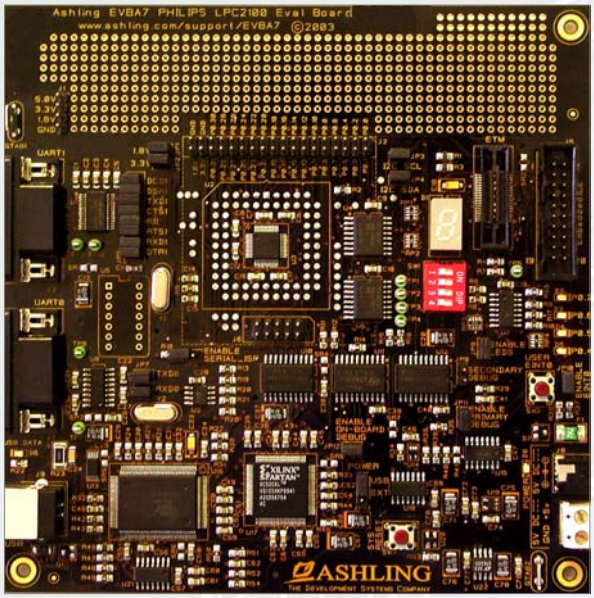
Evaluation and Development Kits for Philips LPC2000 ARM7-core Microcontrollers

Complete Development Environment for Philips LPC2000 Single-chip ARM7 Flash Microcontroller, with real-time JTAG Emulator, Peripherals, I/O, board expansion, Flash Programming, IDE, Compiler, and Source Debugger

Overview



*Ashling **EVALUATION BOARD** for Philips LPC2000 ARM7-core Microcontroller*

The Philips LPC2000 Microcontroller is a powerful Low Power device that combines the ARM7 core with on-chip SRAM, high-density Flash memory and a wealth of highly integrated on-chip peripheral circuits.

The Ashling Evaluation Kits for LPC2000, developed in cooperation with Philips Semiconductors, exercise and demonstrate all of the Philips device's functionality on a low-cost, easy to use development platform.

With a full-function on-board EmbeddedICE-RT™ Emulator for LPC2000 real-time debugging, the Ashling Evaluation Kits include a high-speed USB debug connection to the host PC, together with Ashling's PathFinder for LPC2000 Source Debugger software and AsIDE IDE, Editor, Compiler and Linker software chain for development of LPC2000 code.

The Evaluation Kits also feature an easy-to-use Programming Package to program the LPC2000's on-chip Flash memory.

PHILIPS LPC2000 ARM7-CORE 32-BIT MICROCONTROLLER FEATURES

Processing unit
- ARM7TDMI-S core (up to 60MHz), with full Thumb 16-bit support

Memory
- 128/256KBytes full-speed on-chip Flash memory
- 16/32/64KBytes on-chip SRAM memory

Debug
- EmbeddedICE-RT real-time debug port
- DCC Debug Communication Channel
- ETM (Embedded Trace Macrocell) real-time Program Trace

Interrupts
- Vectored Interrupt Controller (ARM PrimeCell)

Peripherals
- 2 UARTs, one with full modem interface
- I^2C multi-master bus interface
- SPI interface
- 2 Timer Units
- 6 Pulse Width Modulator outputs
- Real Time Clock
- Watchdog Timer
- General Purpose I/O lines

Pin Connect Block
- User-specified alternate functions allow choice between on-chip peripheral pins or general-purpose I/O

DEVELOPMENT KIT CONTENTS

- Ashling LPC2000 EVBA7 Evaluation Board with on-board JTAG EmbeddedICE-RT Emulator
- AsIDE IDE for ARM (evaluation or full function version)
- GNU Compiler tools for ARM
- Ashling PathFinder debugger for LPC2000 (Code – size limited Evaluation version, or full unlimited version) with JTAG flash programming support and suite of LPC2000 example programs
- Ashling Serial RS232 Flash Programmer Utility
- USB cable
- DC power supply
- Full documentation on CD
- Getting Started guide

ASHLING EVBA7 EVALUATION BOARD

- Supports Philips LPC2000-series ARM7-core Microcontrollers
- On-board EmbeddedICE-RT JTAG Emulator
- 2 x 9-pin D-type Serial communications ports
- 4-indicator LEDs
- 7-segment character display
- 4-way DIP switch
- External interrupt switch, Reset switch
- Plated-through-hole prototyping matrix
- Expansion and Pin-test connector
- Includes Universal Power Supply
- On-board EmbeddedICE-RT™ debug controller with USB1.1 connection to host PC; no external debug tools are needed
- Full EmbeddedICE-RT™ real-time debugging: Code download, run control, read/write memory, read/write registers, full breakpoint control, semi-hosting, Debug Comms Channel and RealMonitor™ (Non-Stop Debugging)
- Options to connect external debug tools using 20-way EmbeddedICE connector and 38-way MICTOR Embedded Trace Macrocell (ETM) trace connectors
- Programs LPC2000 on-chip Flash memory
- Optional Adapters for 64-pin and 144-pin LPC2000 devices

ASHLING PATHFINDER SOURCE DEBUGGER

Debugger: PATHFINDER FOR LPC2000 Source Debugger for C and Assembly. User-controlled multi-window debug control system. Full flash programming and debug support.

