

Innocore's DPX-series boards have a GPIO header that is a very flexible multi-purpose interface that can be used to connect a variety of simple one or two wire devices. The Dallas iButton® is one such device and iButton devices are available for a number of different functions. The GPIO interface supports any I-wire® bus device and typical uses could include special purpose I/O, security, memory and data storage.

FEATURE SUMMARY

- Easy to use and robust mounting for up to two devices per GPIO board
- iButton(s)® are securely attached to the header
- Header is mounted to the motherboard by simple bracket which picks up on one of the motherboard mounting points



HOW DOES THE iButton® Work?

Up to two iButtons® can be fitted to a DPX mainboard using a secure carrier board. In general the following components are needed for any iButton® application

- iButton and Innocore's GPIO iButton carrier
- Innocore's DPX-series mainboard
- Software to interface the iButton® to the DPX board. Innocore provides both Linux and Windows® builds of the One-Wire API. Innocore also provide software samples as well as utilities to aid the software development process



KEY iButton® FEATURES

- Rugged steel container allows for long term durability in harsh environments
- Extremely portable. Can be mounted in watches, rings, keychains etc
- Self contained requiring just one data and one ground connection to function
- Unique and unalterable address laser etched onto the chip inside the can
- Tamperproof. Chip erases itself if metal container is broken into

See overleaf detailed specification

Typical Application of the iButton®

- Store slot machine status information for easy retrieval by slot technicians
- Electronic ID can provide access control to hardware
- E-cash and player tracking system
- Unique ID's and encryption to lock software against cloning
- RTC (Real – Time – Clock) to control time-restricted licensing in game titles

Examples of iButtons Available

Dallas/Maxim Part Number	Features
DS1996 64-Kbit Memory iButton®	<ul style="list-style-type: none"> • 65536 Bit EEPROM iButton® • Over 10 years of Memory Retention
DS1963s SHA iButton®	<ul style="list-style-type: none"> • Dedicate 512 bit SHA-1 Hardware Accelerated Engine • 4096 bits of Read/Write Non-volatile Memory • On-chip 16-bit CRC Generator for safeguarding data transfers
DS1904 4kb plus Time Memory iButton®	<ul style="list-style-type: none"> • 4096 bits of Read/Write Non-volatile Memory • Real-Time Clock and Calendar • Write-Protect Feature Provides Tamperproof Time Data • Programmable Alarms Can Be Set to Generate Interrupts for Interval Timer, RTC, and/or Cycle Counter • Over 10 years of Data Retention

Required Hardware:

- DPX Mainboard

Required Software

- Innocore One-Wire & iButton® SDK and Run-time

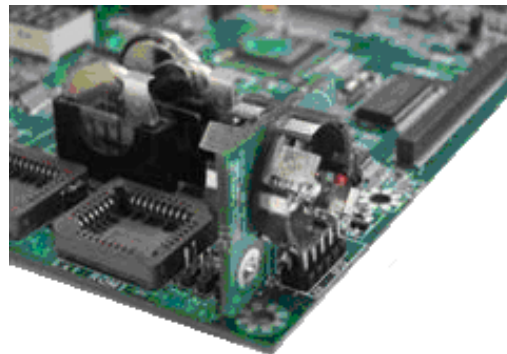
OEM Customization and Product Development:

Innocore specializes in the fields of PC-based hardware design and software development. Our in-depth knowledge and global resources make us your ideal partner.

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GPIO Header shown fitted to DPX-117



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