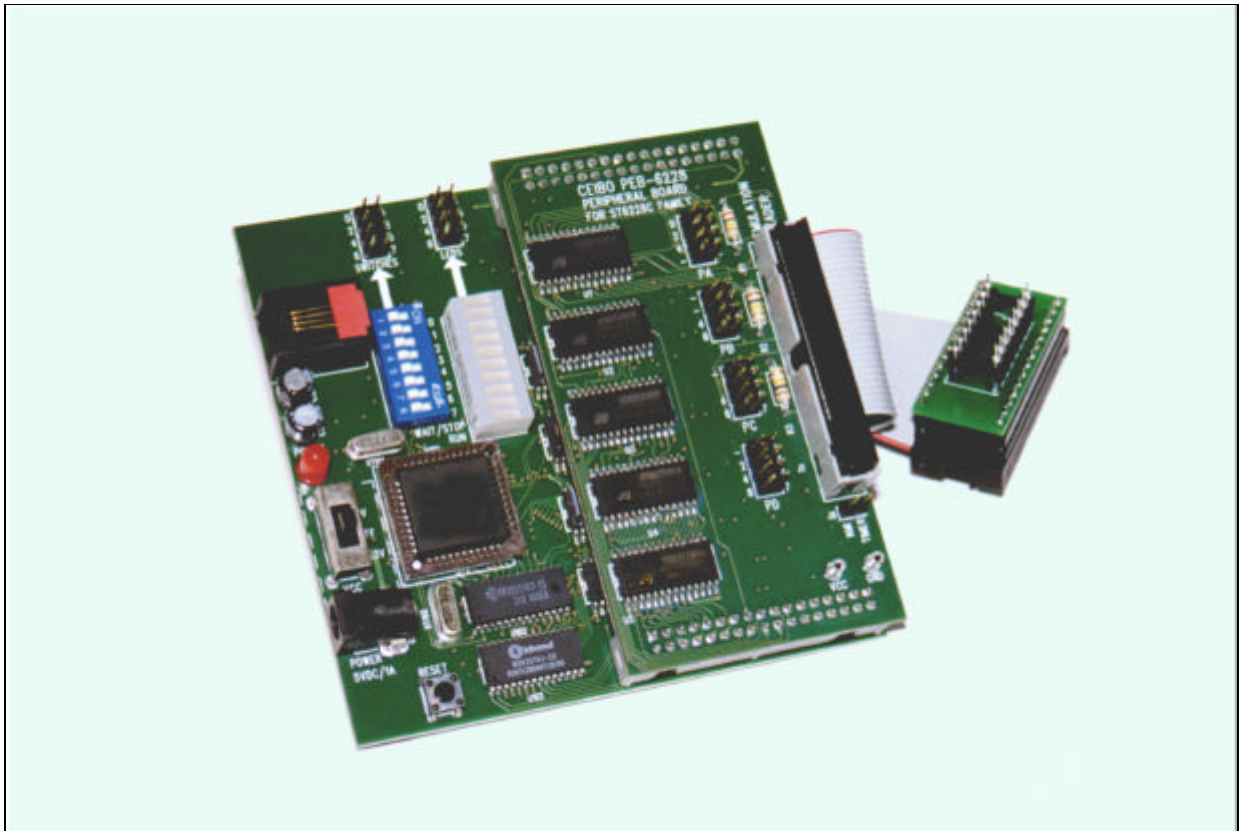# CEIBO EB-ST62 Low-Cost Emulator

Low-Cost Emulator for ST62 Microcontrollers

FEATURES

- **Supports Most of the ST62 Microcontrollers**
- **Real-Time Emulation up to Device Frequency**
- **3.3V and 5V Operating Voltages**
- **Real-Time Trace Buffer**
- **Source-Level Debugger for C and Assembler**
- **Unlimited Number of Breakpoints**
- **Stack Overflow Debug Breakpoints**
- **8K Bytes Emulation ROM**
- **192 Bytes Emulation RAM**
- **128 Bytes Emulation EEPROM**
- **On-Board Switches and LEDs**
- **Serially Linked to IBM PC at 115K Baud**

