Модульные компьютеры серии MIC-3000

ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

MIC-3525

3U CompactPCI® Rear Transition Board for MIC-3325

Features

- External rear-panel interface connector for the MIC-3325 CPU board
- Supports VGA,LAN , USB 2.0, COM, SATA interface
- One VGA , one RJ-45 LAN, and two USB ports USB on the rear panel
- Two on board COM pin headers for RS-232
- One on-board SATA-II connectors

CompactPCI® FCC CE RoHS COMPLIANT 2002/95/EC

Introduction

The MIC-3525 is the first Rear Transition Module (RTM) for MIC-3325. It supports: 1x VGA, 1x RJ-45 LAN, 2x USB on the rear panel and 2x on board COM pin headers for RS-232 and 1x on-board SATA-II connectors.

Specifications

CompactPCI Connector	J2		
Power	Power Consumption		+5 V
			1.5A
Environment		Operating	Non-Operating
	Temperature	0 ~ 60° C (32 ~ 140° F)	-40 ~ 85° C (-40 ~ 185° F)
	Humidity	95% @ 40° C, non-condensing	95% @ 60° C, non-condensing
Physical Characteristics	Dimensions (W x H)	82 x 100 mm (3.3" x 3.95"), 1-slot width	
	Weight	0.2 kg (0.44 lbs)	

Ordering Information

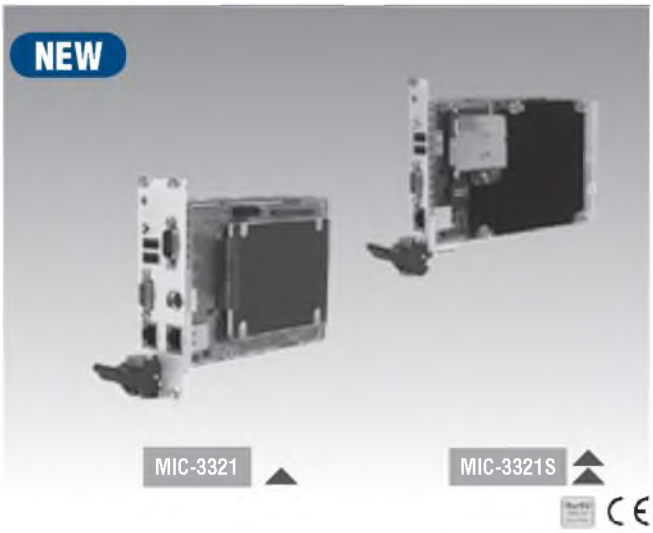
Part Number	Rear Panel			On-board Header / Socket / Connector			
	VGA	LAN	USB	COM	SATA	Slot Width	Conn.
MIC-3525-S1E	1	1	2	2	2	1	J2

Recommended Configurations

Rear I/O Board	CPU Board
MIC-3525-S1E	MIC-3325, MIC-3326

MIC-3321

3U CompactPCI® Pentium® M 760 2.0G High-performance Controller



Features

- Built-in Intel® Pentium® M 760 2.0G processor with 2MB L2 Cache
- Mobile Intel 915GM express chipset
- Supports up to 1GB DDR2 533/400 SDRAM soldered on board
- Extended operating temp: -25 ~ 70° C (Optional; MIC-3321C/ CS only)
- Dual Giga LAN on PCI-Express
- High-performance Intel Graphics Media Accelerator 900 VGA display
- Onboard CompactFlash® disk socket
- Onboard 2.5" HDD support
- Rear I/O signal support for easy wiring

Introduction

The MIC-3321 3U is a CompactPCI system controller board that combines the performance of Intel's Mobile Pentium M 760 2.0GHz processor with the high integration of the 915GM chipset and the I/O Controller Hub ICH6. The low power of the Intel Mobile Celeron® M makes it possible to work with high extended temperature ranges. The directed soldered CPU and memory provide less weight and a higher shock/vibration resistance than socket devices.

MIC-3321 is a powerful 3U CompactPCI Controller that fulfills your requirements in mission critical applications, such as military defense, transportation, traffic control, test and measurement (T&M) as well as critical data acquisition & control applications.

Specifications

CPU		MIC-3321: Intel Pentium M 760 2.0 GHz with 2 MB L2 cache
		MIC-3321C: Intel Celeron M Ultra Low Voltage 373 1.0 GHz with 512 KB L2 cache
		MIC3321L: Intel Celeron M 800 MHz (no cache)
Chipset		Intel 915 GM (GMCH) + Intel 82801FBM (ICH6-M)
BIOS		Award 4 MB Flash
Bus	Front Side Bus	533 MHz (Intel Pentium M 760 2.0 GHz CPU)
		400 MHz (Intel Celeron M Ultra Low Voltage 373 1.0 GHz CPU)
	PCI Bus	PCI-to-PCI Bridge: PERICOM PI7C8150
		7 x 32bit/33MHz CompactPCI bus Master interface
		3.3 V/5 V VIO adjustable
Memory		Directed Soldered 512MB DDR2 SDRAM (MIC-3321, MIC-3321C)
		Directed Soldered 256MB DDR2 SDRAM (MIC-3321L)
Graphics		Controller: Intel Graphics Media Accelerator 900
		VRAM: DVMT3.0 128MB
		Resolution: Up to 2048 x 1536 with 32-bit color at 75 Hz
Ethernet		Interface: 10/100/1000Base-TX Gigabit Ethernet
		Controller: 2 x Intel 82573E/L PCI Express Gigabit Ethernet Controller
		Connector: 2 x RJ-45
		Supports Pre-boot Execution Environment (PXE)

Serial	Interface: RS-232
	Controller: 2 x 16C550 Compatible
	Data Bits: 5, 6, 7, 8
	Stop Bits: 1, 1.5, 2
	Parity: None, Even, Odd
	Speed (bps): 50 ~ 115.2K
	Data Signal: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
	Connector: 2 x DB9 male
	One as front I/O, one as rear I/O
P-IDE	One channel P-IDE Supports PIO mode 4 (16.67MB/s data transfer rate) and ATA 33/66/100 (33/66/100MB/s data transfer rate)
	1 x CompactFlash Socket Type II
	1 x 44-pin 2.5" HDD connector
SATA	SATA interface with data transfer rate up to 150MB/s
	1 x External SATA connector
USB	4 x USB 2.0 channels up to 480Mbps, 2 as front I/O, 2 as rear I/O
PS/2	PS/2 for keyboard and mouse legacy support
Watchdog Timer	0 ~ 64s, 0.25s step, generate reset signal
Hot Swap	Support for all signals to allow peripheral boards to be hot swapped. The individual clocks for each slot and access to the backplane ENUM# signal comply with the PICMG 2.1 Hot Swap specification. (PCI to PCI bridge GPIO3)

