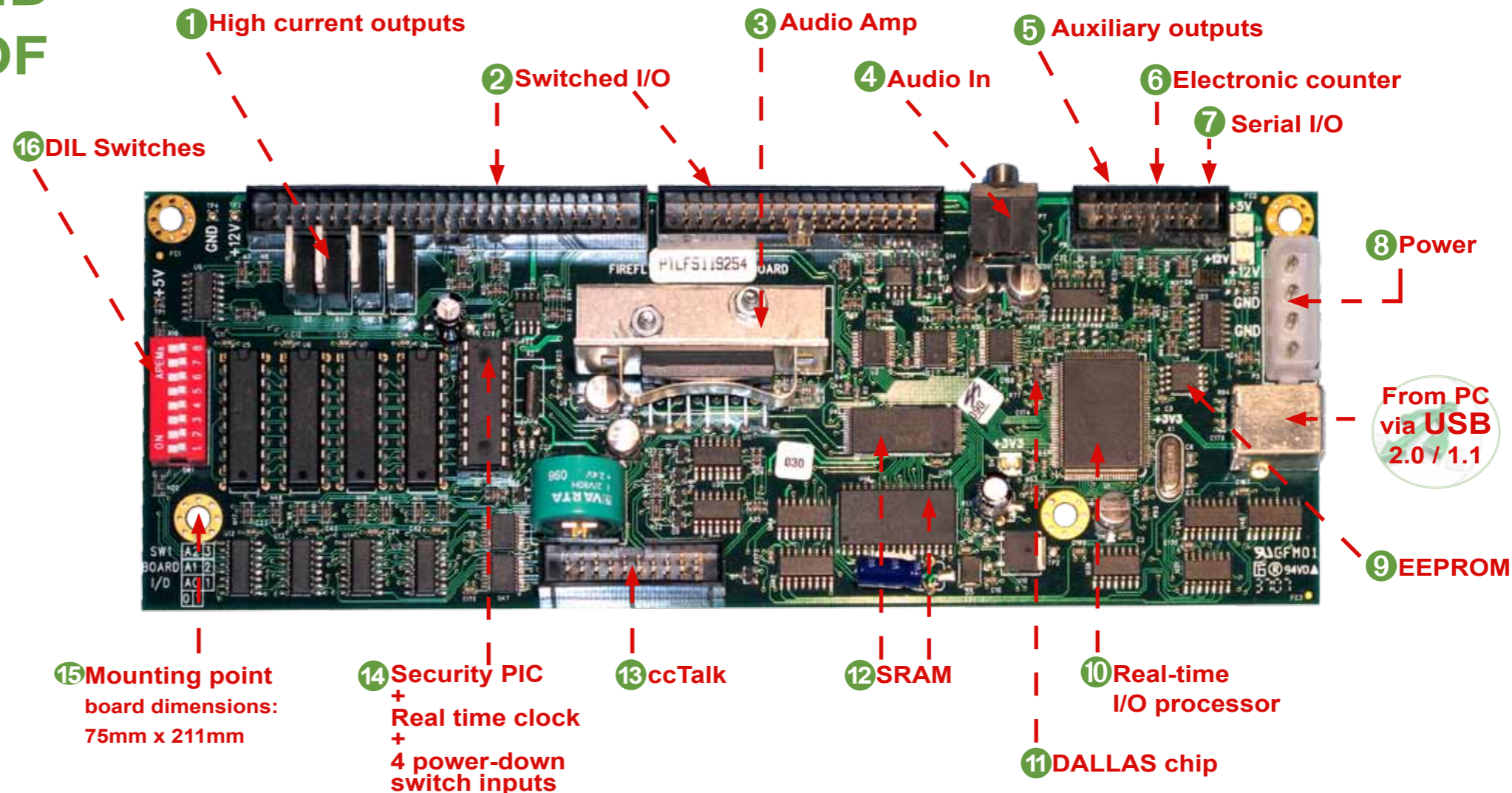
Associated HEBER **Xline** products that may also be interesting include:

Xluminat – A USB based 256 x LED driver board, with control of colour intensity and patterns for display, illumination, fun and lighting control.

