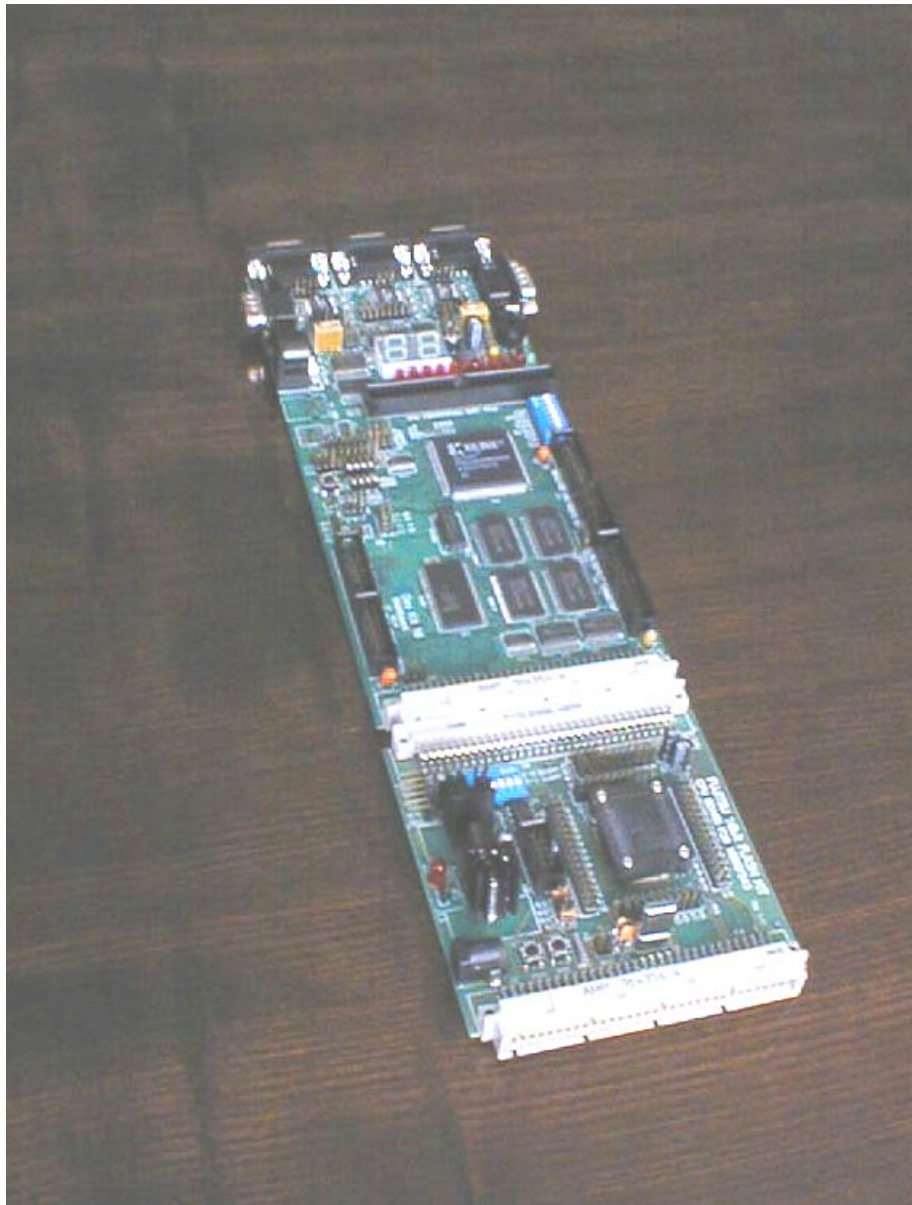


FUJITSU DevKit16

Overview

Fujitsu Mikroelektronik GmbH

Am Siebenstein 6-10
63303 Dreieich-Buchsschlag, Germany



Revision:
Date:

V1.0
05.08.1999

Introduction to FUJITSU Development Kit for 16LX CPU family

DevKit16

The FUJITSU **DevKit16** concentrates in one design the five most required functionality for microprocessor applications developers:

Standard Starter Kit

- + FLASH Development Kit
- + CAN Development Kit
- + Application Board
- + Rapid Hardware Prototyping

5 in 1!

-
- + Large RAM and FLASH memory with fast download and programming
 - + Hardware support of debug for both CPU single chip and external memory mode
 - + Additional peripheral devices (PC keyboard interface, I2C, ...)

+ Extensive software support

- ⇒ Fujitsu Softune - IDE, compiler, assembler, debugger, tools
- ⇒ Processor Expert™ 2.30 for DevKit16 - Rapid Application Development Environment
- ⇒ FLASH Programming support for CPU Flash and on-board Flash
- ⇒ Extensive documentation and numerous sample projects

+ PLUG and PLAY installation

+ Options

- visualize and control applications using PC or WEB with Kit software upgrade!
 - Trace board for CPU and user signals
 - Sound sensor board with microphone
 - LCD displays support
- (for more information see <http://www.processorexpert.com/fujitsu>)

= DEVKIT16

<http://www.fujitsu-edc.com>

<http://www.processorexpert.com/fujitsu>

DevKit16 Features

The Fujitsu DevKit16 was developed, in order to provide customers with all the hardware and software they need for quickly starting the development of applications with Fujitsu FLASH CPUs.

