



Commercial Communication & Control

Product Guide

About SUNIX

Since 1986

The world's leading brand of commercial communications

SUNIX had being the global leader in serial communication technology more than 20 years, we invent and lunch the word's first RS-232 single-chip communication card in the year of 1995.

SUNIX provide more convenience for people by creating the new industry model " Commercial Communication" ,and being the partner also earning the trust from the world's first-tier manufacturer and numerous users.

SUNIX Commercial Communication

Since more then 20 years SUNIX Commercial communication business unit provides high performance and high quality products to the market. We apply our years of expertise to the development of I/O Multi-port Serial Boards, Multi-port Parallel Boards and I/O CardBus Card.

You will find SUNIX products everywhere in your daily life. Whether you go to your preferred bank to withdraw money from an ATM machine or just pay for your shopping at a POS station at a supermarket, gathering information about a foreign city at a KIOS system, paying the toll fee at a toll collect station. Your daily life becomes more secure and easy through SUNIX products.

Brand Value

Communication Intelligence

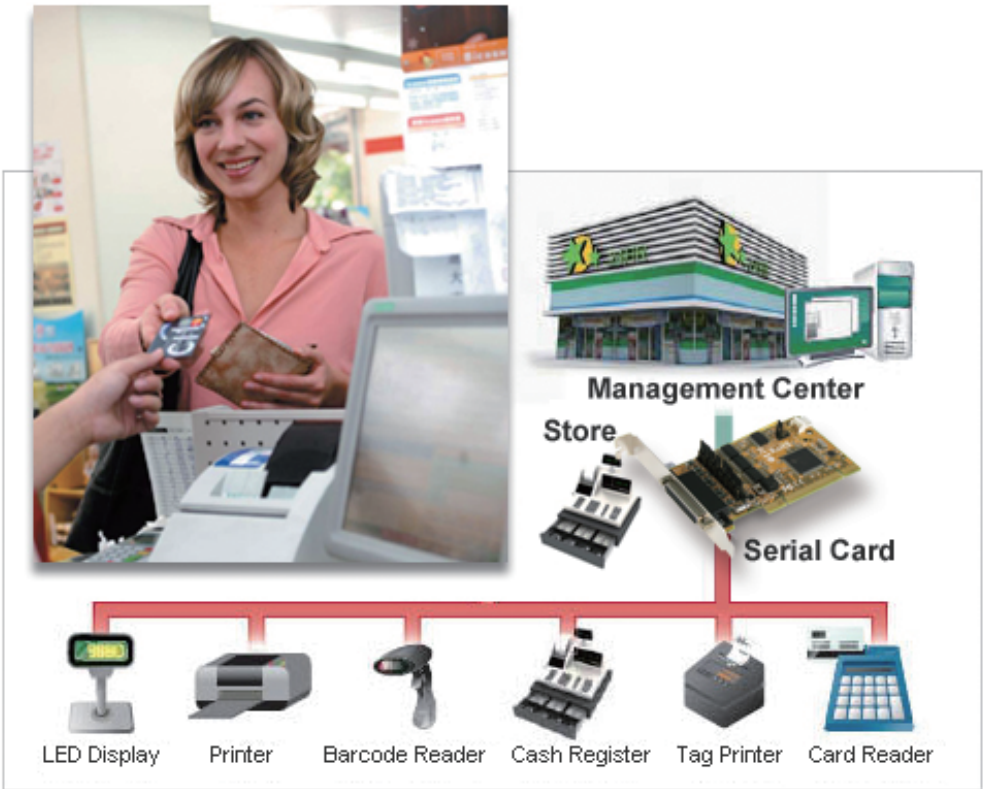
SUNIX has been specializing in the communication industry. Its outstanding senior R&D team provides customers with a full range of communication products that are functionally stable, leading in technology, high quality, and reliable. By giving high technology a human touch and integrating humanities, art, and technical “communication intelligent” into our daily life, we can lead a better life; and through continuous innovation and fulfilling the needs of our customers, we can help you achieve success.

