



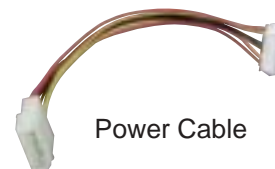
### PM-1043 PC/104 STPC SBC with VGA and 32/64MB on board SDRAM

#### SPECIFICATIONS

- CPU: Embedded STPC Elite/Consumer II CPU
- System Memory: On board 32/64MB SDRAM & 1xSO-DIMM slot totally support up to 128MB

Model	PM-1043VLCD Series	PM-1043V Series
VGA Controller	C&T 69000 Resolution: 1024 x 768 @ 24-bit Connector: 16 pin-header for CRT	On Chip STPC Consumer II Resolution: 1280 x 1024 @ 24-bit Connector: 16 pin-header for CRT
LCD	HRS DF9 51 pin-header for 36-bit TFT LCD	N/A

- SSD: 1x DiskOnChip + 1 x CompactFlash Type II
- I/O: - 1 x PS/2 connector for keyboard/mouse  
- 2 x RS232, 1 x LPT  
- 1 x EIDE (ATA-2) channel, 1 x FDD
- WDT: Software programmable support 1~255 sec system reset
- Power Consumption: +5V@1.2A (STPC-DX2 / 64MB SDRAM)
- Operation Temperature: 0~60°C (CPU cooler required)
- Relative Humidity: 5~95%, non-condensing



Power Cable

#### STPC Elite

At the heart of the STPC Elite is an advanced processor block that includes a powerful x86 processor core along with a 64-bit SDRAM controller, a high speed PCI chip set functions (Interrupt controller, DMA Controller, Interval timer and ISA bus) and EIDE controller. Moreover, within System Management Mode (SMM) function provides an additional interrupt and address space that can be used for system power management or software transparent emulation of peripherals. While running in isolated SMM address space, the SMM interrupt routine can execute without interfering with the operating system or application programs.

#### ORDERING INFORMATION

- **PM-1043-32MB** STPC Elite CPU on board 32MB SDRAM PC/104 module
- **PM-1043V-32MB** STPC Consumer II CPU on board 32MB SDRAM with VGA PC/104 module
- **PM-1043VLCD-32MB** STPC Elite CPU on board 32MB SDRAM PC/104 module with VGA/LCD function
- **PM-1043-64MB** STPC Elite CPU on board 64MB SDRAM PC/104 module
- **PM-1043V-64MB** STPC Consumer II CPU on board 64MB SDRAM with VGA PC/104 module
- **PM-1043VLCD-64MB** STPC Elite CPU on board 64MB SDRAM PC/104 module with VGA/LCD function

### PM-1041 PC/104 STPC Client SBC with VGA

#### SPECIFICATIONS

- CPU: Embedded STPC Client support up to 133MHz 486 core CPU
- System Memory: 1xSO-DIMM support up to 32MB EDO RAM
- Display: - On chip STPC Client  
- V-RAM: 512KB~4MB, share with system memory  
- Resolution: up to 1024 x 768 (64k colors)
- SSD: 1 x DiskOnChip
- I/O: - 2 x RS232  
- 1x LPT  
- 1 x IrDA port  
- 1 x FDD  
- 1 x IDE 44-pins by pin header
- Power Consumption: +5V@1.4A (STPC Client 32MB EDO RAM)
- Operation Temperature: 0~60°C (CPU cooler needed)
- Relative Humidity: 5~95%, non-condensing

#### STPC Client

The STPC Client integrates a standard 5th generation x86 core, a DRAM controller, a graphics subsystem, a video pipeline, and support logic including PCI, ISA, and IDE controllers to provide a single Consumer oriented PC compatible subsystem on a single device. The device is based on a tightly coupled Unified Memory Architecture (UMA), sharing the same memory array between the CPU main memory and the graphics and video frame buffers.

