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N.A.T. Eth29-FC Diagram

1 Introduction

The Eth29-FC is an intelligent high performance VMEbus Ethernet controller board. It has been designed to support extremely high data transfer rates with a minimum of impact on the system load of the host system.

The board combines a true 32-bit architecture with a powerful RISC processor to enable the utilization of the Ethernet network´s maximum throughput. A Motorola Coldfire processor handles all of the local network protocols up to layer 4 and thus enables an effective transfer rate of up to 3 MByte/sec with all network protocols.

The Eth29-FC board supports all of today´s standard protocols (TCP/IP, DECNet, ISO/OSI protocol) and is prepared for tomorrow´s demands. All of the N.A.T. network protocols are based on N.A.T.´s Universal Protocol Stack Architecture (UPSA) which supports the simultaneous and independent execution of different network protocols on the Eth29-FC board.

The Eth29-FC handles the processor-intensive network protocols onboard. Thus, the system´s main processor is free and the real-time capability of the system is undiminished by even high network traffic. The board´s VMEbus interface achieves extremely short bus cycles through the use of intelligent access modes. Thus, high network data transfer rates are also achieved with standard (D16) CPU boards that provide no support for Block-Transfer or DMA.

The Eth29-FC board is delivered with the multi-tasking kernel OK1 (Open Kernel 1). OK1 supplies all of the operating system resources required by the network software. For a detailed description of the OK1 kernel please refer to the "N.A.T. OK1 Reference Manual".

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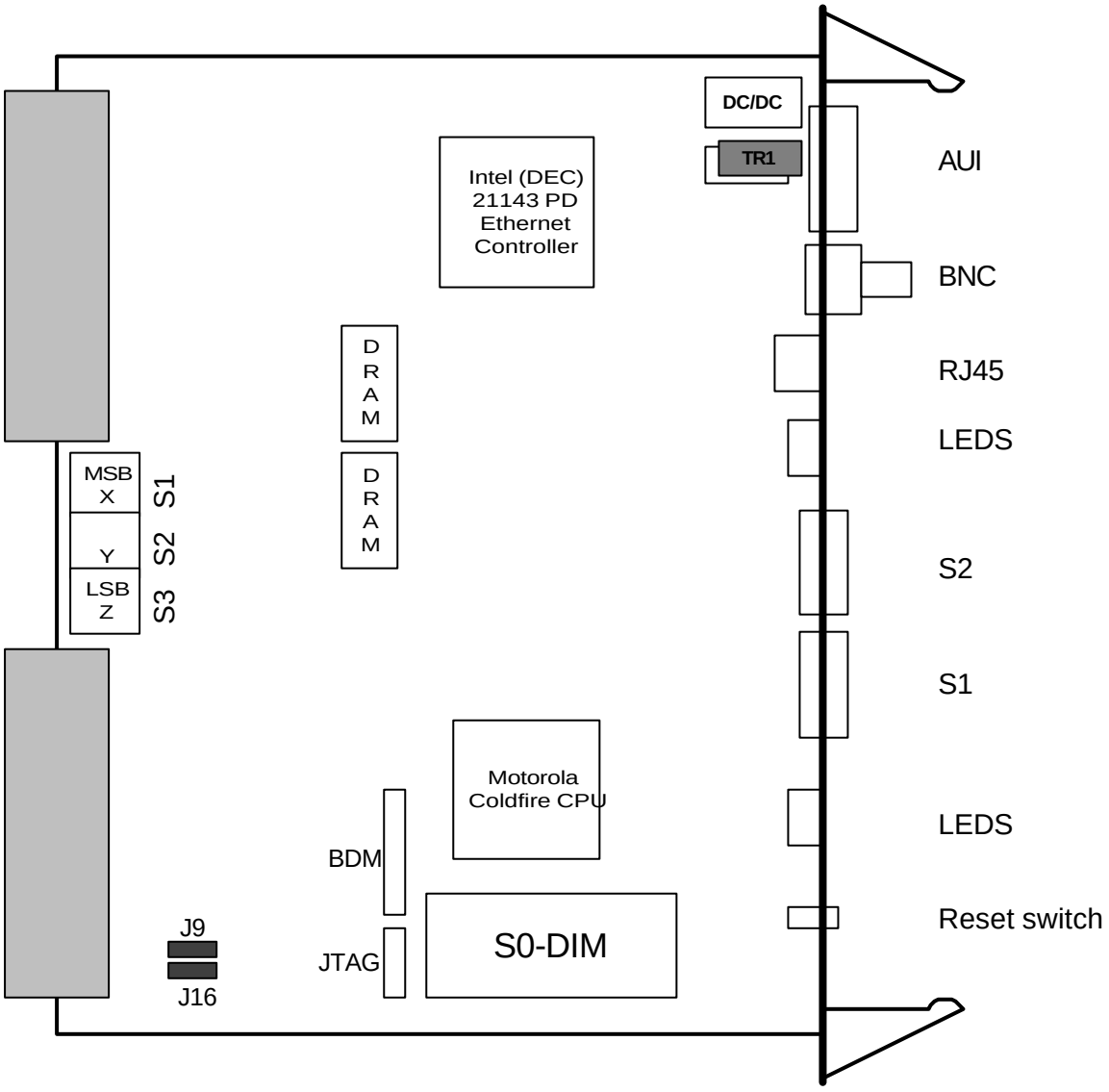
2 Eth29-FC – Diagram



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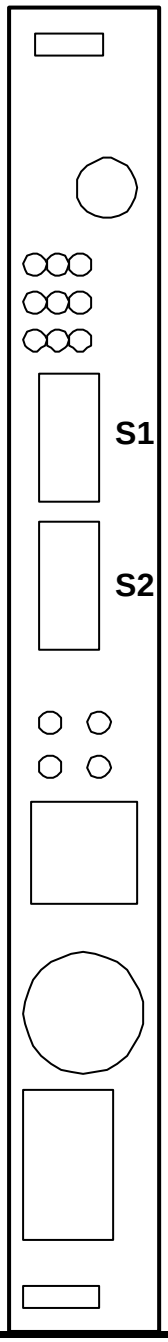
3 The Eth29-FC Front-Panel

Mounted on the Eth29-FC front panel are connectors for the serial and network interfaces, a reset switch, and a number of indicator LEDs.
This chapter contains a detailed description of the various components mounted on the front panel.



Board Status Indicator LEDs:
CPU Access / MBOX / RESET
VME Access / VINT / unused
LAN Access / LIRQ / unused

Serial Line Interfaces

Network Indicator LEDs:
Match / Link Ok
100BT / RX/TX active

10/100 BT Interface Connector
RJ45

Cheapernet Interface Connector
BNC

AUI Connector