Front Panel Functions	4HP Board	1 x VGA-CRT 15-pin D-SUB connector
		Ethernet: 1 x RJ-45 connector with integrated LEDs
		USB: 2 x 4-pin connectors
		Reset: Reset button, guarded
		LED: Power, HDD
	8HP Board (Additional to 4HP)	COM1: 1 x DB9 RS-232 connector
		PS/2: 1 x PS/2 connector for keyboard and mouse
		Ethernet: 1 x RJ-45 connector with integrated LEDs
Rear I/O via J2	2 x USB 2.0 channels	
	2 x Gigabit Ethernet channels with LED (shared with front I/O)	
	1 x COM port	
	1 x VGA-CRT channel (shared with front I/O)	
	1 x PS/2 keyboard/mouse channel (shared with front I/O)	
Compliancy	PICMG 2.0 Rev. 3.0 compatible	
	CompactPCI Hot Swap Specification PICMG 2.1 R2.0	
Environment	Operating Temperature	0 ~ 50° C (MIC-3321 Pentium M 2.0G)
		0 ~ 50° C (MIC-3321L Celeron M 800M)
		0 ~ 50° C (MIC-3321C Celeron M 1.0G)
		-25 ~ 70° C (Optional; MIC-3321C/MIC-3321CS only)
	Storage Temperature	-40 ~ 80° C
Physical	Dimensions (W x H)	160 x 100 mm (3U)
	Weight	0.6 Kg
Rear Transition Board	P/N	MIC-3521
	Width	8HP

Front View of MIC-3321

MIC-3321S

MIC-3321

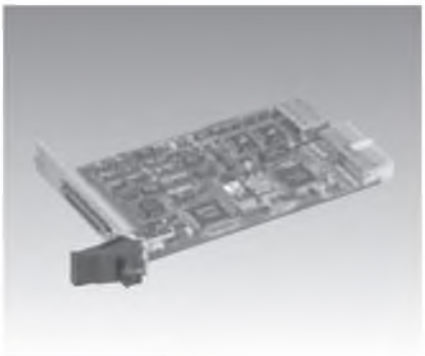
MIC-3521

Ordering Information

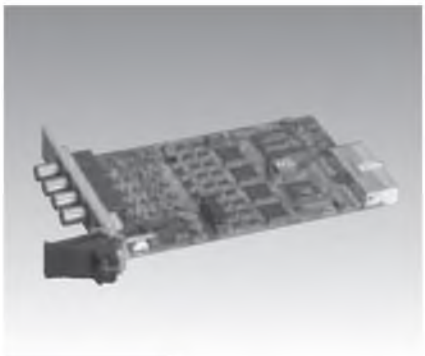
- **MIC-3321** Pentium M 2.0 GHz, 2MByte L2 cache, 512 MByte soldered DDR2 SDRAM, 8 HP width
- **MIC-3321S** Pentium M 2.0 GHz, 2MByte L2 cache, 512 MByte soldered DDR2 SDRAM, 4 HP width
- **MIC-3321C** Celeron M 1.0 GHz, 512KByte L2 cache, 512 MByte soldered DDR2 SDRAM, 8 HP width
- **MIC-3321CS** Celeron M 1.0 GHz, 512KByte L2 cache, 512 MByte soldered DDR2 SDRAM, 4 HP width
- **MIC-3321L** Celeron M 800 MHz, 0KByte L2 cache, 256 MByte soldered DDR2 SDRAM, 8 HP width
- **MIC-3321LS** Celeron M 800 MHz, 0KByte L2 cache, 256 MByte soldered DDR2 SDRAM, 4 HP width
- **MIC-3521** Rear I/O Transition Board for MIC-3321 series

MIC-3716
MIC-3714
MIC-3723/3723R

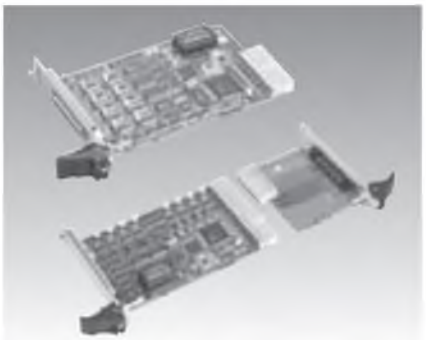
250 kS/s, 16-bit, 16-ch High-resolution Multifunction Cards
30 MS/s Simultaneous 4-ch Analog Input Card
16-bit,8-ch Non-isolated Analog Output Cards



MIC-3716/3



MIC-3714/3



MIC-3723R/3 MIC-3723/3

Specifications

Analog Input

- **Channels** 16 single-ended, 8 differential, or combination
- **Resolution** 16 bits
- **Max. Sampling Rate** 250 kS/s
- **FIFO Size** 1024 samples/ch
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 100 MΩ/10 pF (Off), 100 MΩ/100 pF (On)
- **Sampling Modes** Software, pacer, or external
- **Input Range**

Bipolar	±10	±5	±2.5	±1.25	±0.625
Unipolar	-	0 ~ 10	0 ~ 5	0 ~ 2.5	0 ~ 1.25
Accuracy (% of FSR +1LSB)	0.15	0.03	0.03	0.05	0.1

Analog Output

- **Channels** 2
- **Resolution** 16 bits
- **Output Rate** Static update
- **Output Range**

Internal Reference	Bipolar	±5, ±10
	Unipolar	0 ~ 5, 0 ~ 10
External Reference		0 ~ +x V @ +x v (-10 ≤ x ≤ 10) -x ~ +x V @ +x v (-10 ≤ x ≤ 10)

- **Slew Rate** 20 V/μs
- **Driving Capability** ±20 mA
- **Output Impedance** 0.1 Ω max.
- **Operation Mode** Single output
- **Accuracy** Relative: ±1LSE

Digital Input/Output

- **Channels** 16, 5V/TTL
- **Input Voltage** Logic 0: 0.4 V max. Logic 1: 2.4 V min.
- **Output Voltage** Logic 0: 0.4 V max. Logic 1: 2.7 V min.
- **Output Capability** Sink: 0.4 V max. @ +8 mA Source: 2.4 V min. @ -0.4 mA

Counter/Timer

- **Channels** 3

Applications

- **Compatibility** 5 V/TTL
- **Resolution** 16 bits
- **Max. Input Frequency** 1 MHz
- **Reference Clock** Internal 10 MHz External Clock Frequency 10 MHz External Voltage Range TTL (Low: 0.8, High: 2 V)

General

- **PICMG Compliance** CompactPCI V2.0, R 2.1 Hot-Swap V2.1, R 2.0
- **Bus Type** CompactPCI
- **I/O Connector Type** 68-pin SCSI-II female
- **Dimensions** 160 x 100 mm (6.9" x 3.9") with 3U/6U Bracket
- **Power Consumption** Typical: +5 V @ 850 mA, +12 V @ 600 mA Max.: +5 V @ 1 A, +12 V @ 700 mA
- **Certifications** CE

Ordering Information

- **MIC-3716/3** 3U, 250 kS/s, 16-bit, 16-ch High-Resolution Multifunction Card
- **PCLD-8710** Industrial Wiring Terminal Board with CJC circuit for DIN-rail Mounting. (cable not included)
- **PCL-10168** 68-pin SCSI-II cable with male connectors on both ends and special shielding for noise reduction, 1 and 2 m
- **ADAM-3968** 68-pin SCSI-II Wiring Terminal Board for DIN-rail Mounting

Specifications

Analog Input

- **Channels** 4 single-ended channels
- **Resolution** 12 bits
- **Max. Sampling Rate** 30 MS/s (Only in FIFO 32k)
- **FIFO Size** 32,768 samples/ch
- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 50 Ω/1 MΩ/jumper selectable, 100 pF
- **Sampling Modes** Software, pacer, post-trigger, pre-trigger, delay-trigger, about-trigger
- **Input Range** **(V, software programmable)**