ISO9001 & ISO14000



WHQL Certification





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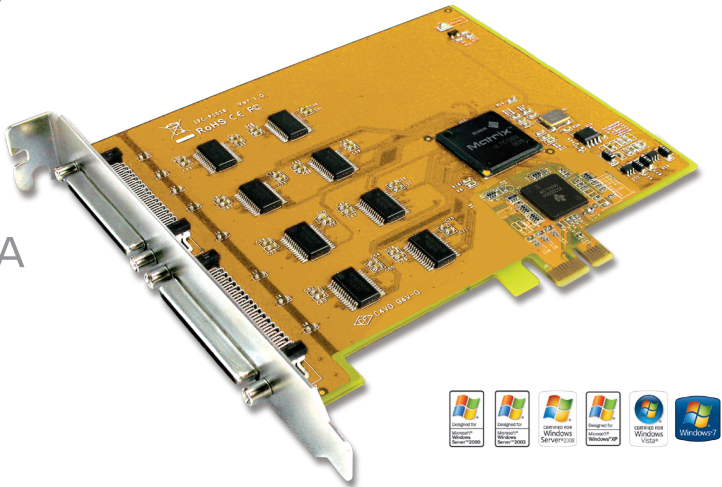
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Serial Communication

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1	Serial Communication
1.1	RS-232 Add-On Card Series
1.1.1	RS-232 PCI Express Card

SER1640A



Features

- Expands 16/8/4/2/1 independent RS-232 serial ports with communication speeds up to 921.6Kbps.
- High speed SUNIX 16C950 compatible UART controller on-board.
- Designed to meet PCI Express Base Specifications Revision 1.1.
- Supports x1, x2, x4, x8, x16 (lane) PCI Express Bus connector keys.
- On-chip hardware auto flow control to guarantee no data loss.
- Data transmission speeds up to 115.2Kbps (921.6Kbps Optional).
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- Ultra low power consumption design for Green Environment.
- L Version - Low profile bracket design idea for slim or portable PC.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

NOTE :

SUNIX High Speed RS-232 Card (H Version) baud rate setting supports 921.6Kpbs, and please refers to Product Family for detail.

