

Video Processing With XC7300 CPLDs

BICOM, Inc., (Monroe, CT) is a provider of hardware and software "building blocks" for developing a wide range of voice processing applications. BICOM's products are used in the development of systems for voice mail, interactive voice response, audiotex, dictation and call center management.

The recent design of their new Gemini series of high-density computer telephony platforms required a high-performance CPLD to integrate a variety of logic functions. With cost and ease-of-use considerations in mind, the Xilinx XC7300™ CPLD family was chosen.

The voice processing board contains 14 XC7336 devices. The XC7336-5 CPLDs are used to hold a variety of logic functions, including address decoders, state machines, I/O functions and glue logic, with XC7336-15 CPLDs for the complicated timing associated with the telecommunications channel. If BICOM had used traditional PALs for these logic functions, the design would have encom-

passed two boards rather than one.

The design was entered and implemented on a PC using OrCAD schematic entry tools. The complexity of the design (which included a mix of analog and digital technologies) and tight development schedules dictated the use of programmable devices with predictable performance and good pin-locking capabilities. The XC7336 CPLD fulfilled both these needs. Pinouts were pre-assigned and maintained throughout multiple design iterations. This allowed the designers to concentrate on the more difficult architectural aspects of the design.

As first-time Xilinx users, BICOM engineers were impressed with the level of technical support provided by the Xilinx team.

In summary, by using the XC7300CPLD family, BICOM engineers were able to meet their

performance needs, reduce design complexity and cost, and save valuable board space as well. ♦