#### ORDERING INFORMATION

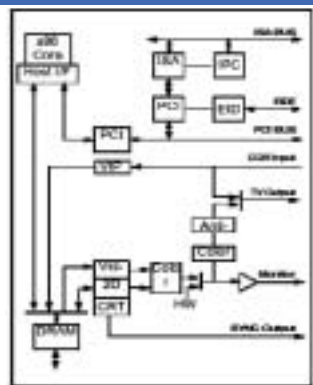
- **PM-1041** PC/104 STPC Client SBC with VGA function module

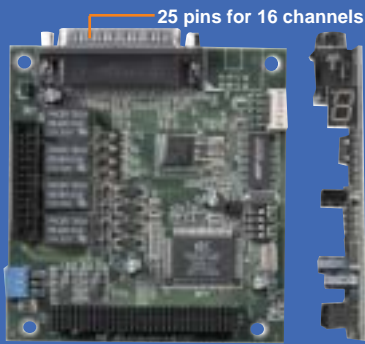
#### C&T mini69000 futures:

- Highly integrated Flat Panel and CRT GUI Accelerator & Multimedia Engine
- 2MB integrated SDRAM
- Composite NTSC/PAL support
- Advanced Power Management features
- Supports VESA standard
- Fully Compatible with IBM® VGA



#### STPC Client Logic Diagram





25 pins for 16 channels

PM-1056-16PG



25 Pins to 16x BNC input / 1x BNC output cable

### GPIO Module Relay Contact Rating

Contact Form	1 FORM C (SPDT)
Contact Capacity	Coil=0.36W 1A/125VAC
Resistive Load (cos=1)	2A/24VDC
Inductive Load (cos = 0.4, L/R=7ms)	0.3A/30VDC
Rate Carrying Current	2A
Max. Allowable Voltage	AC 120V DC 60V
Max. Allowable Current	2A
Max. Allowable Power	48W
Contact Material	Ag Alloy

## PM-1056 PC/104 plus 4/16 channels Video Capture Module

### SPECIFICATIONS

- **Analog Video Capture Engine:**
  - Conexant Fusion BT878A Capture Engine
  - NTSC/PAL/SECAM PCI Video Decoding
  - Flexible 24-bit wide GPIO (PM-1056-4PG/16PG)
- **Functionality Support**
  - NTSC: 720x480, 704x480, 640x480, 352x240, 320x240, 176x112
  - PAL: 720x576, 704x576, 640x576, 352x288, 320x288, 176x144
  - Video loss detection
- **Multi-Screen/Image brightness/Resolution adjustment**
- **Capture Frame Rate :**
  - Max. 30 fps for 4 channels
- **Provide WDM driver and SDK software development kits**
- **Support OS: Window 98, SE, ME, 2000, NT, XP and Linux**
- **Power Consumption: 3.5W@5V**
- **Operating Temperature: 0~50°C**



4x RCA Connector Cable kit

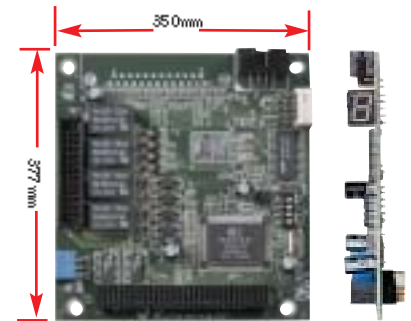


VIN-KIT-01

4x BNC Connector Board

### Relay Coil Specification (At 20°C)

Coil Voltage	Normal Voltage (VDC)	Normal Current	Coil Resistance (ohm 10%)
5V	5V	66.7mA	75
Power Consumption (W)	Pull-in Voltage (VDC)	Drop-out Voltage (VDC)	Max Allowable Voltage (VDC)
0.36W	75% Max. 3.75V	10% Min. 0.5V	110% 5.5V



PM-1056-4PG

### ORDERING INFORMATION

- **PM-1056-4P** **B** 4 channels Video Capture Module
- **PM-1056-4PG** **B** 4 channels Video Capture Module with GPIO function
- **PM-1056-16P** 16 channels Video Capture Module equipped with one 25 pins to 16xBNC input/1xBNC output cable
- **PM-1056-16PG** 16 channels Video Capture Module with GPIO function equipped with one 25 pins to 16xBNC input/1xBNC output cable

