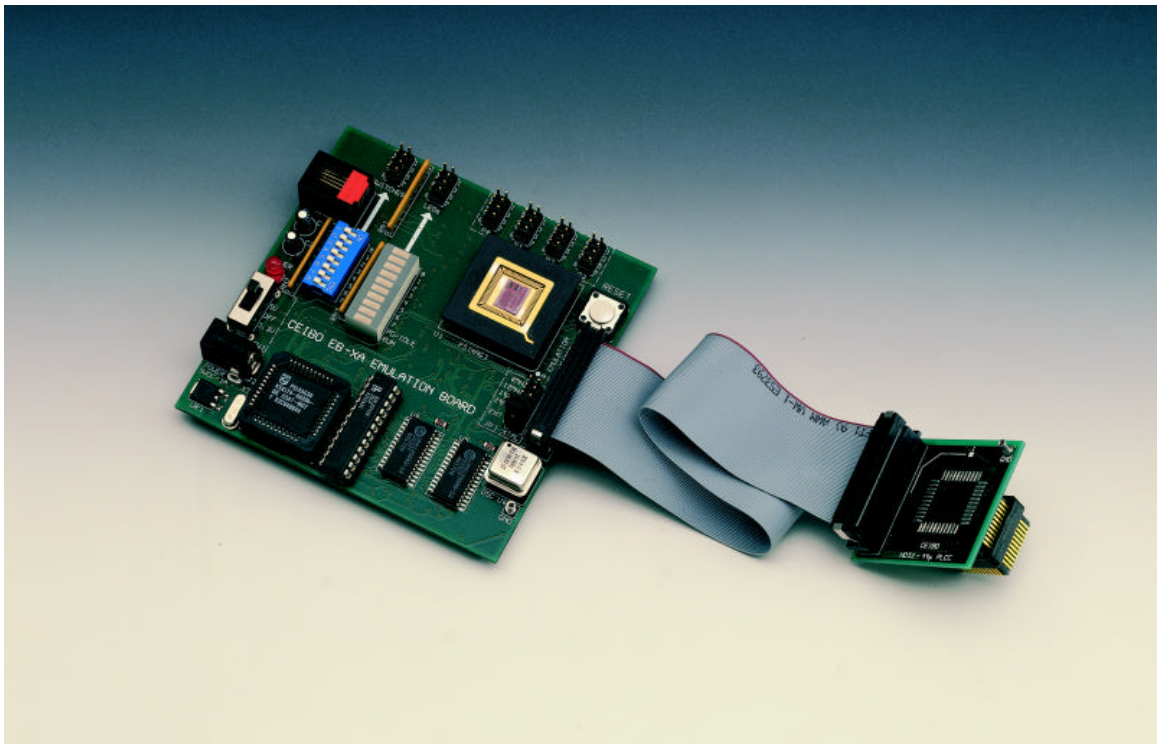
EB-XAG49 Low-Cost Emulator



Development Tool for P51XAG49 Microcontrollers

FEATURES

- **Emulates P51XG49 Microcontrollers**
- **Real-Time Operation up to 30MHz**
- **3.3V or 5V Voltage Operation**
- **Source-Level Debugger for C and Assembler**
- **MS-Windows Debugger Software**
- **Reduced Set of C-Compiler and Assembler**
- **Support for ROMless and ROMed Microcontrollers**
- **64K of Code Memory**
- **Performance Analyzer**
- **Real-Time and Conditional Breakpoints**
- **44-pin PLCC Emulation Header and Signal Testpoints**
- **Serially Linked to IBM PC at 115 Kbaud**

DESCRIPTION

EB-XAG49 is a Low-Cost Emulator dedicated to Philips P51XAG49 microcontrollers. It is serially linked to a PC or compatible systems and can emulate the microcontroller using either the built-in clock oscillator or any other clock source connected to the microcontroller. The clock oscillator generates 24MHz, 14.7456MHz, 12MHz and 6MHz. The system emulates the microcontroller in ROMed mode while supporting split code mapping. A special Philips bond-out chip is used to emulate the microcontroller, releasing all the microcontroller resources to the user. The software includes a Source-Level Debugger for C and Assembler, On-line Assembler and Disassembler, Software Trace, Conditional Breakpoints and many other features. The system includes a Debugger for MS-Windows. The code memory permits downloading and modifying of user's programs. Breakpoints allow real time execution until an opcode is executed at a specified address or line of the source code. All I/O lines are easily accessed and may be connected to the on-board switches and LEDs when trying out a specific idea. The system is supplied with a user's manual, software, emulation cable and a power supply.

SPECIFICATIONS

SYSTEM MEMORY

EB-XAG49 provides 64K of user code memory. This RAM memory permits downloading and modifying of user programs. The code memory boundaries may be defined to partially map the memory as belonging to the Low-Cost Emulator or to the target circuit. The software control sets the boundaries to 4K, 8K, 16K, 32K or 64K.