General

- **Bus Type** CompactPCI
- **I/O Connectors** 4 x BNC connector (for AI) 1 x PS/2 connector (for ext. colock and trigger)
- **Dimensions (L x H)** 160 x 100 mm (6.3" x 3.9") with 3U/6U bracket
- **Power Consumption** Typical: +3.3 V @ 550 mA , +5 V @ 150 mA , +12 V @ 600 mA Max.: +3.3 V @ 850 mA, +5 V @ 200 mA, +12 V @ 700 mA
- **Operating Temperature** 0 ~ 70° C (32~158° F)
- **Storing Temperature** -20 ~ 85° C (-4~185° F)
- **Storing Humidity** 5~95% RH, non-condensing (refer to IEC 68-2-3)
- **Certifications** CE and FCC certified

Ordering Information

- **MIC-3714/3** 3U, 30 MS/s Simultaneous 4-ch Analog Input Card
- **ADAM-3909** DB-9 Wiring Terminal for DIN-rail Mounting
- **PCL-10901-1** PS2 to DB-9 wiring cable, 1 m
- **PCL-10901-3** PS2 to DB-9 wiring cable, 3 m
- **PCL-1010B-1** BNC to BNC wiring cable, 1 m

Specifications

Analog Output

- **Channels** 8
- **Resolution** 16 bits
- **Output Rate** Static update
- **Output Range** **(V, software programmable)**

Internal Reference	Unipolar	±10 V
	Current Loop	0 ~ 20 mA, 4 ~ 20 mA

- **Slew Rate** 20 V/μs
- **Driving Capability** 5mA
- **Output Impedance** 0.1 Ω max.
- **Operation Modes** Single output, synchronized output

Digital Input/Output

- **Channels** 16, 5V/TTL
- **Input Voltage** Logic 0: 0.8 V max. Logic 1: 2.0 V min.
- **Output Voltage** Logic 0: 0.5 V max. @ 24 mA Logic 1: 2.4 V min. @ -15 mA
- **Output Capability** Sink: 0.5 V max. @ 24 mA Source: 2.4 V min. @ -15 mA

General

- **PICMG Compliance** CompactPCI V2.0, R 2.1 Hot-Swap V2.1, R 2.0
- **Bus Type** CompactPCI
- **I/O Connector Type** 68-pin SCSI-II female
- **Dimensions** 160 x 100 mm (6.9" x 3.9") with 3U/6U Bracket
- **Power Consumption** Typical: 5 V @ 850, 12 V @ 600 mA
- **Certifications** CE

Ordering Information

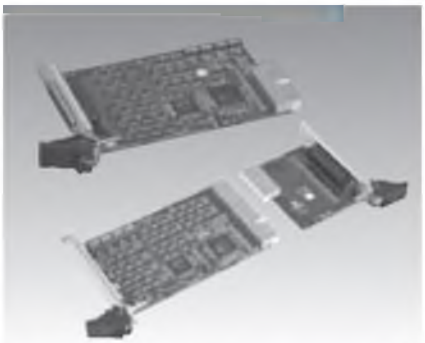
- **MIC-3723/3** 3U CompactPCI 16-bit, 8-ch non-isolated analog output card
- **MIC-3723R/3** 3U CompactPCI 16-bit, 8-ch non-isolated analog output card with Rear I/O support
- **PCL-10168-1** 68-pin SCSI-II cable with male connectors on both
- **PCL-10168-2** ends and special shielding for noise reduction, 1 and 2 m
- **ADAM-3968** 68-pin SCSI-II Wiring Terminal Board for DIN-rail mounting

MIC-3753/3753R
MIC-3756
MIC-3758

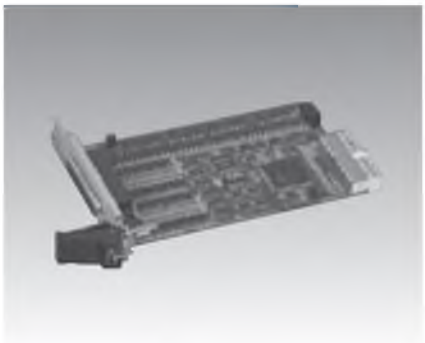
72-ch Digital I/O Cards

64-ch Isolated Digital I/O Card

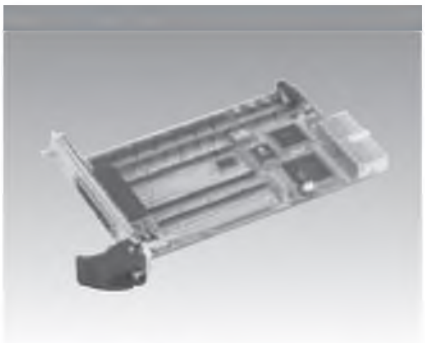
128-ch Isolated Digital I/O Card



MIC-3753R/3 MIC-3753/3



MIC-3756/3



MIC-3758/3

Specifications

Digital Input

- **Channels** 72 (shared with output)
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.
  Logic 1: 2.0 V min.
- **Interrupt Capable Ch.** 6 (2 for each C port)

Digital Output

- **Channels** 72 (shared with input)
- **Compatibility** 5 V/TTL
- **Output Voltage** Logic 0: 0.44 V max. @ 24 mA
  Logic 1: 3.76 V min. @ 24 mA
- **Output Capability** Sink: 0.44 V max. @ 24 mA
  Source: 3.76 V min. @ 24 mA

General

- **PICMG Compliance** CompactPCI V2.0, R 2.1
  Hot-Swap V2.1, R 2.0
- **Bus Type** CompactPCI
- **I/O Connectors** 1 x 78-pin D-type female connector
- **Dimensions** 160 x 100 mm (6.9" x 3.9") with 3U/6U Bracket
- **Power Consumption** Typical: +5 V @ 400 mA
  Max.: +5 V @ 0.7 A
- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
  (refer to IEC 68-2-1, 2)
- **Operating Humidity** 5 ~ 95% RH, non-condensing (refer to IEC 68-2-3)
- **Storing Temperature** -20 ~ 70°C (-4 ~ 158°F)
- **Certifications** CE

Ordering Information

- **MIC-3753/3** 3U CompactPCI 72-ch Digital I/O card
- **MIC-3753R/3** 3U CompactPCI 72-ch Digital I/O card with Rear I/O support
- **PCL-10178-1** DB-78 cable assembly, 1 m
- **ADAM-3978** DB-78 wiring terminal for DIN-rail mounting

Specifications

Isolated Digital Input

- **Channels** 32
- **Input Voltage** Logic 0: 2 V max.
  Logic 1: 10 V min.
  (50 V max.)
- **Interrupt Capable Ch.** 2 (DI00, DI16)
- **Isolation Protection** 2,500 V_{DC}
- **Input Resistance** 5.7kΩ

Isolated Digital Output

- **Channels** 32
- **Output Type** Sink (NPN)
- **Isolation Protection** 2,500 V_{DC}
- **Output Voltage** 5 ~ 40 V_{DC}
- **Sink Current** 100 mA max./channel
- **Opto-Isolator Response** OFF delay (±20%) 5 µs
  ON delay (±20%) 120 µs

Photocouple Response Time

Input Voltage	*OFF delay (±20%)	*ON delay (±20%)
12 V	120 µs	10 µs
24 V	140 µs	5 µs
30 V	150 µs	4 µs
50 V	200 µs	4 µs