Because of the DevKit16 's modular structure, diverse CPUs from the Fujitsu FLASH CPU family are supported. Please contact your nearest MCU support centre for further information.

The DevKit16 comes with

- HW: CPU board and Main board
- PC serial cable for connection of PC serial port and the Main board
- SW support on CD ROMs
 - **Fujitsu Softune Workbench** with tools - Assembler, C compiler, Linker, ..
 - **Processor Expert 2.30 for DevKit16**, a Rapid Application Development environment with component oriented application design and CPU expert knowledge system
 - FLASH Serial Programming Utility for CPU Flash or on board FLASH
 - PE Debugger Kernel V1.2
 - FUJITSU Monitor Debugger
 - Sample Processor Expert projects for DevKit16
 - Processor Expert for FUJITSU DevKit16 presentation
 - Main board diagnostic utility
- Documentation
 - HW boards schematics and silk plot
 - interface and Device Bus signal layout
 - Documentation of software

For software and hardware add-ons please contact your local technical support team for the latest software release or visit <http://www.processorexpert.com/fujitsu>

Technical Description

The CPU board

The CPU board is exchangeable piggy back module. It may be provided with soldered CPU or with emulator socket. The CPU board works in connection with the main board or can be used as a stand-alone board.

The CPU board provides

- connectors for all CPU pins
- a Bus Interface connector for main board connection
- a Device Bus connector (designed for the on chip peripherals signals of the whole 16LX family)
- a power supply supervisor IC with reset generation
- RST, HST buttons
- CPU configuration switch
- High speed and low speed quartzes in socket
- support of CPU Serial FLASH Programming
- power supply regulators 5V or 3.3V, depending on CPU used
- power supply connector for external power source

The Main board

The Main board works together with any CPU board. It provides

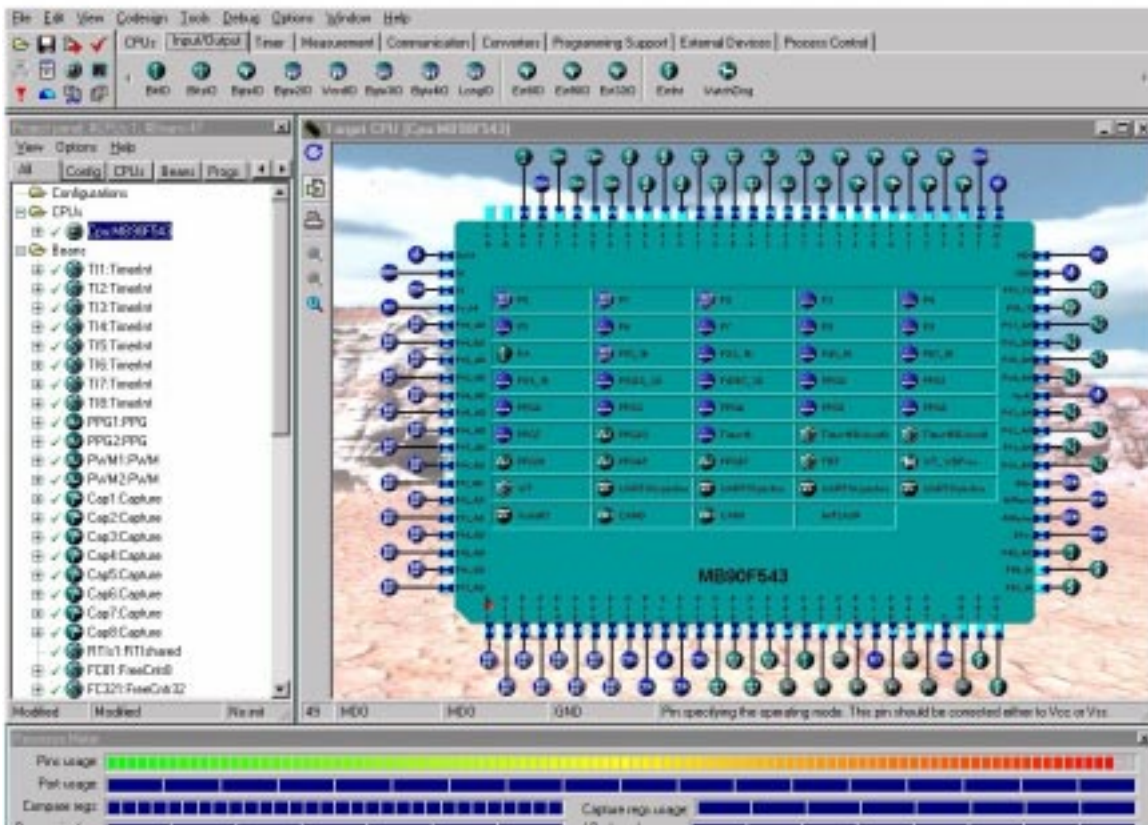
- additional peripherals to keep CPU on chip resources available for the application
- 512K of additional RAM with 16bit access, 0 wait (max.4M)
- 128K of additional FLASH with configurable 8/16 bit access, 0 wait (max. 2M)
- System Control DIP switch for manual operation
- programmable configurations of external memory organization with support of
 - boot from FLASH or RAM
 - small model with mirror of bank FF to bank 0 for area 4000H-0FFFFH
- additional four ports to be used instead of CPU's P0, P1, P2, P3 in order to support CPU single chip mode debugging using external bus mode of CPU and CPU FLASH emulation in Main board RAM to preserve CPU FLASH programming cycles
- three RS232 interfaces, 2 dedicated for CPU, one for Main board UART (DB9)
- two high-speed CAN drivers and connectors (DB9)
- CAN and RS232 drivers can be replaced by user ones
- serial EEPROM
- 2 digit LED display with buffer
- UART with 16550 "mimic"
- additional I2C is provided for software creation support and EEPROM control
- PC-AT keyboard interface with connector