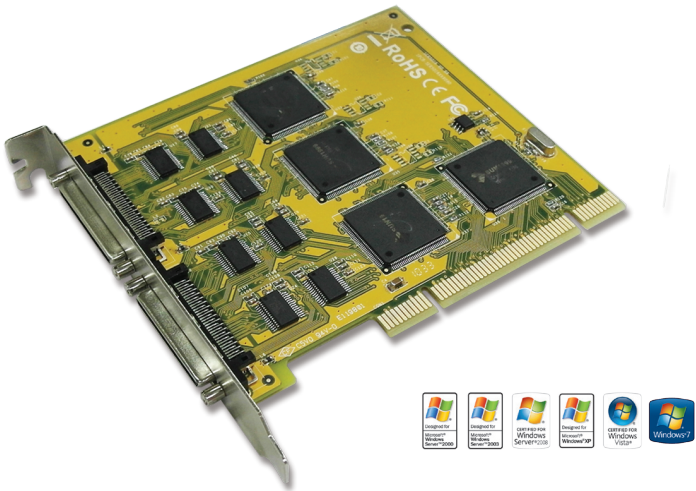
Specifications

Serial Communication	
Interface	RS-232
Controller	SUNIX Matrix(16C750 UART) / SUN1999/SUN1989(16C950 UART Compatible)
BUS	PCI Express one lane (x1)
No. of Port	1/2/4/8/16-port
IRQ & IO	Assigned by System
FIFO	128byte Hardware
Protection	±15KV ESD protection for each signal Human Body Model (HBM)
Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND Note : 16/8-port series do not build RI signal.
Baud rate	50bps ~115.2Kbps (921.6Kpbs Optional)
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	None, Xon/Xoff, RTS/CTS
Connector	DB9 / 25 Male
Driver Support	
Microsoft Client	XP / Vista / 7 (X86/X64)
Microsoft Server	2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	CE 4.2/5.0/6.0/XP Embedded / POS Ready 2009 / Embedded System 2009
Linux	Linux 2.4.x / 2.6.x
DOS	DOS
FreeBSD	FreeBSD 5.3~5.5 / 6.0~6.4
QNX	QNX 6.3.2 / 6.4.0
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Software	Microsoft WHQL Windows Microsoft Client : XP / Vista / 7 (X86/X64) Microsoft Server : 2000 / 2003 / 2008 (X86/X64)
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Products

	Model	Chip	Max. Speed	ESD Protection	Connector	Bracket	PCB Dimension
16-port RS-232 PCI Express Card							
	SER1640A	Matrix UL7534EB	921.6Kbps	±15KV	Mini SCSI 68 Female	Standard	120x100 mm
8-port RS-232 PCI Express Card							
	SER5466H	SUN1999	921.6Kbps	±15KV	DB62 Female	Standard	127x98 mm
	SER5466HL	SUN1999	921.6Kbps	±15KV	Mini SCSI 68 Female	Low profile	106x69 mm
	SER5466A	SUN1999	115.2Kbps	±15KV	DB62 Female	Standard	127x98 mm
	SER5466AL	SUN1999	115.2Kbps	±15KV	Mini SCSI 68 Female	Low profile	106x69 mm
4-port RS-232 PCI Express Card							
	SER5456H	SUN1999	921.6Kbps	±15KV	DB44 Female	Standard	109x67 mm
	SER5456HL	SUN1999	921.6Kbps	±15KV	DB44 Female	Low profile	109x67 mm
	SER5456A	SUN1999	115.2Kbps	±15KV	DB44 Female	Standard	109x67 mm
	SER5456AL	SUN1999	115.2Kbps	±15KV	DB44 Female	Low profile	109x67 mm
2-port RS-232 PCI Express Card							
	SER5437H	SUN1989	921.6Kbps	±15KV	DB9 Male	Standard	77x 87 mm
	SER5437HL	SUN1989	921.6Kbps	±15KV	DB44 Female	Low profile	108x68 mm
	SER5437A	SUN1989	115.2Kbps	±15KV	DB9 Male	Standard	77x 87 mm
	SER5437AL	SUN1989	115.2Kbps	±15KV	DB44 Female	Low profile	108x68 mm
1-port RS-232 PCI Express Card							
	SER5427A	SUN1989	115.2Kbps	±15KV	DB9 Male	Standard	84x67 mm
	SER5427AL	SUN1989	115.2Kbps	±15KV	DB9 Male	Low profile	84x67 mm

SER5016H



Features

- Expands 16/8/4/2/1 independent RS-232 serial ports on the system.
- High speed SUN1999/SUN1989 16C950 compatible UART controller on-board.
- Compliance with PCI 33MHz Version 3.0/2.3/2.2./2.1 Specifications.
- Supports both 64-bit PCI-X & 32-bit PCI bus slot.
- On-chip hardware auto flow control to guarantee no data loss.
- Data transmission speeds up to 115.2Kbps (921.6Kbps Optional).
- Built-in ± 2KV ESD protection for all serial signals. (± 15KV ESD Optional)
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- Ultra low power consumption design for Green Environment.
- L Version - Low profile bracket design idea for slim or portable PC.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

NOTE :

SUNIX High Speed RS-232 Card (H Version) supports ±15KV ESD protection for each signal and 921.6Kpbs baud rate setting.
Please refer to Product Family for detail.