General

- **PICMG Compliance** CompactPCI V2.0, R 3.0
  Hot-Swap V2.1, R 2.0
- **Bus Type** CompactPCI
- **I/O Connectors** 1 x 78-pin D-type female connector
- **Dimensions** 160 x 100 mm (6.9" x 3.9") with 3U/6U Bracket
- **Power Consumption** Typical: 5 V @ 220 mA
  Max: 3.3 V @ 260 mA
- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
  (refer to IEC 68-2-1, 2)
- **Operating Humidity** 5 ~ 95% RH, non-condensing (refer to IEC 68-2-3)
- **Storing Temperature** -20 ~ 70° C (-4 ~ 158° F)
- **Certifications** CE

Ordering Information

- **MIC-3756/3** 3U 64-channel isolated digital I/O Card
- **PCL-10178-1** DB-78 cable assembly, 1 m
- **ADAM-3978** DB-78 wiring terminal for DIN-rail mounting

Specifications

Isolated Digital Input

- **Channels** 64
- **Input Voltage** Logic 0: 2.5 V max.
  Logic 1: 5 V min. (25 V max)
- **Interrupt Capable Ch.** 64
- **Isolation Protection** 2500 V_{DC}
- **Opto-Isolator Response** 50 µs
- **Input Resistance** 3 kΩ

Isolated Digital output

- **Channels** 64
- **Output Type** Sink (NPN)
- **Isolation Preoection** 2500 V_{DC}
- **Output Voltage** 5 ~ 40 V_{DC}
- **Sink Current** 90 mA max./Channel
- **Opto-isolator Response** 50 µs

General

- **Bus Interface** CPCI bus spec. 2.1 compliant
- **I/O Connectors** 1 x MINI-SCSII HDRA-E100 Female
- **Board Dimensions** CPCI 3U (160 mm x 100 mm)
- **Power Consumption** Typical : +5 V @ 800 mA, +3.3 V @ 600 mA
  Max : +5 V @ 1 A, +3.3 V @ 1 A
- **Operating Temperature** 0 ~ 60° (32 ~ 140 °F)
  (IEC 68-2-1,2)
- **Storing Temperature** -20° ~ 70 °C (-4° ~ 158 °F)
- **Storing Humidity** 5 ~ 95% (IEC 68-2-3) non-condensing

Ordering Information

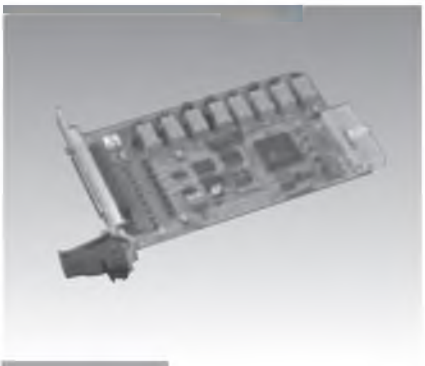
- **MIC-3758/3** 3U CompactPCI 128-ch isolated Digital I/O card
- **PCL-101100S-1** 100-pin SCSI Cable, 1 m
- **ADAM-39100** 100-pin SCSI wiring terminal, DIN-rail mounting

MIC-3761
MIC-3780/3780R
MIC-3611/3611R

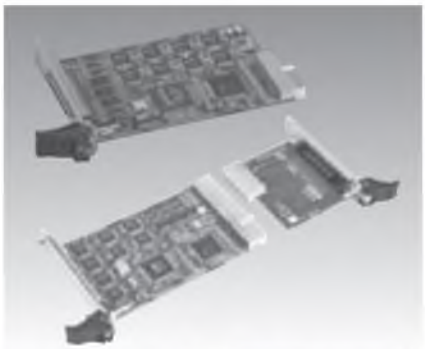
8-ch Relay Actuator and 8-ch Isolated Digital Input Card

8-ch Counter/Timer Cards

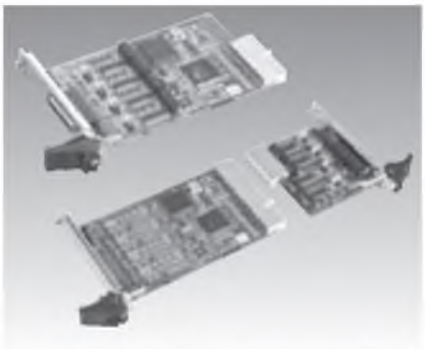
4-port RS-422/485 Communication Cards, w/Surge and Isolation Protection



MIC-3761/3



MIC-3780R/3 MIC-3780/3



MIC-3611R/3 MIC-3611/3

Specifications

Isolated Digital Input

- **Channels** 8
- **Input Voltage** Logic 0: 3 V max.
  Logic 1: 10 V min.
  (50 V max.)
- **Input Current*** 10 V_{DC} 1.6 mA (typical)
  12 V_{DC} 1.9 mA (typical)
  24 V_{DC} 4.1 mA (typical)
  48 V_{DC} 8.5 mA (typical)
  50 V_{DC} 8.9 mA (typical)
- **Interrupt Capable Ch.** ID0 ~ ID7
- **Isolation Protection** 3,750 V_{DC}
- **Overvoltage Protection** 70 V_{DC}
- **Opto-Isolator Response** 25 µs
- **Input Resistance** 560 Ω

Relay Output

- **Channels** 8
- **Relay Type** SPDT
  (4 Form A, and 4 Form C)
- **Contact Rating** 3 A @ 250 V_{AC} or
  3 A @ 24 V_{DC}
- **Relay on Time** 15 ms max.
- **Relay off Time** 5 ms max.
- **Life Span** Mechanical
  2×10^7 ops. min.
  Electrical
  2×10^5 ops. min.
  (contact rating)
- **Resistance** 1 GΩ min. (at 500 V_{DC})

General

- **PICMG Compliance** CompactPCI V2.0, R 3.0
  Hot-Swap V2.1, R 2.0, R 2.1
- **Bus Type** CompactPCI
- **I/O Connectors** 1 x 37-pin D-type female connector
- **Dimensions** 160 x 100 mm (6.9" x 3.9") with 3U/6U Bracket
- **Power Consumption** Typical: +5 V @ 220 mA
  Max.: +5 V @ 750 mA
- **Certifications** CE

Ordering Information

- **MIC-3761/3** 3U 8-ch Relay Actuator and 8-ch Isolated D/I Card
- **PCL-10137-1/2/3** DB-37 cable assembly, 1, 2 and 3 m
- **ADAM-3937** DB-37 Wiring Terminal for DIN-rail Mounting
- **PCLD-780** Universal Screw Terminal Board

Specifications

Counter/Timer

- **Channels** 8 (independent)
- **Resolution** 16 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 20 MHz
- **Reference Clock** Internal: 20 MHz
- **Counter Modes** 12 (programmable)
- **Interrupt Capable Ch.** 8

Digital Input

- **Channels** 8
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.
  Logic 1: 2.4 V min.
- **Interrupt Capable Ch.** 1 (channel 0)

Digital Output

- **Channels** 8
- **Compatibility** 5 V/TTL
- **Output Voltage** Logic 0: 0.5 V max. @ 24 mA
  Logic 1: 2.4 V min. @ -15 mA
- **Output Capability** Sink: 0.5 V max. @ 24 mA
  Source: 2.4 V min. @ -15 mA

General

- **PICMG Compliance** CompactPCI V2.0, R 3.0
  Hot-Swap V2.1, R 2.0
- **Bus Type** CompactPCI V2.1
- **I/O Connectors** 68-pin SCSI-II female
- **Dimensions (L x H)** 160 x 100 mm (6.3" x 3.9") with 3U/6U Bracket
- **Power Consumption** Typical: +5 V @ 900 mA
  Max: +3.3 V @ 1.2 A
- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
  (refer to IEC 68-2-1, 2)
- **Storage Temperature** -20 ~ 70° C (-4 ~ 158° F)
- **Relative Humidity** 5 ~ 95 % RH non-condensing
  (refer to IEC 68-2-3)
- **Certifications** CE, FCC Class A