- amplifier and speaker for sound generation using CPU periph. - sound generator or PPG
- 8 test LEDs, custom IC (FPGA) diagnostic LED
- LED for indication of RESET from RS232
- user button
- a header for CPU A/D converter including AD trigger, references, power supply
- prototype header for prototype boards with user chip selects
- amplifier and speaker
- USB connector
- Simulated CPU ports header
- Custom IC (FPGA) User Programmable Pins connector
- Automatic serial interface change from FPGA UART to CPU UARTx when CPU FLASH programming mode is entered

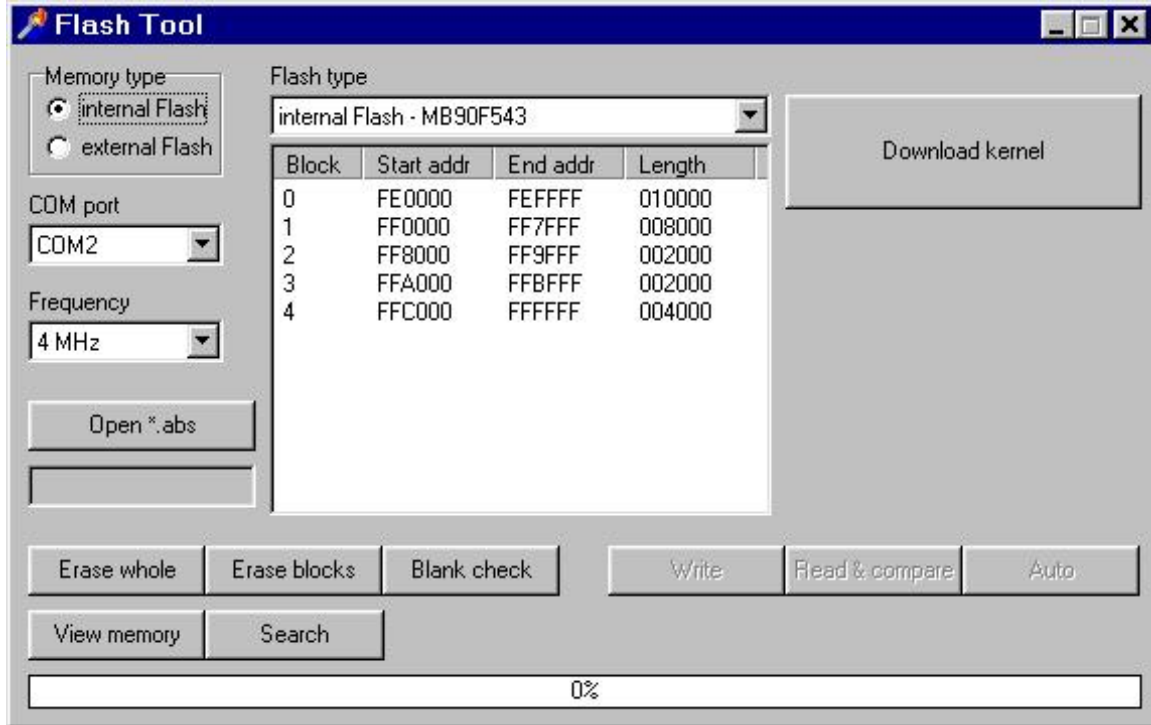
Software screenshots

More information is available on <http://www.processorexpert.com/fujitsu>

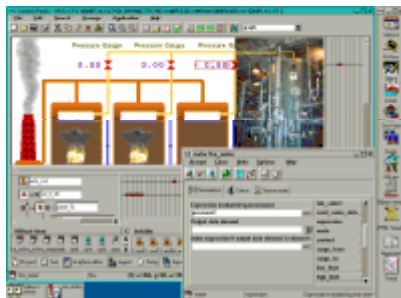
Screenshot of Processor Expert 2.30 for DevKit16, a Rapid Application Development environment with component oriented application design and CPU expert knowledge system



Screenshot of the FLASH programming utility



Screenshots of the optional PC or WEB visualization and control system



Schema of the DevKit16 Boards