**B**: Cable code:

None: Ship with one 4xRCA Connector Cable kit

**B** : Ship with one VIN-KIT-01, 4xBNC Connector Board

## PM-1053 PC/104 plus MPEG2 Video/Audio Capture Module

### SPECIFICATIONS

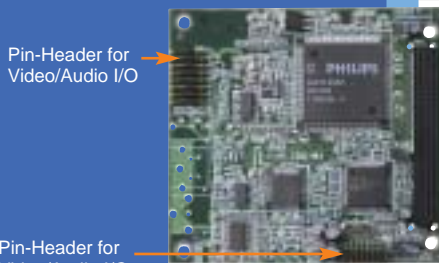
- **Video Encoding/Decoding Engine**
- **Output Stream supports constant & variable bit rate**
- **Video Stream (IPB pictures) bit rate up to 512Mbps**
- **Frame Rate: NTSC (30FPS), PAL (25FPS)**
- **Digital stereo sound recording**
  - UDA1344TS low-power stereo audio codec
  - Sampling Frequencies: 8KHz~55KHz
  - I<sup>2</sup>C Bus
  - MSB-Justified or LSB-Justified 16/18/20 bits compatible
  - SAA7146A Video/Audio synchronization
  - 2 x 256-bits bi-directional digital audio interfaces (4 DMA channels)
  - Programmable bit clock generation
- **2x8 pin-header for one Video Input**
- **Windows WDM & SDK provided**
- **Driver Support: Windows 98SE/ME/2000 & XP**



Cable kit

### ORDERING INFORMATION

- **PM-1053** PC/104 Plus MPEG2 Video/Audio Capture Module



Pin-Header for Video/Audio I/O

Pin-Header for Video/Audio I/O



CS92210 MPEG2 Codec



### PM-1055 PC/104 plus 3 x 10/100/1000Mbps Ethernet Module

#### SPECIFICATIONS



- PC/104 Plus Interface
- 3 x 10/100Mbps Intel 82551 (PM-1055E-3P)
- 3 x Gigabit LAN Intel 82540 (PM-1055G-3P)
- 3 x RJ-45 connectors
- Supports Teaming function
- Power Consumption: 1.5A@3.3V
- Driver support: Window 98, SE, ME, 2000, NT, XP and Linux

#### Teaming Features:

Teaming Features include Failover protection, increased bandwidth through aggregation, and balancing of traffic among team members.

#### Fault Tolerance

Uses one or more secondary adapters to take over for the primary adapter should the first adapter, its cabling or the link partner fail. Designed to ensure server availability to the network.

#### Link Aggregation

The combining of multiple adapters into a single channel provides greater bandwidth to multiple destination addresses. This increase bandwidth to multiple destination addresses. ALB mode provides aggregation for transmission only while RLB and LA/FEC/GEC/3ad modes provide aggregation in both directions. FEC/GEC/LA/3ad modes require a matching aggregation capable switch, while ALB and RLB modes can be used with any switch.

#### Load Balancing

The distribution of the transmission and reception load among the aggregated network adapters. An intelligent adaptive agent in the ANS driver repeatedly analyzes the traffic flow from the server and distributes the packets based on destination addresses. (In LA/FEC/GEC/3ad modes, the switch similarly provides load balancing on incoming packets.)

#### ORDERING INFORMATION

- **PM-1055E-3P** 3x10/100Mbps Intel 82551 LAN module
- **PM-1055G-3P** 3xGigabit Intel 82540 LAN module  
(For optional 2 LAN port, please contact supplier)

**Note:** Extension only for one PM-1055X-3P, due to the specification of PC/104 Plus

#### What PC/104 stands for?

A modular system architecture that uses 3.5" square boards that snap together. PC/104 products are widely used, because this "stack through" bus, which uses the ISA technology, it provides a compact and rugged design for building process control and embedded systems. PC/104+ are PCI-based boards rather than ISA based.

