

NetROM* — A Communications Gateway and Debugging Tool

- Works With All Versions of the i960® Processor Family
- Rapid Code Download Over Ethernet Eliminates Slow Serial Downloads
- Source Level Debugging Over the Network Facilitates Target Development From Any Network Host
- Provides 1 Megabyte of Emulation Memory to Support Large Code Images
- Integrated With MON960, GDB960, XRAY960 and Other Tools

NetROM* provides a fast and efficient software development environment for designers of embedded devices. NetROM integrates the power of local area networking into the development process. This capability shortens the development cycle by increasing the speed of development tasks.

NetROM revolutionizes embedded system debugging by completely integrating target systems to Ethernet networks using NO target resources. A communications gateway, NetROM provides a full TCP/IP protocol stack and multi-tasking operating system which cleanly integrates the target to Ethernet via its ROM sockets. As a result, NetROM transforms any ROM based target into a network node which is accessible from any host for all cross development activities.

NetROM is ideally suited for use with the i960 processors. Code images for the i960 processor tend to be large and take a long time to download over slower serial links. NetROM increases the speed of loading code images by a factor of 1000. Thereby, allowing the i960 processor developer more time to focus on debugging code. Moving code from a host to a target is now fast and easy. NetROM accomplishes code downloads over the Ethernet using TFTP. In addition, host initiated file downloads may be accomplished using TCP.

NetROM works with any version of the i960 processor family because it emulates ROMs, not the processor itself. Yet most of the features provided by a processor emulation are available with NetROM. Also, since NeROM is processor independent, switching to a different version of the i960 processor does not require purchasing a new debugging tool.

NetROM has a complete Ethernet host implementation supporting Telnet, TFTP, RARP, BOOTP, PING, SLIP and SNMP. The one megabyte of emulation memory can be organized in 8-, 16-, or 32-bit words. Wider sizes can be supported using multiple NetROMs.

Debugging the code resident on the target system occurs through NetROM's debug communication path. This path utilizes a feature unique to NetROM — a Virtual UART. The Virtual UART is a dual port RAM which overlays 2 Kbytes of EPROM memory space. Operating at memory speeds, the Virtual UART provides a high speed link through which a source level debugger communicates with the target based monitor. This frees the target's physical UART for purposes other than code debugging, such as user interface. XLNT Designs has integrated the virtual UART to many of the industry standard debug monitors. NetROM coupled with a source level debugger provides 80% of the functionality of a processor emulator at a fraction of the cost.

HOST SYSTEMS SUPPORTED:
Any networked platform

PROCESSORS SUPPORTED:
i960 Kx/Sx/Cx/Jx/MC Processors

AVAILABILITY:
Now

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For international contacts see Appendix B.

