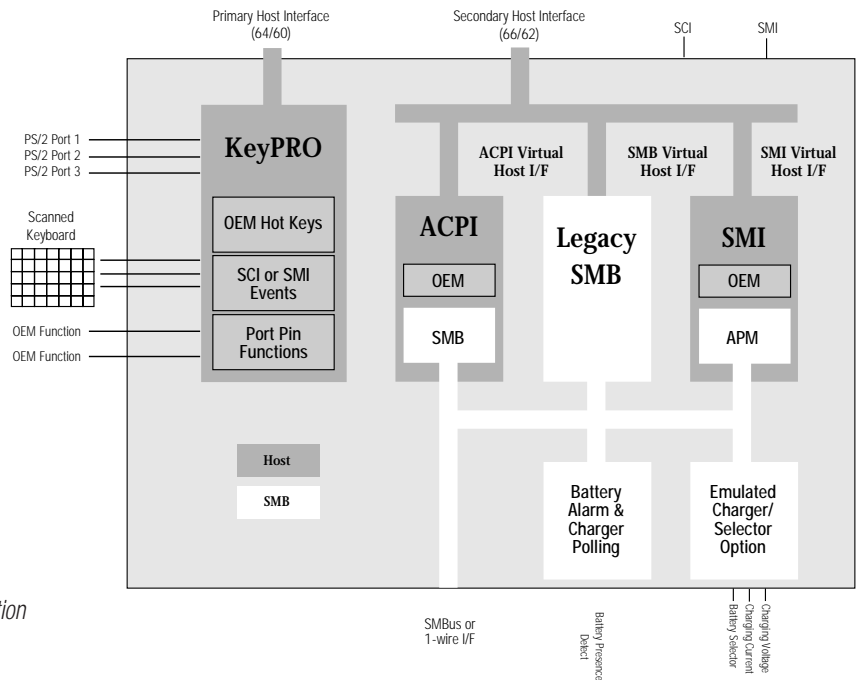


# Keyboard Controller Firmware – Hitachi H8 IKAP Family

*Fast time to market with full featured keyboard firmware and development tool*

## Key Features

- One code base for Hitachi H8 IKAP II, IKAP Jr, and IKAP III/LPC
- Advanced development tool speeds time to market
- ACPI Embedded Controller - beyond the requirements
  - ACPI Virtual Host Interface
  - 1 wire support using standard ACPI SMB table
  - Architecture minimizes ASL code requirements
- Any SMB/I2C device is accessible by legacy or ACPI
- Crisis recovery flash support
- 3 Generic PS/2 ports including IBM PS/55 Numeric Keypad support
  - All 3 can be same device (e.g., 3 mice)
- Support of Active PS/2 Multiplexing Specification
- Full technical documentation including sample BIOS code



Insyde Software has the PC industry's most advanced firmware solutions for the Hitachi family of Keyboard/Embedded controllers. Insyde Software's Keyboard/Embedded controller firmware is highly flexible in supporting the most complex hardware designs in multiple environments (e.g., legacy and ACPI) without sacrificing any features, system performance, or requiring extra development.

With Insyde Software's advanced keyboard architecture and Keyboard Configuration Utility, an OEM can greatly reduce the keyboard firmware porting customization time. For example, with the Keyboard Configuration Utility, any "trigger event" (e.g., hot key sequence) can be mapped to one or a sequence of "control functions" (e.g., put the system in standby or enter quick lock).

### AT and PS/2 8042 Compatible

- Host interface configured to provide exact IBM PS/2 and AT compatibility
- Supports 3 "hot plug" generic PS/2 Ports
  - Any combination of mouse, keyboard (AT, PS/2, AX Kanji, and OADG DOS/V keyboards), and/or IBM PS/55 numeric keypad
  - Three keyboards, mice, or any combination
- Internal trackpad supported

- Supports external device Hot Plugged even if trackpad is missing
- Supports secondary H8 host interface for power management or other system use
- 3 mouse modes (simultaneous, switched & auto) that offer flexibility in the handling of special mouse devices
- Mouse driver loads even if mouse is not present

### Scanned Keyboard

- Assign any key to any scan code, or scan code string, with Insyde Software's Keyboard Configuration Utility
- Overlay mode controlled by
  - Host
  - Hot Keys
  - Num Lock LED
  - External keyboard presence
- Any combination of control keys - [Fn, Shift, Alt, Ctrl, Overlay, Num Lock] + [Any Key], can be mapped to any Scan Code, Control Function, or Hot Key