Ordering Information

- **MIC-3780/3** 3U Compact PCI 8-ch, 16 bit counter/timer card
- **MIC-3780R/3** 3U Compact PCI 8-ch, 16 bit counter/timer card with Rear I/O support
- **PCL-10168** 68-pin SCSI-II cable with male connectors on both ends and special shielding for noise reduction,
  1 and 2 m
- **ADAM-3968** 68-pin SCSI-II Wiring Terminal Board for DIN-rail mounting

Specifications

- **Bus Interface** CPCI bus spec. 2.1 compliant
- **Communication Controller** BUS controller: PLX9030
- **UART** OXFORD 16c954 UART with 128-byte FIFOs
- **IRQ** All ports use the same IRQ assigned by PCI Plug-and-Play
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** none, even, odd
- **Communication Controller** OXFORD 16c954 UART with 128-byte FIFOs
- **Speed** 50bps ~ 921.6 Kbps
- **Data Signals** TxD, RxD ,RTS, CTS (for RS-422/485)
- **Connector** DB44 connector, Four RS422/485 DB9 (M) connectors provided via included cable
- **Surge Protection** 2000 V_{DC}
- **Isolate Protection** 2500 V_{DC}
- **Board Dimensions** CPCI 3U (160 mm x 100 mm)
- **Power Consumption** +5 V @ 600 mA
- **Operating Temperature** 0 ~ 60 °C
- **Storage Temperature** -20 ~ 80 °C
- **Operating Humidity** 5 ~ 95% Relative Humidity, non-condensing
- **Certifications** CE, FCC

Ordering Information

- **MIC-3611/3** 4-port RS-422/485 3U CompactPCI communication card w/isolation & surge protection
- **MIC-3611R/3** 4-port RS-422/485 3U CompactPCI communication card w/isolation & surge protection, Rear IO support

MIC-3325

3U CompactPCI® Intel® Atom™ Dual Core D525/N455 Processor Blade

Features

- Dual Core Intel® Atom™ D525 processor/single core N455 processor
- Intel® I/O Controller Hub 8-Mobile (ICH8M)
- Two GB DDR3 onboard up to 800 MT/s
- Optimized CompactFlash socket on single board computer
- 2.5" SATA-II HDD on XTM second layer
- Two 10/100/1000 Mbps ports, two USB ports, one VGA port on front panel
- Two COM ports, one USB ports, one PS/2 port on 8HP second layer
- Support 5V only power input
- PICMG 2.0, R 3.0, PICMG 2.1, R 2.0 compliant

Introduction

Advantech's MIC-3325 is a 3U CompactPCI dual/single core processor blade based on the Intel® Atom™ processor D525/N455+ICH8M two-chip platform. It provides the high performance of 2 cores and 4 threads of processing power at lower cost, and with easier validation. The MIC-3325 fully utilizes the I/O features of the Intel® chipsets, including an integrated memory controller (IMC), integrated graphics processing unit (GPU) and integrated I/O (IIO) such as DMI. The low power requirements of the Intel® Atom™ processor makes operation in elevated temperature ranges possible. Breakthrough memory design puts 2GB SDRAM on board, while keeping the speed at DDR3 800MT/s. The on-board CPU and memory provide less weight and higher shock/vibration resistance than socket devices. With such benefits, the MIC-3325 can be used in mission-critical applications such as military defense, transportation, traffic control, test and measurement (T&M) as well as critical data acquisition & control applications. MIC-3325 uses the Intel® ICH8M as the PCH, which provides extensive I/O support. The Integrated Gigabit Ethernet Controller can operate at multiple speeds (10/100/1000 Mb/s) and in either full duplex or half duplex mode. A flexible 8HP extension module design provides the MIC-3325 with great flexibility and additional I/O connectivity to the customer. For more connectivity details, please contact an Advantech representative.

Specifications

Processor System	CPU	Intel Atom N455 Single Core 1.66 GHz Intel Atom D525 Dual Core 1.8 GHz
	Max. Speed	1.8 GHz
	Chipset	Intel ICH8M @ Pine View-D Platform
	BIOS	SPI 2-MByte BIOS
	DMI	100 MHz reference clock
CompactPCI Interface	J1 Connector	32-bit PCI local bus (33MHz)
	J2 Connector	RTM area (VIO Power 32bit)
Memory	Technology	DDR3-800 SDRAM
	Max. Capacity	2 GB
	On board/socket	On board
Graphics	Chipset	Integrated in Intel Atom N455/D525
	Resolution	Intel Atom N455 Single Core up to 1400 x 1050 (SXGA) Intel Atom D525 Dual Core up to 2048 x 1536
Ethernet	Controller	2Xi82583V
	Interface	10/100/1000 Mbps
	I/O Connector	RJ-45 x 1 (front panel), RJ-45 x 1 (RTM)
	Controller	ICH8M (MAC)+82567 (PHY)
	Interface	10/100/1000 Mbps
	I/O Connector	RJ-45 x 1 (front panel)
Storage	IDE	1 x CompactFlash Socket Type II
	SATA	1 x Internal SATA connector only on 8HP version
Front I/O	VGA	DB15 Port
	Ethernet	2 x 10/100/1000 Mbps RJ-45 connector
	USB 2.0	2 x Type A ports
	LEDs	Power, Hot Swap
	8HP-option A	2 x DB9 RS-232, 1 x USB Type A port, 1 x PS/2 port

Specifications (Cont.)

RIO (J2 interface)	SATA	1 SATA-II (internal)	
	VGA	1 port (VGA switchable from front panel by jumper1)	
	COM	2 ports (internal)	
	USB 2.0	2 ports	
	RJ-45	1 PCIex1 based on i82583V MAC/PHY	
Watchdog Timer	Supervision	0 ~ 255s, 1s step, generate reset signal	
Operating System	Compatibility	Microsoft Windows XP Professional, Windows 7, Windows XPE, Redhat6.1	
Power Requirement	Configuration	4HP, w/o RIO	
	Consumption	16.6 W for D525, 14.6 W for N455 (4HP with peripherals)	
Physical Characteristics	Dimensions (W x D)	4HP, 160.00 x 100.00 mm (6.30" x 3.95") (PCB size)	
	Weight	0.4 kg including XTM	
Environment		Operating	Non-operating
	Temperature	0 ~ 60° C (32 ~ 140° F)	-40 ~ 85° C (-40 ~ 185° F)
	Humidity	5 to 95% @ 40°C (non condensing)	95% @ 60° C (non-condensing)
	Shock	10 G, 11ms	30 G, 11ms
	Vibration	1.06 Grms (5 ~ 100 Hz, without on-board HDD)	2 Grms (5 ~ 500 Hz)
Regulatory Compliance	Conformance	FCC, Class A, CE, RoHS	
	Standard	PICMG 2.0 Rev. 3.0 compatible; PICMG 2.1 R2.0 CompactPCI Hot Swap Specification	

Ordering Information

Part Number	Description
MIC-3325D-D2E	MIC-3325 with D525 CPU 2G RAM XTM dual slot
MIC-3325D-S2E	MIC-3325 with D525 CPU 2G RAM single slot
MIC-3325N-D3E	MIC-3325 w/ N455 CPU 2G RAM 8HP-2 XTM dual slot
MIC-3325N-S2E	MIC-3325 with N455 CPU 2G RAM single slot
MIC-3525-S1E	Rear I/O for MIC-3325 with VGA, LAN, USB, SATA, COM
MIC-3325XTM-S1E	3U CPCI Extension Board for MIC-3325

Recommended Configurations

CPU Board	Enclosure	Rear I/O Board
MIC-3325	MIC-3022AE, 3U CPCI enclosure with 400W ATX PSU	MIC-3525-S1E
MIC-3325	MIC-3022CE, 3U CPCI enclosure with 250W CPCI PSU	MIC-3525-S1E

If you need other chassis or RIO, please contact your Advantech sales representative.

