

RTEMS APPLICATION SPOTLIGHT

LogicLab s.r.l PowerProbe

RTEMS (<http://www.rtems.com>) is an Open Source RTOS providing a powerful development and run-time environment that promotes the production of efficient real-time embedded applications.

Features:

- Scalable Architecture
- Modified GPL License
- Multiple APIs - Classic, POSIX
- Event-driven multitasking
- Priority-based, preemptive scheduling
- Responsive Interrupt Management
- Optional Rate Monotonic Scheduling
- Priority Inheritance and Ceiling Protocols
- Intertask communication and synchronization
- Homogeneous and heterogeneous multiprocessor systems
- Reentrant ANSI C Library
- Add-on libraries including Python, Lua, and Tcl
- High performance BSD TCP/IP Stack
- Protocols: TCP, UDP, BOOTP, ARP, ICMP
- Servers: FTPD, HTTPD, TELNETD
- Clients: DHCP, NTP, DNS, TFTP

Processors Supported:

M680x0	ix86	Coldfire	ARM
M683xx	Pentium	MIPS	Blackfin
PowerPC	SuperH	SPARC	H8
NIOS2		SPARC64	

Available Services:

- Training
- Standard Support
- Legacy Support
- RTEMS Application Assistance
- Board Support Package Development
- Application Design and Development
- Ports to New Architectures
- System Architecture Design

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LogicLab s.r.l. offers the PowerProbe family of products designed to satisfy the rigorous fault recorder specification required by Enel S.p.A. Included in this family is the FR947-M which was designed and developed specifically to be both a high performance and flexible product. The result is an RTEMS-based digital fault recorder which defies comparison with any others you may find in the market.

With thirty-two (32) analog noise-free channels (voltage and current) and 128 digital inputs, it is suitable for use in high precision data acquisition. Every channel (analog or digital) is isolated from all other channels, the power-supply, and ground.

The fault recorder is made for High Voltage/Medium Voltage (HV/MV) substations and is employed to record voltages and currents due to a trigger condition. The trigger conditions are user specified based upon a mix of analog and digital inputs. The fault recorder uses GPS signals for time synchronization and is capable of obtaining event tags at one microsecond of precision. If you do not wish to use GPS for time synchronization, the PowerProbe family has other options.



The user, via Ethernet or RS232 connections, can perform remote control and parameterization of the equipment and download recordings by means of a simple PC. Automatic download makes it possible to transfer recordings directly to a PC's mass storage. The FR947-M is equipped with flash memory for non-volatile recording up to 250 seconds.

The digital fault recorder PowerProbe FR947-M has two easy-to-use software programs that allow complete management of the device, including useful recording, downloading, and monitoring, as well as an effective and powerful analysis system. LogicLab also offers a smaller, less expensive solution with that fits in a 3U rack-mount panel. Configurations with up to 16 analog input and 32 digital input are available. Other hardware and software is available for these devices including an HMI interface, Digital Output, Multiple Time Synchronization, and 100BASE-FX interface.

References:

- PowerProbe Home Page
- <http://www.logiclab.it/it/DV947.htm>
- DV947 Flyer (English)
- http://www.logiclab.it/DV947_file/Fault%20recorder%20LogicLab.pdf
- RTEMS Wiki Page
- <http://www.rtems.com/wiki/index.php/PowerProbe>

