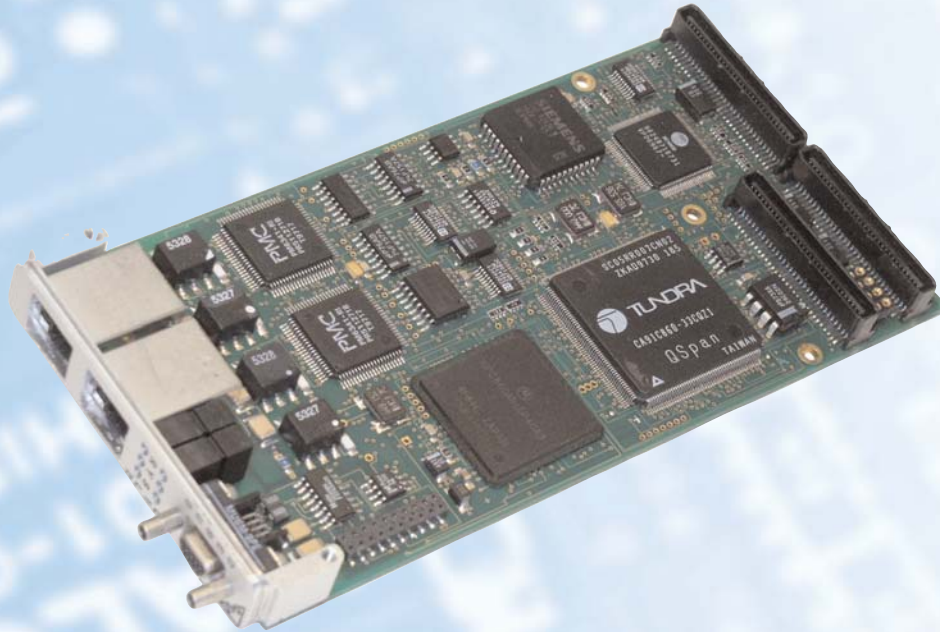


# Telecommunication PMC Module

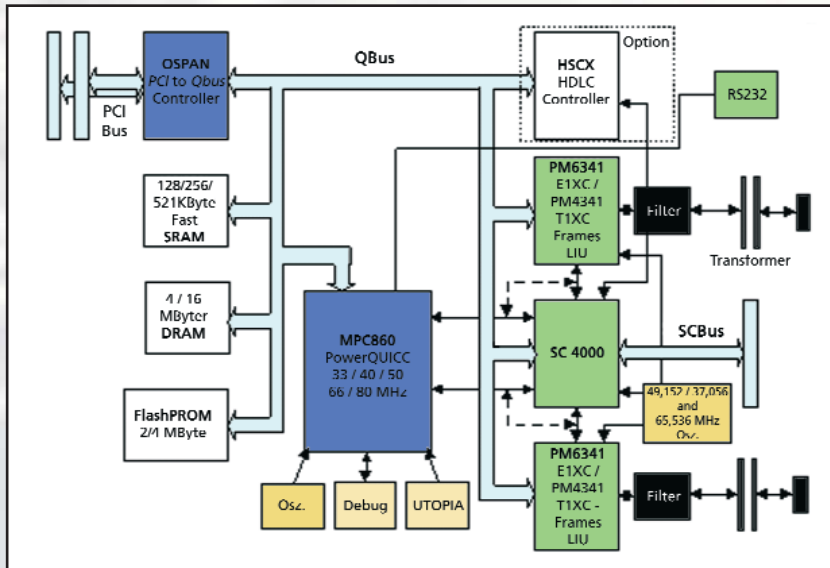


## NPMC-860-2E1/T1

The NPMC-860-2E1/T1 is a high performance telecommunication board in PMC (PCI Mezzanine Card) form-factor. Based on the Motorola MPC860 "PowerQUICC" processor, this module supports two E1 or T1 ports using standard RJ45 connectors on the front panel.

Equipped with the H.110/ SCbus TDM bus controller the NPMC-860-2E1/T1 provides a cost-effective and intelligent line interface for use in CompactPCI, PCI, proprietary and VME-based telecommunication applications running ISDN, SS7, ATM or proprietary protocols.

# Technical Data



## Overview

The NPMC-860-2E1/T1 is a telecommunications interface board in PMC (PCI mezzanine card) form factor. Based on the Motorola MPC860 "PowerQUICC" CPU the NPMC-860-2E1/T1 is targeted at telecom applications running protocols like ISDN, SS7, ATM, VoIP or proprietary protocols.

Equipped with the onboard SCbus, the NPMC-860-2E1/T1 provides an ideal and cost-effective interface for use in the VME, PCI, CompactPCI and proprietary platforms.

## Hardware

The NPMC-860-2E1/T1 is a P1386.1/Draft 2.4 compatible PMC module that can be plugged onto any VME, cPCI or other carrier board offering a PMC extension slot. Using the Tundra QSPAN II PCI-to-QBUS bridge, the NPMC-860-2E1/T1 is PCI Rev 2.2 compatible and capable of running in 32 bit PCI architectures.

The Embedded PowerPC based PowerQUICC MPC860 processor at 50 MHz (optionally 66 or 80 MHz) provides the capability of processing user data as well as signaling information.

The two primary rate line interfaces are implemented using the PMC Sierra framer PM6341 (E1) or PM4341 (T1), and are available on two standard RJ45 connectors on the front panel.

The two framers can be individually configured to work as a user or network side interface.

In addition to the two E1/T1 lines the NPMC-860-2E1/T1 offers an RS232 serial interface on a mini-sub-D connector.

The onboard OKI CT812 H.110 bus controller offers access to the H.110 TDM (Time Division Multiplex) bus and its SCbus subset on the PMC P14 I/O connector.

The module is equipped with 4 or 16 MB 32-bit DRAM, 128, 256 or 512 KB 32-bit SRAM (opt) and 2 or 4 MB 8-bit onboard programmable Flash.

## Firmware

Communication protocols like ISDN, SS7 are available as binary firmware images as well as operating system independent source code licenses. By default these firmware protocols run on the well proven N.A.T. real-time kernel OK-1, which is optionally available in source code.

Also available for the NPMC-860-2E1/T1 are BSPs for other operating systems such as VxWorks and Linux.

As well as standard protocols, N.A.T. also offers customized firmware development.

Enhanced software development and effective debugging is supported by the onboard BDM/JTAG interface.

## CPU

Motorola MPC860 "PowerQUICC" at 50/66/80 MHz

## PCI Interface and Compliance

Tundra QSPAN PCI to QBUS bridge (33MHz, 32bit), PCI Rev. 2.2

## H.110/SCbus

OKI CT812, Scbus on PMC P14 connector

## DRAM

4 or 16 MB 32-bit EDO DRAM

## Fast SRAM (opt)

512 KB or 1MB 32-bit SRAM

## Flash

2 or 4 MB 8-bit Flash, on-board programmable

## Line Interface

two E1/T1 line interfaces on standard RJ45 connectors on the front panel, supplied by PMC Sierra PM6341 (E1) or the PM4341 (T1)

## Serial I/O

RS-232 compatible

## Operating System Support and Firmware

OK-1, VxWorks, LINUX  
ISDN, SS7

## Power Consumption

3.3V 0.5A (typ.), 5.5V 0.8A (typ.)

## Environmental

Temperature (operating): 0°C to +50°C  
Temperature (storage): -40°C to +85°C  
Relative Humidity: 5% to 95% (non-condensing)

## Standard Compliance

PCI Rev. 2.1  
P1386 and P1386.1/Draft 2.4a

N.A.T.

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