Optional Accessories

Part Number	Description
MIC-3955A1-S1E	3U CPCI 4-port Serial Port Controller with RS-232/422/485
MIC-3955B1-S1E	3U CPCI 4-port RS-232/422/485 to RIO 4HP
MIC-3955R1-D1E	3U CPCI 4-port RS-232/422/485 RIO Board 8HP
MIC-3716/3-A	3U 250kS/s, 16-bit, 16-ch multifunction Card
MIC-3756/3-A	64-ch Isolated DI/O Card
MIC-3680/3-A	2-port CAN Card
MIC-3953-AE	MIC-3953 3U PMC carrier board
MIC-3665-AE	CompactPCI PMC with dual copper (RJ-45) Gigabit Ethernet interfaces

MIC-3002AD/6

3U 6-slot CompactPCI Enclosure

Features

- 6-slot 3U CompactPCI backplane
- Compact size, 4U high enclosure for 3U cPCI modules
- Side handle design and optional 6.4" LCD display for portable applications
- Stand feet on the bottom side for desktop applications
- Hot-swap compliant backplane
- Logic ground and chassis ground can be isolated or common

Introduction

The MIC-3002AD/6 is a compact 3U CompactPCI chassis designed specially for portable applications. With a side handle design it can be carried conveniently, and it also has an onboard 6.4" LCD display on the rear panel. The MIC-3002AD/6 is therefore suitable as a rugged all-in-one mobile controller for applications in battle fields, production lines, transportation systems and traffic control systems.

Hot-swap Passive Backplane

The 3U-size 6-slot backplane of the MIC-3002AD/6 supports 32-bit operation. The backplane complies with the PICMG 2.1 Hot-Swap Specification. and you can build easy-to-maintain systems with hot-swappable CompactPCI boards and software.

Specifications

Backplane

- **3U Slots** 3 slots for system module
  5 slots for peripheral cards
- **No rear I/O support**
- **Bus** 32-bit / 33MHz
- **I/O Voltage** 3.3V / 5V (jumper selectable)

Cooling

- **Two 46 CFM fans, 12 V_{DC} brush-less, dual ball bearing**
- **Bottom-access removable filter for easy maintenance**

6.4" LCD option

- **Dimensions** 3U height x 10-slot (40HP) width
- **Screen Size** 6.4 inches (diagonal)
- **Resolution** 640 x 480 x 18-bit colors (262,144 colors)
- **Pixel pitch** 0.203 x 0.203 mm
- **Brightness** High Brightness 300 cd/m2
- **Lamp life time** 15,000 hours @ 25° C (77° F)
- **Integrated with back light inverter**

Mounting

- **Wall/Panel mounting on the front side or rear side**
- **Side (Upper) handle design for portable applications**
- **Stand feet on the bottom side for desktop applications**

Physical

- **Dimensions (W x H x D)** 220 x 190 x 245 mm (8.7" x 7.5" x 9.7")

Power Supply

- **Safety approvals** CE, UL, cUL, TUV
- **Input** 100~240 V_{AC} @ 47~63Hz, full range
- **Output** 250 (or 300) W ATX power supply
- **Output Characteristics**

	+3.3V	+5V	-5V	+12V	-12V	+5VSB
Max. Load	20	24	0.5	12	0.5	1.5
Min. Load	1.0	3.0	0	2.0	0	0.1

Environment

- **Operating Temperature** 0 ~ 60° C (32~140° F)
  0 ~ 50° C (32 ~ 122° F) for LCD model
- **Storage Temperature** -40 ~ 80° C (-40~112° F)
  0 ~ 70° C (32 ~ 158° F) for LCD model
- **Humidity** 95% @ 60° C (140° F), non-condensing
- **Operating Vibration (5-500Hz, each axis)** 1.0 Grms w/ CF disk
  0.5 Grms w/ 2.5" HDD
- **Storage Vibration** 2.0 Grms
- **Shock** 20 G peak-to-peak, 11ms duration

Compliance

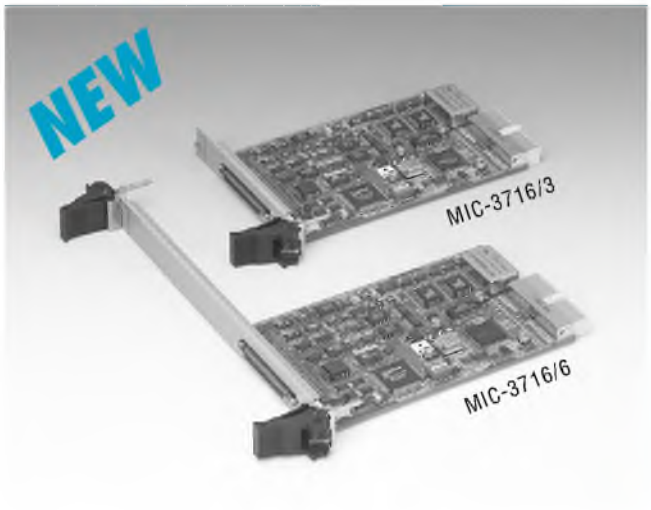
- **PICMG 2.0, R3.0 CompactPCI Specification**
- **PICMG 2.1, R2.0 Hot-Swap Specification**

Ordering Information

- **MIC-3002AD/6** 3U CompactPCI chassis with 6-slot backplane and 6.4" LCD
- **MIC-3002A/6** 3U CompactPCI chassis with 6-slot backplane

MIC-3716

250 KS/s, 16-bit, 16-ch High-resolution Multifunction Card



Features

- 16-bit high resolution
- 250 KS/s sampling rate
- Auto calibration function
- PCI-bus mastering for data transfer
- 16 analog input channels with 1K FIFO
- 16 S.E. or 8 Diff. AI, or a combination
- Unipolar/Bipolar input range
- 2 analog output channels (PCI-1716 only)
- 16 digital input channels
- 16 digital output channels
- One 10 MHz 16-bit resolution counter
- Board ID

Introduction

The MIC-3716 is a powerful high-resolution multifunction card for PCI bus. It features a 250 KS/s 16-bit A/D converter, an on-board 1K sample FIFO buffer for A/D. The MIC-3716 provides a total of up to sixteen single-ended or eight differential A/D input channels or a mixed combination, two 16-bit D/A output channels, 16 digital input/output channels, and one 10 MHz 16-bit counter channel. MIC-3716 provides specific functions for different user requirements:

MIC-3716 16-bit High-Resolution Multifunction Card

PCI-Bus Mastering Data Transfer

The MIC-3716 supports PCI-Bus mastering DMA for high-speed data transfer and gap-free analog input and analog output. By setting aside a block of memory in the PC, the MIC-3716 performs bus-mastering data transfers without CPU intervention, setting the CPU free to perform other more urgent tasks such as data analysis and graphic manipulation. The function allows users to run all I/O functions simultaneously at full speed without losing data.