Compiler support: Kits include **AsIDE-ARM** Integrated Development Environment with GNU ARM Compiler/Linker. **PATHFINDER FOR LPC2000** supports all popular ARM compilers, including **AsIDE/**GNU, ARC-MetaWare, ARM Ltd., Green Hills Software, IAR, Keil, Motorola-Metrowerks, WRS (Diab Data).

Host: PC with Windows9x/Me/2000/XP. USB 1.1 connection to host PC.

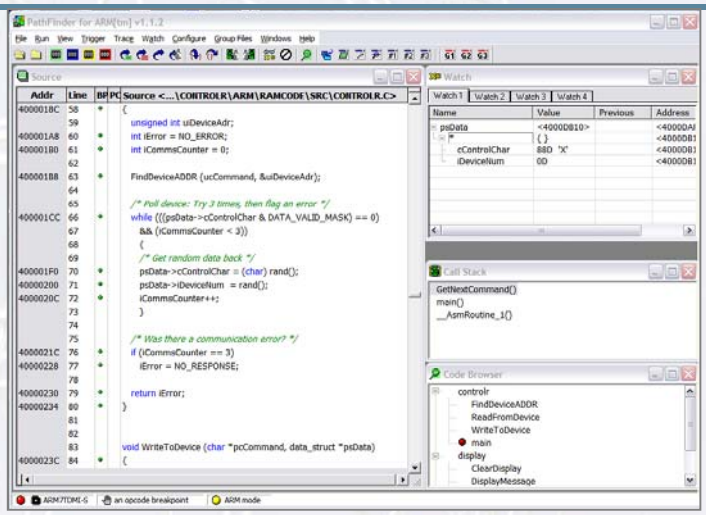
Script language: Powerful macro language to control, monitor and log all On-Board Emulator functions.

Device Support: Philips LPC2104/05/06, LPC2114/19, LPC2124/29, LPC2194, LPC2131/32/34/36/38, LPC2210/12/14, LPC2290/92/94

Full **expression-handling** for all Variables.

Display/read/write of target system memory, peripheral registers and IO space

Support for all on-chip **hardware breakpoints**; unlimited **software breakpoints**.



The PathFinder Source Debugger for the LPC2000 Evaluation Kits, with mouse, command-line, accelerator-key and button-bar controls.

Product	Order Code
ASK-2000 STARTER KIT: includes LPC2000 Evaluation Board, AsIDE Integrated Development Environment (Editor, GNU ARM Compiler and Linker) and PATHFINDER source Debugger (32KB Code Size Limitation)	ASK-2000
APK-2000 APPLICATION KIT: includes LPC2000 Evaluation Board, AsIDE Integrated Development Environment (Editor, GNU ARM Compiler and Linker) and PATHFINDER source Debugger (No restrictions)	APK-2000
DEVK-2000 DEVELOPMENT KIT: includes LPC2000 Evaluation Board, AsIDE Integrated Development Environment (Editor, GNU ARM Compiler and Linker), PATHFINDER source Debugger (No restrictions) and OPELLA standalone USB based EmbeddedICE Emulator, for debugging your LPC2000 target board	DEVK-2000
Optional **DEVICE ADAPTER**, fits onto EVBA7 Board in place of LPC2000 device, fitted with LPC2194. Suitable for LPC2114, LPC2124, LPC2119, LPC2129 and LPC2194 devices. Note! When ordering FA—EVBA7-64 also add –NP suffix to Kit part-number.	FA-EVBA7-64
Optional **DEVICE ADAPTER**, fits onto EVBA7 Board in place of LPC2000 device, fitted with LPC2138. Suitable for LPC2131, LPC2132, LPC2134, LPC2136 and LPC2138 devices. Note! When ordering FA—EVBA7-64-SR also add –NP suffix to Kit part-number.	FA-EVBA7-64-SR
Optional **DEVICE ADAPTER**, fits onto EVBA7 Board in place of LPC2000 device, fitted with LPC2294. Suitable for LPC2210, LPC2212, LPC2214, LPC2292 and LPC2294 devices. Note! When ordering FA—EVBA7-144 also add –NP suffix to Kit part-number.	FA-EVBA7-144-DR
Optional **PROGRAMMING SOCKET ADAPTER**, fits onto EVBA7 Board in place of LPC2000 device, allowing removal and reinsertion of devices. Suitable for LPC2104, LPC2105, LPC2106 devices. Note! When ordering PA—EVBA7-48 also add –NP suffix to Kit part-number.	PA-EVBA7-48
Optional **PROGRAMMING SOCKET ADAPTER**, fits onto EVBA7 Board in place of LPC2000 device, allowing removal and reinsertion of devices. Suitable for LPC2114, LPC2124, LPC2119, LPC2129 and LPC2194 devices. Note! When ordering PA—EVBA7-64 also add –NP suffix to Kit part-number.	PA-EVBA7-64
Optional **PROGRAMMING SOCKET ADAPTER**, fits onto EVBA7 Board in place of LPC2000 device, allowing removal and reinsertion of devices. Suitable for LPC2210, LPC2212, LPC2214, LPC2292 and LPC2294 devices. Note! When ordering PA—EVBA7-144 also add –NP suffix to Kit part-number.	PA-EVBA7-144

DS266 V10

Ashling Microsystems Ltd. is Certified to I.S. EN ISO 9001:2000, NSAI Registration No. 19.09069.

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