



Features

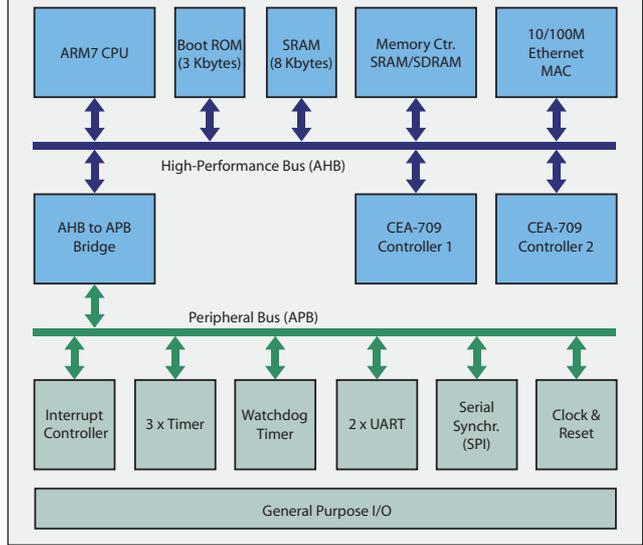
- ◆ 32-bit embedded controller for IP and control network services.
- ◆ Highly integrated System-On-Chip ASIC.
- ◆ Low cost.
- ◆ Best performance, highest packet throughput.
- ◆ Supports CEA-709, CEA-852, BACnet, and other IP services.
- ◆ Supports RTEMS and other real-time operating systems.
- ◆ Optimized for the ORION, BACnet, and TCP/IP protocol stacks.
- ◆ Powerful web server available.
- ◆ Java based IBM Eclipse Integrated Development Environment for easy application development.
- ◆ Fast and user friendly development of high performance ORION based network nodes.
- ◆ Comfortable application program development on Windows or Linux PCs.
- ◆ High performance ARM7-TDMI CPU running at 60 MHz.
- ◆ 10/100Base-T Ethernet port.
- ◆ 2 CEA-709 network controllers for bit rates up to 2.5 Mbps.
- ◆ 2 x UART (1 x full handshaking) with baud rates between 150 Bd and 2 MBd.
- ◆ High-speed synchronous serial interface that supports SPI.
- ◆ 2 x fully programmable and user configurable 16-bit timer. Can be cascaded as 32-bit timer.
- ◆ Watchdog timer.
- ◆ Boot ROM with 3 kbytes boot code.
- ◆ 8 kbytes high-speed on-chip SRAM.
- ◆ Supports PC133 SDRAM.
- ◆ 58-bit general purpose I/O.
- ◆ 3.3/2.5 V supply voltage, 240 pin FPBGA package (19 x 19 mm).
- ◆ Industrial temperature range.

Description

The LC3020 is a highly integrated controller that provides a complete solution for high performance control network applications like CEA-709, CEA-852, BACNET, IP network nodes. Its outstanding CPU performance will keep up with even the most complex control functions at a very competitive price.

The L-CORE-KIT includes everything required to build high-performance CEA-709 and CEA-852 network nodes. The JAVA based Eclipse inte-

LC3020



grated development environment from IBM launches the editor, linker, compiler, debugger, revision control system, and make system all with a single button click. The kit also includes the high performance ORION protocol stack to build CEA-709 network nodes and as an option the CNIP library to build CEA-852 Ethernet based network nodes that connect directly to an IP-852 channel. Applications can be developed on Windows or Linux PCs long before actual node hardware has been built and transferred to the target architecture within a few days. This allows true hardware/software co-design, which guarantees shortest development cycles and optimum re-use of already existing software components.