Auto-calibration Function

The MIC-3716 provides an auto-calibration function by using a calibration utility. The built-in calibration circuitry of the MIC-3716 corrects gain and offset errors in analog input and analog output channels thereby eliminating the need for external equipment and user adjustments.

Board ID

The MIC-3716 has a built-in DIP switch that helps define each card's ID when multiple MIC-3716 cards have been installed on the same PC chassis. The board ID setting function is very useful when users build their system with multiple MIC-3716 cards. With the correct Board ID settings, the user can easily identify and access each card during hardware configuration and software programming.

Plug-and-Play Function

The MIC-3716 is a Plug-and-Play device, which fully complies with PCI Specification Rev 2.2. During card installation, there is no need to set jumpers or DIP switches. Instead, all bus-related configurations such as base I/O address and interrupt are automatically done by the Plug-and-Play function.

Automatic Channel/Gain/SD*/BU* Scanning

The MIC-3716 features an automatic channel/gain/SD/BU scanning circuit. This circuit controls multiplexer switching during sampling in a way that is more efficient than software implementation. An on-board SRAM stores different gain, SD and BU values for each channel. This combination lets users perform multi-channel high-speed sampling with different gain, SD and BU values for each channel.

SD: Single-Ended/Differential; BU: Bipolar/Unipolar

On-board FIFO Memory

The MIC-3716 provides 1K sample on-board FIFO (First In First Out) memory buffer for AD. This is an important feature for faster data transfer and more predictable performance under the Windows system.

On Board Programmable Timer/Counter

The MIC-3716 provides a programmable timer counter for generating a pacer trigger for the A/D conversion. The timer/counter chip is 82C54, which includes three 16-bit counter 10 MHz clocks. One counter is used as an event counter for counting events coming from the input channel. The other two are cascaded together to make a 32-bit timer for pacer trigger time base.

Ordering Information

- **MIC-3716/3:** 3U, 250 KS/s, 16-bit, 16-ch High-Resolution Multifunction Card, user's manual and driver CD-ROM. (cable not included)
- **MIC-3716/6:** 6U, 250 KS/s, 16-bit, 16-ch High-Resolution Multifunction Card, user's manual and driver CD-ROM. (cable not included)
- **PCLD-8710:** Industrial Wiring Terminal Board with CJC circuit for DIN-rail Mounting. (cable not included)
- **PCL-10168:** 68-pin SCSI-II cable with male connectors on both ends and special shielding for noise reduction, 1 and 2 m
- **ADAM-3968:** 68-pin SCSI-II Wiring Terminal Board for DIN-rail Mounting

250 KS/s, 16-bit, 16-ch High-resolution Multifunction Card

Specifications

Analog Input

Channels	16 single-ended or 8 differential or combination					
Resolution	16-bit					
FIFO Size	1K samples					
Sampling Rate*	250 KS/s max.					
Conversion Time	2.5 µs					
Input range and Gain List	Gain	0.5	1	2	4	8
	Unipolar	N/A	0 ~ 10	0 ~ 5	0 ~ 2.5	0 ~ 1.25
	Bipolar	±10	±5	±2.5	±1.25	±0.625
Small Signal Bandwidth for PGA Gain	Gain	0.5	1	2	4	8
	Bandwidth	4.0 MHz	4.0 MHz	2.0 MHz	1.5 MHz	0.65 MHz
Common mode voltage	±11 V max. (operational)					
Max. Input voltage	±20 V					
Input Protect	30 Vp-p					
Input Impedance	100 MΩ/10pF (Off); 100 MΩ/100pF (On)					
Trigger Mode	Software, on-board programmable pacer or external					
Accuracy	DC	DNLE: ±1 LSB				
		INLE: ±1 LSB				
		Zero (Offset) error: Adjustable to ±1 LSB				
		Gain	0.5	1	2	4	8
		Gain error (% FSR)	0.15	0.03	0.03	0.05	0.1
	AC	SNR: 82 dB					
		ENOB: 13.5 bits					
		THD: -84 dB typical					
Clocking and Trigger Inputs	Trigger Mode	Software, on-board programmable pacer or external					
	A/D pacer clock	250 KHz (max.); 58 µHz (min.)					
	External A/D trigger clock	Min. pulse width: 2 µs (high); 2 µs (low) Max. frequency: 250 KHz					

Analog Output

Channels	2	
Resolution	16-bit	
Operation mode	Single output	
Throughput*	200 KS/s max. per channel (FSR)	
Output Range (Internal & External Reference)	Using Internal Reference	0 ~ +5 V, 0 ~ +10 V, -5 ~ +5 V, -10 ~ +10 V
	Using External Reference	0 ~ +x V @ +x V (-10≤ x ≤10) -x ~ +x V @ +x V (-10≤ x ≤10)
Accuracy	DC	DNLE: ±1 LSB (monotonic)
		INLE: ±1 LSB
		Zero (Offset) error: Adjustable to ±1 LSB
		Gain (Full-scale) error: Adjustable to ±1 LSB
Dynamic Performance	Settling Time	5 µs (to 4 LSB of FSR)
	Slew Rate	20 V/µs
Drift	10 ppm/°C	
Driving Capability	±20 mA	
Output Impedance	0.1 Ω max.	

Digital Input /Output

Input Channels	16	
Input Voltage	Low	0.4V max.
	High	2.4 V min.
Input Load	Low	0.4 V max. @ -0.2 mA
	High	2.7 V min. @ 20 µA
Output Channels	16	
Output Voltage	Low	0.4 V max. @ +8.0 mA (sink)
	High	2.4 V min. @ -0.4 mA (source)

Counter/Timer

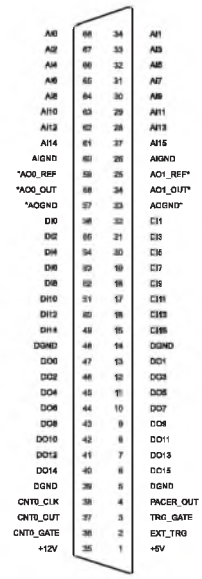
Channels	3 channels, 2 channels are permanently configured as programmable pacers; 1 channel is free for user application	
Resolution	16-bit	
Compatibility	TTL level	
Base Clock	Channel 2: Takes input from output of channel 1 Channel 1: 10 MHz Channel 0: Internal 1 MHz or external clock (10 MHz) max Selected by software	
Max. Input Frequency	1 MHz	
Clock Input	Low	0.8 V max.
	High	2.0 V min.
Gate Input	Low	0.8 V max.
	High	2.0 V min.
Counter Output	Low	0.5 V max. @ +24 mA
	High	2.4 V min. @ -15 mA

General

I/O Connector Type	68-pin SCSI-II female	
Dimensions	175 mm x 100 mm (6.9" x 3.9")	
Power Consumption	Typical	+5 V @ 850 mA +12 V @ 600 mA
	Max.	+5 V @ 1 A +12 V @ 700 mA
Temperature	Operation	0 ~ +60° C (32 ~ 158° F) (refer to IEC 68-2-1, 2)
	Storage	-20 ~ +85° C (-4 ~ 158° F)
Relative Humidity	Operation	5 ~ 85%RH non-condensing (refer to IEC 68-1, -2, -3)
	Storage	5 ~ 95%RH non-condensing (refer to IEC 68-1, -2, -3)
Certification	CE certified	

The sampling rate and throughput depends on the computer hardware architecture and software environment. The rates may vary due to programming language, code efficiency, CPU utilization and other factors.

