System Prototyping Development Board — LX-PB20K Product Features

Chips
- Up to two Altera APEX BC652 package PLDs per board.
- One optional ASIC with Lexra's standard test-chip pin out.

Interfaces
- PCI
- Serial (9-pin D-sub)
- EJTAG
- Expansion port headers
- Proto Bus headers

Memory
- SDRAM (168 pin DIMM)
- EPROM (32 pin DIP)

Clocks
- 33 MHz off-chip busses
- Technology limited internal chip speed

Clock sources
- Two socketed clock oscillators
- PCI bus clock
- External clock source (BNC)
- Chip internal oscillators

EJTAG probe & debugger support
- EPI MAJIC^{PLUS}™ probe
- EPI EDB™ debugger
- Macraigor probe
- Green Hills MULTI™ debugger

The LX-PB20K is a development board for system level hardware prototyping. It contains two upgradeable high capacity Programmable Logic Devices (PLD), and one test chip socket. This allows prototyping of systems including Lexra processors with Custom Engines (CE), Coprocessors (CI), Lexra Bus (LBUS) devices, and custom logic. The LX-PB20K has hundreds of headers that can be used for connections to external devices or as probe points for oscilloscopes, logic analyzers, and pattern generators. It also has a socketed EPROM and SDRAM DIMM on the board as well as PCI and two serial interface connectors. Ethernet, USB, parallel port, PS/2, VGA, and other interfaces can be used through standard off-the-shelf PCI peripherals.

One or more Lexra processor(s) can run in the test chip socket or either of the PLDs. This provides the ability for high performance execution in test chip silicon or rapid updates to the latest processor features in the PLD, using the same development board. In either configuration, the customer's own custom engines, coprocessors, Lexra bus targets, other logic, or even multiple CPUs can be programmed into PLD-L and any extra space in PLD-P.

The LX-PB20K supports all Lexra processors in standard pin-out test chips or Altera Apex™ PLDs with BC652 packages. Standard EJTAG connectors on the board allow on-chip debug and real-time trace capabilities using the MAJIC^{PLUS}™ probe (EPI) and the EDB™ (EPI) source level debugger or Macraigor probe and MULTI™ (Green Hills Software) source level debugger. Several target resident debug kernels can be run on the LX-PB20K including RSS™ (EPI) or PMON (Lexra). The board can also run industry standard real-time operating systems including VxWorks, Nucleus, and ThreadX.

LX-PB20K Development Board