Xspin – A USB based 8 x Stepper motor controller for motors, reels and other moving sign or motor based applications.

Website: www.heber.co.uk
Sales: +44 (0) 1453 732302
sales@heber.co.uk

FEATURES AND FUNCTIONS OF HEBER X10i



From PC via USB 2.0 / 1.1

USB 1.1 / 2.0 Interface – Industry Standard, auto sensing USB speed, powered from USB port.

1 64 Switched Inputs / Outputs: including:

- **4 High current open drain outputs (3A each)** – these high current Mosfet outputs are great for controlling big output loads, motors, lamps or other devices.

2 General Inputs / Outputs:

- **16 x Open drain general purpose outputs (250mA)** – these high-speed outputs can be used to drive motors, steppers, LEDs lamps, or all sorts of other devices that require a normal open-drain (Mosfet) signal. – can be referenced to +12V or other voltage.
- **6 x 5V CMOS outputs** – these are great for general communication with CMOS level devices, shift registers, microcontrollers etc.
- **16 x Inputs with +5v pull-ups**, Ideal for general input switches, sensors, buttons, or other input signals. Level detection and automatic period and pulse detection is all supported by the onboard processor, so high speed signals can be captured and/or denounced etc.

3 Audio Amp 5+5W RMS - onboard Audio Amplifier, You can amplify an audio signal from your PC or other line level output and connect 8 Ohm or 4 Ohm speakers to X10i

4 Audio In - input jack plug from PC.

5 Auxiliary outputs - 8 x Bi-directional, 5V CMOS inputs or 250mA outputs – these are perfect for bi-directional communications, SPI devices, microcontrollers, sensors etc.

6 SEC Electronic meter

7 Serial I/O - serial peripheral interface (SPI) bus for the connection of devices like SEC meters, temperature sensors etc.

8 Power Current Sensed +12V supply, You can measure that a device is taking current from the +12V supply with this input, any open-drain output can be used and sensed in-turn if you need to sense many devices taking current, for example, this is good if you need to check that a device has been connected correctly by the user and is operating correctly.

9 EEPROM 32Kbytes EEPROM– Primary Data and settings this is great for setting up a system and storing preferences from the user or application for recall and use at a later date. Long-term secure data storage.

10 Real-time I/O processor – 48Mhz, deals with all I/O messages from PC and ‘actions’ them, then sends back result to PC when acquisition is completed.

11 DALLAS unique Identifier (Electronic Serial number) – A Laser coded Dallas serial number is unique on every X10i board and can be read in software and used as a way to identify the connected device or product. Great for licencing, official upgrades and to stop unauthorised code from being run.

12 Battery backed SRAM 512Kbytes of onboard battery backed SRAM – Data and settings can be stored in secure SRAM and retrieved by the PC application / program / game, this can store any type of user data. And will stay in the SRAM even when the PC is powered off.

13 ccTalk on-board industry-standard ccTalk serial protocol used by SPI for device connection.

14 Security + real time clock + 4 power-down switch inputs

- Security processor, As standard X10i comes with a generic Security processor, for a small fee a unique processor can be generated that will only be supplied to you, this can lock game or application code to it and will refuse to run code on the PC if the correct security is not detected. Great if you need to protect or license your application or game.
- An independent real-time clock can report time for checking with the PC system time or just as a secondary accurate duration timer.
- Power-down switch inputs – Every X10i has a battery backed microcontroller that can read and timestamp switch input states even while the power is off from the PC and X10i, these ‘events’ can be recalled at next power-up to determine if tampering or security doors, or panels have been opened while the machine was switched off.

15 Mounting point.

Board dimensions: 75mm x 211mm Small, easy to mount board with rugged conventional components and connectors, easy to assemble, service and repair.

16 DIL Switch 5 x DIL switch Inputs, can be defined as anything in software, these would usually be used for defining settings by the user in a system, note the other DIL switches identify the X10i USB address, so many X10i boards can be connected to one system and addressed individually.