Pin Assignment



MIC-3780

8-ch Counter/Timer Card

CE FCC

Features

- 8 independent 16-bit counters
- 8 programmable clock source
- 8 digital TTL outputs and 8 digital TTL inputs
- Up to 20 MHz input frequency
- Multiple counter clock source selectable
- Counter output programmable
- Counter gate function
- Flexible interrupt source select
- BoardID™ switch

Introduction

The MIC-3780 is a general purpose multiple channel counter/timer card for the 3U/6U CompactPCI® system. It targets the AM9513 to implement the counter/timer function by CPLD. Plus, it provides eight 16-bit counter channels and 8 digital outputs and 8 digital inputs. Advantech has designed in powerful counter functions to fulfill your industrial or laboratory applications.

Flexible Counter Modes

The MIC-3780 features up to 12 programmable counter modes, to provide one shot output, PWM output, periodic interrupt output, time-delay output, and to measure the frequency and the pulse width. The MIC-3780 is an ideal solution for variant counter/timer applications.

Special Shielded Cable for Noise Reduction

The PCL-10168 shielded cable is specially designed for the MIC-3780 to reduce noise. Its wires are all twisted pairs, and the input signals and output signals are separately shielded, providing minimal cross talk between signals and solid protection against EMI/EMC problems.

BoardID™ switch

The MIC-3780 has a built-in DIP switch that helps define each card's ID when multiple cards have been installed on the same PC chassis. The board ID setting function is very useful when users build their system with multiple MIC-3780 cards. With correct Board ID settings, you can easily identify and access each card during hardware configuration and software programming.

Plug & Play Function

The MIC-3780 is a Plug & Play device, which fully complies with PICMG 2.0, Ver 2.1 CompactPCI specifications. During card installation, there is no need to set jumpers or DIP switches. Instead, all bus-related configurations such as base I/O address and interrupt are automatically done by the Plug & Play function.

Specifications

Programmable Counter

- **Channels** 8 (independent)
- **Resolution** 16-bit
- **Programmable Clock Source** 8 (independent)
- **Programmable Counter Modes** 12
- **Max. Frequency** 20 MHz
- **Interrupt Source** 8 counter outputs

Digital Input/Output

- **Input Channels** 8
- **Input Voltage** Low: 0.8 V max. High: 2.4 V min.
- **Interrupt Source** Channel 0
- **Output Channels** 8
- **Output Voltage** Low: 0.5 V max. @ 24 mA (sink)
  High: 2.4 V min. @ -15 mA (source)

General

- **I/O Connector Type** 68-pin SCSI-II female
- **Dimensions (L x H)** 160 x 100 mm (6.3" x 3.9") with 3U/6U Bracket
- **Power Consumption** Typical: +5 V @ 900 mA
  Max: +5 V @ 1.2 A
- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F) (refer to IEC 68-2-1, 2)
- **Storage Temperature** -20 ~ 70° C (-4 ~ 158° F)
- **Relative Humidity** 5 ~ 95 % RH non-condensing (refer to IEC 68-2-3)
- **Certifications** CE, FCC Class A

Ordering Information

- **MIC-3780/3** 3U, 8-ch. Counter/Timer Card, user's manual and driver CD-ROM. (cable not included)
- **MIC-3780/6** 6U, 8-ch. Counter/Timer Card, user's manual and driver CD-ROM. (cable not included)
- **PCL-10168** 68-pin SCSI-II cable with male connectors on both ends and special shielding for noise reduction, 1 and 2 m
- **ADAM-3968** 68-pin SCSI-II Wiring Terminal Board for DIN-rail mounting

Applications

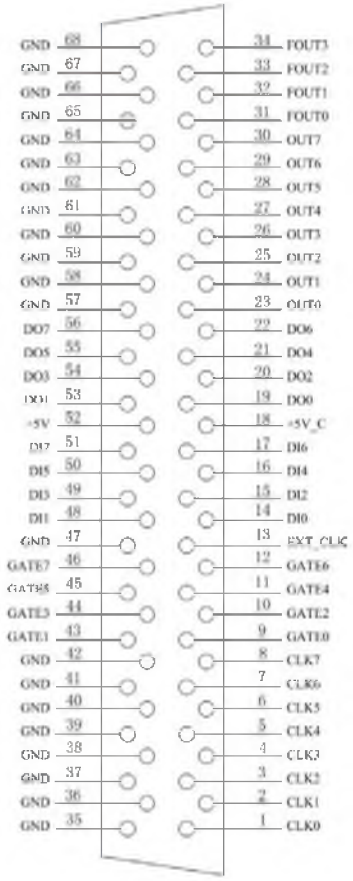
- Event counting
- One shot output
- Programmable frequency output
- Frequency measurement
- Pulse width measurement
- PWM output
- Periodic interrupt generation
- Time-delay generation

Counter Mode Table

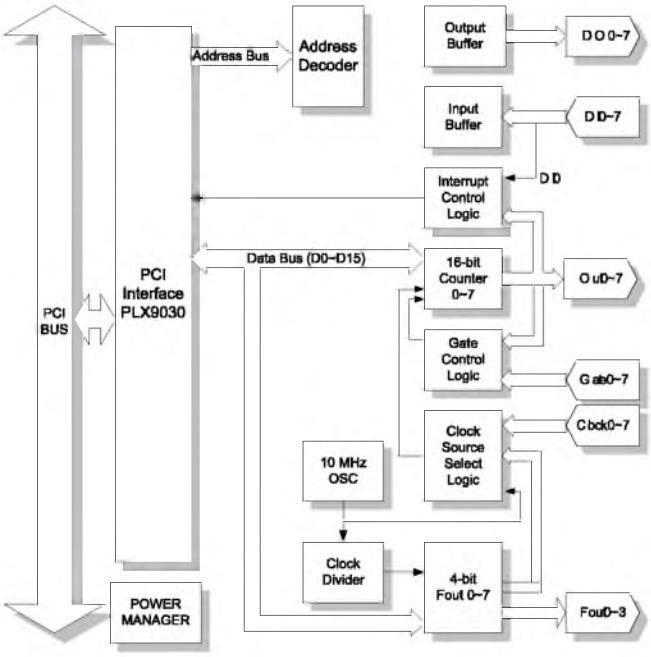
Counter Mode	A	B	C	D	E	F	G	H	I	J	K	L
Reload Source (CM5)	0	0	0	0	0	0	1	1	1	1	1	1
Repetition (CM4)	0	0	0	1	1	1	0	0	0	1	1	1
Gate Control (CM15 ~ CM12)	N	L	E	N	L	E	N	L	E	N	L	E
Count to T/C once, then disarm	√	√	√									
Count to T/C twice, then disarm							√	√	√			
Count to T/C repeatedly without disarming				√	√	√				√	√	√
Gate input dose not gate counter input	√			√			√			√		
Count only during active gate level		√			√			√			√	
Start count on active gate edge and stop count on next T/C			√			√						
Start count on active gate edge and stop count on second T/C									√			√
No hardware re-triggering	√	√	√	√	√	√	√	√	√	√	√	√
Reload counter from Load Register on T/C	√	√	√	√	√	√						
Reload counter on each T/C, alternating reload source between Load and Hold Registers							√	√	√	√	√	√

Note: Gate Control: N: No gate control
L: Level gate control
E: Edge gate control

Pin Assignments



Block Diagram



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