DESCRIPTION

EB-ST62 is a Low-cost Emulator designed to support the ST62xx family of 8 bit microcontrollers. It is designed to achieve maximum performance and maintain full speed real-time, transparent and accurate Emulation with minimal limitations and restrictions. It is supplied as complete kit with everything you need to immediately start emulating any supported device on your target board or do stand alone debugging. The EB-ST62 is a small board which handles core Emulation functions including ROM, RAM and EEPROM Emulation as well as debugger communications with the host computer. On-board switches and LEDs can be used for preliminary debugging and testing of user application without any user target board, by hooking them to any device port pin. The Peripheral Low-cost Emulator (PEB) is a daughter board plug in on top of the EB-ST62 baseboard. Each PEB contains several actual ST-62xx devices and is responsible for accurate peripheral and I/O ports Emulation of its family group of devices. Connection to a target is made directly from the PEB using a standard 28-pin flat cable connector. All the device I/O ports are spread on the same type of connectors to connect them directly to the switches and LEDs provided on the baseboard. A total of 3 PEBs are supplied in the kit, covering the entire range of supported devices list. These are labeled as: PEB-6225, PEB-6228 and PEB-6265. A standard 28 pin DIP wide (0.6 inch) male header connector connected through a short ribbon cable to the PEB is used as the user target header interface for the 28 pin DIP devices. In addition complete set of header converters from 28 pin DIP (wide) to 20 pin and 16 pin DIP (narrow) is supplied in the kit as standard for user target header interface for all supported devices in DIP package. A total of 5 header converters covers the entire range of supported devices list in DIP package. These are labeled as: HD-6201, HD-6220, HD-6218, HD-6260 and HD-6262. All the board Emulation functions are controlled from the debugger interface software running on the host PC. This is an MS-Windows based software, including complete source level debugger, symbolic debugger, on line assembler and disassembler. The system is supplied with a switching 5V power supply suitable for any country outlet (110-230V), with a 3 pin standard IEC power plug (PC style). Power cord is not included. Also the RS-232 cable connecting the EB-ST62 low-cost Emulator to the host PC is included in the kit.

SPECIFICATIONS

SYSTEM MEMORY
Memory Emulation uses SRAM devices, covering both program memory (ROM) and data memory (RAM) spaces and up to the maximum available size across the entire supported devices list, providing 8K Bytes of Emulation ROM and 192 Bytes of Emulation RAM. In addition 128 Bytes of EEPROM memory allows EEPROM devices emulation.

BREAKPOINTS

Software breakpoints are used to halt program execution when reaching any user specified instruction locations or source lines. The number of breakpoints allowed in any one time is unlimited. A reserved opcode value is used as the breakpoint instruction. The core simulator incorporates additional non-maskable built-in debugging aid hardware breakpoints on the following events: Breakpoints on stack overflow, Breakpoints on warning conditions, Breakpoints on reserved (illegal) instruction opcode execution.

REAL-TIME TRACE

A real-time history execution trace buffer is built into the core simulator. This is one of the strongest features in an Emulator system, the ability to trace back execution at point of halt or breakpoint so that you can exactly follow the course of the program leading to the point of breakpoint.

OPTION BYTES

The two LSB and MSB Option Bytes normally programmed in the device can be manually set by the user from a debugger menu.

FREQUENCY

Emulation speed is according to the user selected frequency up to the maximum frequency supported by the emulated ST62xx device, which is in general up to 8MHz. Emulation frequency is software controlled from a debugger menu. Almost any user desired frequency can be generated with a minimal deviation.

EMULATIONVOLTAGE

EB-ST62 can be configured to run at 5V or 3.3V. This option is switch selectable. The 3.3V is generated from an on-board standard 5V to 3.3V voltage regulator. Complete Emulation can be done on both 3.3V and 5V power setting with no additional limitations.

SOURCE-LEVEL DEBUGGER

EB-ST software comes with MS-Windows Debugger. The Debugger includes commands which allow the user to get all the information necessary for testing the programs and hardware in real-time. The commands permit setting breakpoints on high-level language lines, adding a watch window with the symbols and variables of interest, modifying variables, displaying floating point values, showing the trace buffer, executing assembly steps and many more useful functions.

SUPPORTED MICROCONTROLLERS

PEB-6225   ST6200/01/03/08/09/10/15/20/25

PEB-6228   ST6218/28

PEB-6265   ST6252/53/55/60/62/63/65

INPUT POWER

110 to 230VAC, 5VDC/1A Power Supply supplied.

MECHANICAL DIMENSIONS
4″ x 4″ (10cm x 10cm approx.).

ITEMS SUPPLIED AS STANDARD
Low-cost Emulator with one PEB (Peripheral Low-cost Emulator), user software including Source-Level Debugger, User Manual, RS-232 interface cable and Power Supply.

WARRANTY
Two years limited warranty, parts and labor.

EB-ST62 - ORDERING INFORMATION

Item	*Description*
EB-ST62	Emulator, Software, Power Supply, Cables.
PEB-6225	Peripheral Low-cost Emulator with HD-6201, HD-6220 headers.
PEB-6228	Peripheral Low-cost Emulator with HD-6218 header.
PEB-6265	Peripheral Low-cost Emulator with HD-6260, HD-6262 headers.