BREAKPOINTS

Breakpoints allow real-time program execution until an opcode is executed at a specified address. A breakpoint may be set to any address of the system code memory. Breakpoints on user target code addresses are possible if this memory can be written by the microcontroller.

USER SOFTWARE

The Windows Debugger runs under MS-Windows 3.1, 95, NT or later.

SYMBOLIC DEBUGGER

EB-XAG49 allows symbolic debugging of assembler or high-level languages. The symbolic debugger uses symbols contained in the absolute file generated by the most commonly used Assemblers and high-level language Compilers.

SOURCE-LEVEL DEBUGGER

The EB-XAG49 software includes a source-level debugger for Assembler and high-level languages (C and others) with the capability of executing lines of the program while displaying the state of any variable.

SOFTWARE TRACE

Program execution can be recorded in a 64K buffer. Conditional breakpoints may be defined to stop program execution. The user can define events and variables to be added to the software trace. **The software trace is not a real-time function and is performed by slowing down the emulation speed. This function is enabled in simulation or in-circuit simulation modes.**

IN-CIRCUIT SIMULATION MODE

The in-circuit simulation mode allows the software to be tested without any hardware. All the emulation functions are supported by this powerful simulation debugger.

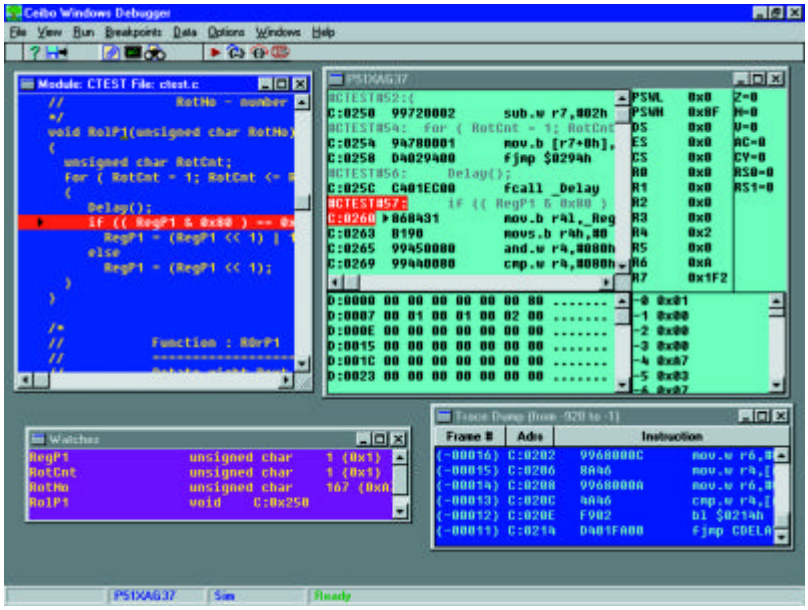


Figure 1: EB-XA Windows Debugger

SUPPORTED MICROCONTROLLERS

The supported microcontrollers are all the Philips P51XAG49 derivatives, with up to 64K internal code memory.

MICROCONTROLLER SELECTION

EB-XAG49 uses a Philips bond-out chip for hardware and software emulation. The selection of a supported microcontroller is done by means of software. The debugger menu is used to choose the desired emulated derivative. The minimum and maximum frequencies are determined by the bond-out chip characteristics, while the emulator maximum frequency is 30MHz.

FREQUENCY

The system includes a crystal oscillator able to supply clock frequencies of 6MHz, 12MHz, 24MHz and a fixed frequency of 14.7456MHz. Additionally, the user may select any other frequency by connecting an external clock source through the application hardware. The crystal oscillator itself is

mounted on a socket and may be replaced by another oscillator with different frequency value. Frequency selection is done by means of jumpers.

EMULATION VOLTAGE
EB-XAG49 emulates the microcontrollers at 3.3V or 5V. The selection of the voltage is defined by the position of the slide switch mounted on the emulator board.

HOST CHARACTERISTICS
PC or compatible systems with 2 MByte of RAM, one RS-232 interface card for the PC, MS-Windows 3.1, 95, NT or later.
Input Power 5V, 1.5A power supply supplied.

MECHANICAL DIMENSIONS
10cm x 10cm.

ITEMS SUPPLIED AS STANDARD
Development tool with 64 KByte Memory, 44-pin PLCC Emulation Header, Windows software including Source-Level Debugger, On-Line Assembler and Disassembler, User's Manual, RS-232 Cable and Power Supply.

WARRANTY
Two years limited warranty, parts and labor.

EB-XAG49 - ORDERING INFORMATION

Item	***Description***
EB-XAG49	Emulator, Software, Power Supply, Cables
EB-XAMB/G49	Main Board replacement.