### PM-1028 PC/104 4/8-Port RS-232 Module

#### SPECIFICATIONS



- PC/104 form factor
- 2 x RS-232 Controller (16C554)
- Supports shared IRQ or independent IRQ mode (IRQ3, 4, 5, 7, 9, 10, 11, 12)
- Interrupt vector addressing setting
- Jumper selectable interrupt level
- COM port base I/O addressing setting
- MAX. baud rate: 921.6kb/s

#### Serial Controller –TL16C554:

The TL16C554 serves as the serial communication controller. It is an enhanced quadruple version of the TL16C550B asynchronous communications element (ACE). Each channel performs serial-to-parallel conversion on data characters received from peripheral devices or modems and parallel-to-serial conversion on data characters transmitted by the CPU. The complete status of each channel of the quadruple ACE can be read at any time during functional operation by the CPU. The information obtained includes the type and condition of the operation performed and any error conditions encountered.



4-port RS-232-connection cable

#### ORDERING INFORMATION

- **PM-1028-4** 4-Port RS-232 PC/104 Module  
Equipped with one 40-pin to 4 standard DB-9 connector
- **PM-1028-8** 8-Port RS-232 PC/104 Module  
Equipped with two 40-pin to 4 standard DB-9 connector

#### Features:

- 4/8 independent COM channels
- Two 16C554-compatible quad UARTs
- 128-byte TX and RX receive FIFOs
- Programmable serial interface characteristics for each channel
- Shared interrupt capability with ID register

### PM-1054A PC/104 Plus Two Slot Card Bus PCMCIA Module

#### SPECIFICATIONS

- Chipset: RICOH R5C478 Card Bus controller
- Data Bus: 32-Bit, 33MHz (133MB/s), DMA bus master (Compliant with PCI 2.1)
- PC Card 95/97/98 32-bit CardBus compatible
- Supports Plug & Play auto-detected & configuration
- Driver support: Windows 98/ME/NT/2000
- Accepts PCMCIA Type I/II/III
- 2xPCMCIA slots

#### CardBus

In early 1995, PCMCIA introduced the 32-bit CardBus standard. Although electrically different, the CardBus is architecturally identical to the PCI bus. The CardBus supports bus mastering and accommodates cards operating at different voltages. Its advanced power management features allows the computer to take advantage of CardBus cards designed to idle or turn off in order to increase battery life. The CardBus specification allows data transfer up to 132 Mbytes/sec over a 33MHz, 32-bit data path.

#### PCMCIA Key Features:

- Hot swap capability for Type I, II & III cards
- Designed and developed for embedded systems

#### ORDERING INFORMATION

- **PM-1054** PC/104 Plus card bus PCMCIA module (**Supports IEI products only**)
- **PM-1054A** PC/104 Plus card bus PCMCIA with PC/104 (ISA Bus) connector module (Meets PC/104 Plus standard specification for general appliances)

### PM-1037CS PC/104 Compact Flash Convert Board with 2S1P

#### SPECIFICATIONS

- 1 x CompactFlash™ Type II Socket
- Supports IBM Microdrive
- 1 x 44-pins & 1 x 40-pins IDE interface by pin-header
- 1 x RS-232
- 1 x RS-232/422/485
- Interrupt Selectable (IRQ 3/10 for COM1; IRQ 4/11 for COM2; IRQ 5/7 for LPT)
- I/O address Selectable (3E8H/3F8H for COM1; 2E8H/2F8H for COM2; 278H/378H for LPT)
- LPT port support SPP & EPP Mode
- Master/Slave jumper for IDE port
- Power Requirement: +5V DC

#### ORDERING INFORMATION

- **PM-1037C** PC/104 CompactFlash™ convert board
- **PM-1037CS** PC/104 CompactFlash™ convert board with 2S1P (2xSerial/1xParallel port)

### A104-KIT01A ISA & PC/104 Diagnostic Card

#### SPECIFICATIONS

- Bus : ISA and PC/104
- 7-Segments LED display for port 80H BIOS error code
- Troubleshooting for POST (Power On Self Test) when system boot-up
- 8-pin external power connector for PC/104 system testing