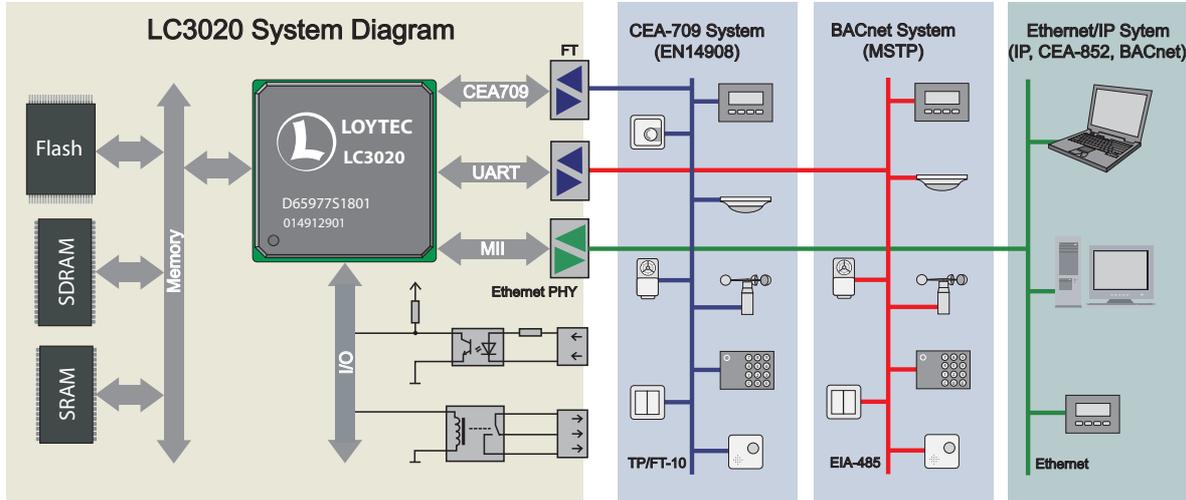
Order Information

Order Number	Configuration
LC3020	32-bit ARM7 embedded controller, CEA-709 and Ethernet port, FPBGA240 package, includes one ORION node license.
L-CORE-KIT	Complete development kit for LC3020 embedded controller. Includes Eclipse IDE, RTEMS OS, TCP/IP stack, web server, ORION protocol stack library, hardware support libraries.
L-CORE-CNIP	CEA-852 software library for LC3020 embedded controller.



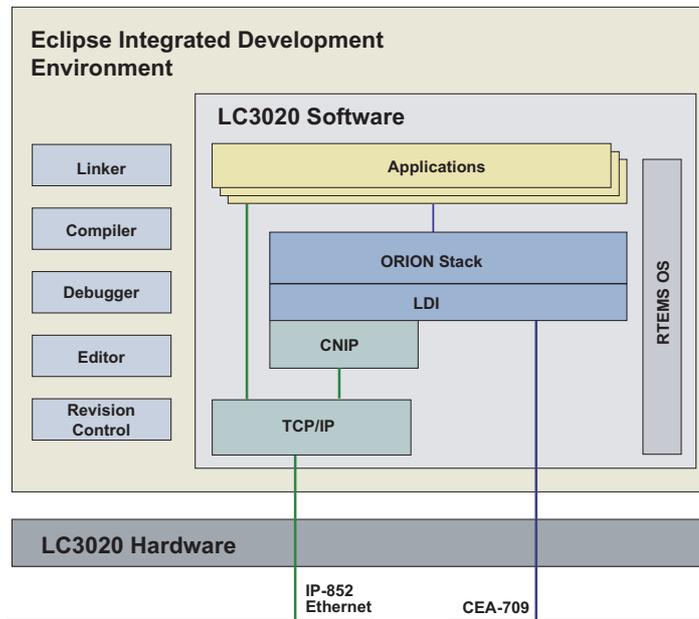
Typical network node architecture

A typical node architecture is shown below. (LC3020, RAM, Flash, Transceiver FT, Ethernet, I/O)



Software Architecture

The L-CORE-KIT includes a complete development system including C/C++ compiler, linker, debugger, make system, graphical IDE, RTEMS operating system, ORION protocol stack, TCP/IP protocol stack, etc.



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