### Smart Battery (SMB)

- 1 Wire support using standard ACPI SMB table
- Smart or control method battery



- Multiple batteries and chemistries
- No extra code needs to be written for BIOS SMI handler to convert ACPI access to 1 wire legacy command.
- Benchmarq DQ or HDQ
- Dallas 1 wire
- Any SMB/I<sup>2</sup>C device is accessible in legacy or ACPI modes
- Polling for battery to charger and battery to host alarms
- Polling of selector and charger for battery/AC change

#### ACPI

- Full support of EC (Embedded Controller) Command Set
- Virtual host interface through 62/66h
- SMBus Host Controller Interface
- ACPI space overlap with configuration table
- SCI Event Generation
- External Events (e.g., Thermal, Lid, Battery Support etc.)
- Notification Management
- OS Burst Mode Support
- SMI Processing
- SCI/SMI Task Queuing
- Any port pin can be controlled by ACPI

#### Firmware-controlled H8 Power Minimization

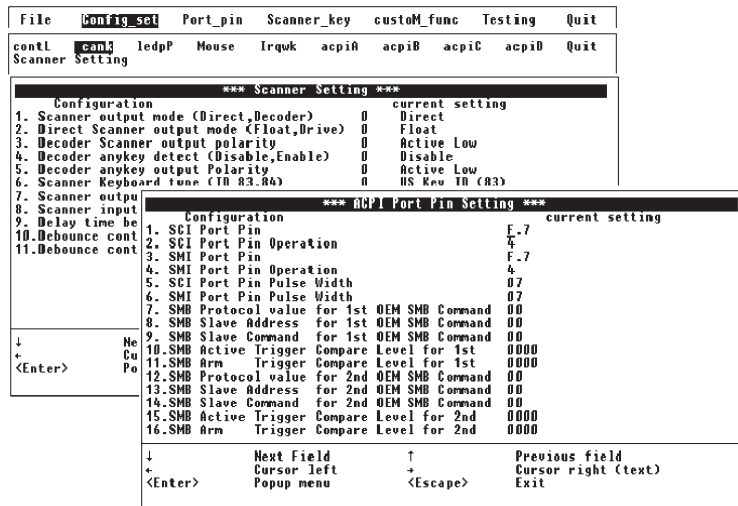
- Uses on-chip Sleep Mode between keystrokes and Standby Mode in system Suspend

#### IKAP III - LPC

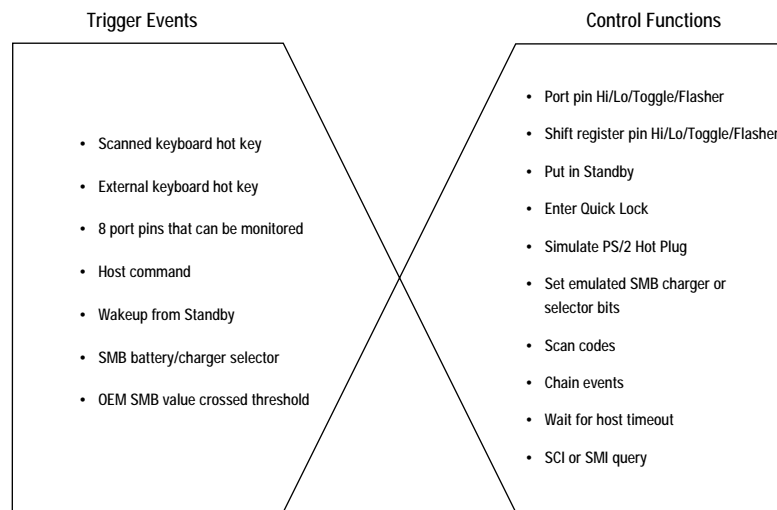
- Full Support for the IKAP III-LPC interface in firmware

#### Keyboard Configuration Utility

Insyde Software's Keyboard Configuration Utility allows the engineer to customize virtually any feature of Insyde Software's Keyboard Controller Firmware, without requiring the modification of source code. This greatly speeds up the customization and testing time and improves the quality of the end product.



#### Any Trigger Event can be mapped to any Control Function



#### Insyde Software — USA

1800 West Park Drive  
Westborough, MA 01581  
Tel: (508) 366-7800 • Fax: (508) 366-0500

#### Insyde Software — Taiwan

4F, No. 137, Chien Kuo N. Rd. Sec. 2  
Taipei, Taiwan, R.O.C.  
Tel: 02-2506-1289 • Fax: 02-2506-7287

www.insydesw.com • getinfo@insydesw.com

©2000 Insyde Software Corp. All rights reserved. Printed in USA. The contents of this document is subject to change without notice. All other trademarks or tradenames are property of their respective holders.