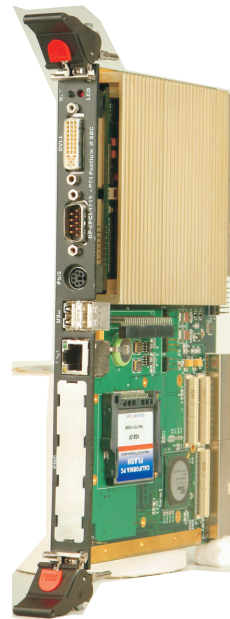**DATA PATTERNS**

DP-cPCI-5715   cPCI Based PentiumM SBC

KEY FEATURES AND BENEFITS

• 1.4GHz LV PentiumM 738 CPU with 2MB L2 cache

• Support for
  • Up to 1GB DDR333 SODIMM (small outline dual in-line memory module interface)

• Optional PMC Interface for 32bit/33MHz on PCI bus

• Four IDE devices include one on-board 2.5" HDD and compact flash interface and two HDD interfaces on rear IO

• Four USB2.0 ports with two on fascia and 2 on rear I/O

• ECP/EPP or FDD on the parallel port

• Two RS232 ports supporting RS232 level signal

• Three RS422/RS485 ports with isolated receiver

• RGB interface on fascia through DVI-I (RGB only) connector

• One 10/100base-T Ethernet link

• PS/2 Interface

• RTC interface with battery backup on the base board

• 6U form factor with CPCI bus interface expansion

• Software Support: Linux 2.6.9, Windows 2000, XP.

APPLICATIONS

• Checkout systems

• Data acquisition systems

• Signal processing units

OVERVIEW

DP-cPCI-5715 is a high performance, rugged, air-cooled, 6U cPCI based single-board computer designed to meet the needs of embedded applications like industrial automation, telecommunication, military and more.

MODULE CONFIGURATION

With a flexible memory configuration and processor module in ETX form factor, the board offers a simple ability to upgrade by selecting a more powerful CPU without baseboard redesign (the ruggedizer needs a re-design based on different CPU modules). On-board peripheral interfaces include graphics, Ethernet, IDE, serial ports, parallel port/FDD, USB, PS2 keyboard/mouse and PMC extension.

INTERFACE

The board has one 10/100 Base-T Ethernet interface to transmit data either at 10Mbps or 100Mbps over a length of 100meters on a twisted-pair cable. The Ethernet interface has mount option to terminate at either the front panel RJ45 connector or the rear IO connectors. IDE interface supports four IDE devices, two on the primary channel and two on the secondary channel. A 2.5" IDE socket (primary) and compact flash socket (secondary) are provided on-board with two IDE interfaces, one from primary channel and one from secondary channel, terminated on the rear IO. The on-board jumper selects the primary or secondary master. The default state is the primary master without jumper installed and the jumper installation selects the secondary master.

I/O

VGA output from CPU module is buffered to three outputs. One output is taken to fascia, while the other two are terminated on the rear-IO. The buffered VGA output on fascia is terminated on a DVI-I connector. The board has two serial ports supporting RS232 signal interface with one port offering full modem support on the fascia and other port is terminated on the rear-IO.   One parallel printer (EPP/ECP)/FDD interface is provided on rear IO. Either printer port or FDD is functional at a time with on-board jumper selection. Four USB2.0 ports are supported with two ports interfacing on the fascia while the other two are terminated on the rear-IO. PS/2 keyboard and mouse interfaces, both sharing the same stack up on the fascia with front or rear options available.   An on-board optional PMC interface for a 32bit/33MHz PCI bus is available.

SOFTWARE SUPPORT

Drivers for Linux 2.6.9, Windows 2000 and XP provided.

DP-cPCI-5715

SPECIFICATIONS

CPU	Ultra low voltage Pentium M738 with 2MB L2 cache
CPU SPEED	1.4GHz
RAM	Up to 1GB DDR333with optional ECC and SODIMM interface
CompactPCI	32 bit / 33 MHz PCI-PCI bridge for cPCI bus interface expansion
IDE	Upto four IDE devices

- One 2.5" note book IDE interface on-board on primary channel
- One on-board compact flash socket on secondary channel
- One 3.5" IDE interface from primary and secondary channels each on rear IO

ETHERNET	One 10/100 Base-T Ethernet interface with front or rear option
SERIAL I/O	Two serial ports supporting Rs232 level signal interface with one port offering full modem interface on fascia. The other port is terminated on rear I/O.
USB	Four USB 2.0 ports with two on front panel and two on rear panel

KEYBOARD / MOUSE

- PS/2 compatible
- Front or rear option

VIDEO

- Three buffered VGA outputs with one on front panel and two on rear IO
- The VGA interface on front panel is through a DVI-I(RGB only) connector

CONNECTOR

Backplane interface	CompactPCI back-plane interface
Field interface	Through front or rear panel

MECHANICAL

Board size	233.33mm (H) x 160mm (D)
Module	6U (H), 4T (W)
Ruggedizer	A ruggedizer for heat dissipation and good strength

ENVIRONMENT	Commerical and rugged versions
POWER SUPPLY	5V@5A, 3.3V@3.4A, and 12V@ 0.1A

ORDERING INFORMATION

DP cPCI 5715 6   3 6 3   9 0

IDE/PMC
0 - No on-board IDE and PMC
3 - On-board 2.5" IDE (2.5"HDD)
6 - 32 bit PMC@33MHz

Compact Flash
0 - No flash disk
3 - 256MB flash disk
6 - 512MB flash disk
9 - 1GB flash disk

DDR Memory ECC support
3 - with ECC
6 - without ECC
DDR Memory
3 - 256MB DDR333 SODIMM
6 - 512MB DDR333 SODIMM
9 - 1GB DDR333 SODIMM

Processor
3 - 1.4GHz low voltage PentiumM 738

6 - 1.0GHz ultra low voltage Celeron-M 373
9 - 800MHz Ultra low voltage Celeron-M

3 - Commercial
6 - Rugged

DATA PATTERNS

DP-cPCI-5715

BLOCK DIAGRAM OF cPCI BASED PentiumM SBC

ETHERNET	
MAGNETICS	
RJ45 JACK WITH MAGNETICS	
KEY BOARD / MOUSE	
KEY BOARD / MOUSE	
ON-BOARD BATTERY BACKUP FOR RTC INTERFACE ON CPU MODULE	

DUAL CHANNEL USB

DUAL CHANNEL USB

x1 IDE (MASTER ON JP) INSTALLED

2.5" HDD (DEFAULT MASTER WITHOUT JUMPER)

x1 IDE (MASTER ON JP) INSTALLED

COMPACT FLASH

POWER SUPPLY SECTION

USB

PRIMARY IDE

SECONDARY IDE

ETHERNET

COM1

COM2

ETX CPU MODULE

PS/2

PCI BUS

x1 UART RS232 (FULL MODEM)

TRANSCEIVER

TRANSCEIVER

x1 UART RS232

BUFFER

VGA

PARALLEL/FDD

AC'97 (HEADER)

PMC (OPTIONAL)

PCI-PCI BRIDGE

32 BIT / 33MHz PCI SIGNALS

GLUE LOGIC SECTION

x1 VGA

BUFFER

DVI-I DIGITAL AND ANALOG(RGB) CONNECTOR

x2 VGA

PARALLEL PORT

FDD

INDICATE REAR IO

INDICATE FRONT IO

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