#### ORDERING INFORMATION

- **A104-KIT01A** ISA & PC/104 diagnostic card



#### Client Appliance:

- Modem, LAN, Wireless cards
- ATA Flash cards
- ATA Hard disks



# MLAN-1000

Quad Intel® 82540 Gigabit LAN Card  
with Bypass function

NEW

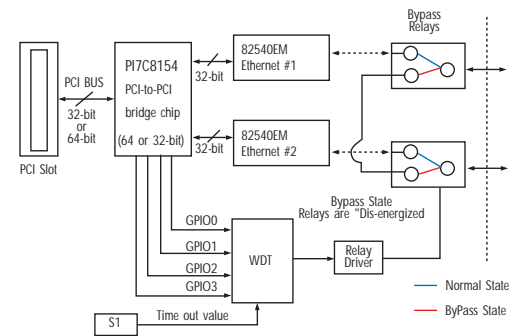
## SPECIFICATIONS

- **LAN Controller:** Four Intel® 82540EM 10/100/1000 Mbps Ethernet controller
- **Bus Interface:** 64-bit PCI interface (PCI 2.2 compliant)
- **Bridge chips:** Pericom PI7C8154 PCI bridge on board (Support 32/64/bits up to 33/66 MHz)
- **I/O Connection:** Four RJ-45 connectors (Two RJ-45 connectors optional)
- **Features:** Built-In Watch-Dog Timer for Bypass function
- **Panel-Free design:** Reserved extra pin-header for LAN status LED display
- **Software Utility:** Software utility for doing functionality configuration

### Bypass function

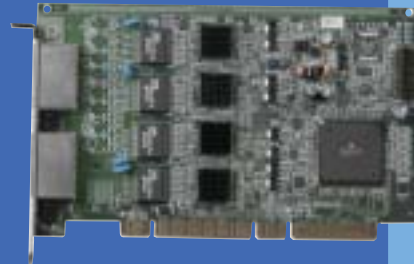
There are two communications states for the bypass function and default enabled in Normal State. A watch-dog-timer (WDT) is used to control and switch the communication between the two states. A relay array is controlled by the WDT for physically routing of the two Ethernet ports.

The block diagram shows the two Ethernet ports can still operate normally when the operation of the system suspends.



## ORDERING INFORMATION

- MLAN-1000DBP: Dual Intel 82540 Gigabit LAN with Bypass function Card
- MLAN-1000Q: Quad Intel 82540 Gigabit LAN Card



MLAN-1000Q



MLAN-1000DBP

# MLAN-104/MLAN-104SSL 4 LAN Ports Carry Board

## SPECIFICATIONS



- **Bus interface:** 32-bit PCI interface (PCI 2.1 compliant)
- **Bridge chips:** Intel 21150 or equivalent chip
- **Expansion:** Two socket PCI connectors
- **LAN module:** LM-102N (Intel 82559) / LM-2G (Broadcom 5701 GbE) / LM-102R (Realtek RTL-8100) / LM-2GN (Realtek 82540)
- **SSL chips:** Rainbow Fastmap SSL Accelerator onboard (MLAN-104SSL only)
- Comply with IEEE802.3; IEEE 802.3x Ethernet specifications
- **I/O connection:** Four RJ-45 connectors
- **Power requirement:** +5V@3A max
- **Operating environment:** 0° ~ 50°C
- **Relative humidity:** 5 ~ 95%; non-condensing
- **Dimensions:** 177mm x 107mm

## ORDERING INFORMATION

- **MLAN-104** 4 LAN ports carry board
- **MLAN-104SSL** 4 LAN ports with SSL Accelerator carry board
- **LM-102N-x50** Dual Intel® i82550 LAN module
- **LM-102N-x59** Dual Intel® i82559 LAN module
- **LM-102R** Dual Realtek RTL-8100 LAN module
- **LM-2G** Dual Broadcom 5701 Gigabit LAN module
- **LM-2GN** Dual Intel® 82540 Gigabit LAN module



NEW



MLAN-104

Socket PCI Connector



MLAN-104SSL **Support 4X Gigabit LAN**