1	Serial Communication
1.1	RS-232 Add-On Card Series
1.1.2	RS-232 PCI Card

Specifications

Serial Communication	
Interface	RS-232
Controller	SUNIX SUN1999/SUN1989 (16C950 UART Compatible)
BUS	Universal PCI 64/32bit PCI Spec.Ver3.0/2.3/2.2/2.1
No. of Port	1/2/4/8/16-port
IRQ & IO	Assigned by System
FIFO	128byte Hardware
Protection	±2KV ESD protection for each signal Human Body Model (HBM) (±15KV ESD Optional)
Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND Note : 16/8-port series do not build RI signal.
Baud rate	50bps ~115.2Kbps (921.6Kpbs Optional)
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	None, Xon/Xoff, RTS/CTS
Connector	DB9 / 25 Male
Driver Support	
Microsoft Client	XP / Vista / 7 (X86/X64)
Microsoft Server	2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	CE 4.2/5.0/6.0/XP Embedded / POS Ready 2009 / Embedded System 2009
Linux	Linux 2.4.x / 2.6.x
DOS	DOS
FreeBSD	FreeBSD 5.3~5.5 / 6.0~6.4
QNX	QNX 6.3.2 / 6.4.0
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Software	Microsoft WHQL Windows Microsoft Client : XP / Vista / 7 (X86/X64) Microsoft Server : 2000 / 2003 / 2008 (X86/X64)
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

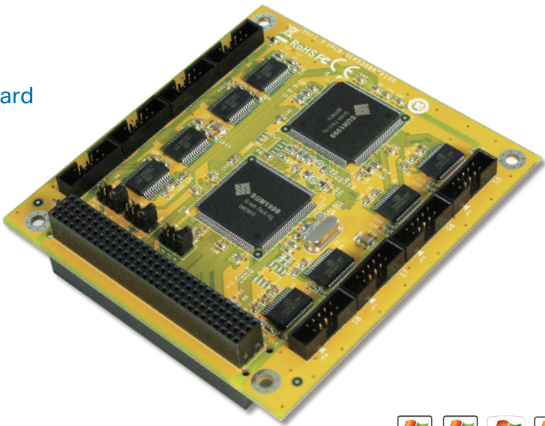
Products

	Model	Chip	Max. Speed	ESD Protection	Connector	Bracket	PCB Dimension
16-port RS-232 Universal PCI Card							
	SER5016H	SUN1999	921.6Kbps	±15KV	Mini SCSI 68 Female	Standard	120x105 mm
8-port RS-232 Universal PCI Card							
	SER5066H	SUN1999	921.6Kbps	±15KV	DB62 Female	Standard	125x100 mm
	SER5066HL	SUN1999	921.6Kbps	±15KV	Mini SCSI 68 Female	Low profile	120x63 mm
	SER5066A	SUN1999	115.2Kbps	±2KV	DB62 Female	Standard	125x100 mm
	SER5066AL	SUN1999	1115.2Kbp	±2KV	Mini SCSI 68 Female	Low profile	120x63 mm
	SER5066UH	SUN1999	921.6Kbps	±15KV	Pin Header (pitch 2.0mm)	Standard	135x67 mm
	SER5066UHL	SUN1999	921.6Kbps	±15KV	Pin Header (pitch 2.0mm)	Low profile	135x67 mm
	SER5066U	SUN1999	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	Standard	135x67 mm
	SER5066UL	SUN1999	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	Low profile	135x67 mm
4-port RS-232 Universal PCI Card							
	SER5056H	SUN1999	921.6Kbps	±15KV	DB44 Female	Standard	120x68 mm
	SER5056HL	SUN1999	921.6Kbps	±15KV	DB44 Female	Low profile	120x68 mm
	SER5056A	SUN1999	115.2Kbps	±2KV	DB44 Female	Standard	120x68 mm
	SER5056AL	SUN1999	115.2Kbps	±2KV	DB44 Female	Low profile	120x68 mm
	SER5056UH	SUN1999	921.6Kbps	±15KV	Pin Header (pitch 2.0mm)	Standard	128x64 mm
	SER5056UHL	SUN1999	921.6Kbps	±15KV	Pin Header (pitch 2.0mm)	Low profile	128x64 mm
	SER5056U	SUN1999	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	Standard	128x64 mm
	SER5056UL	SUN1999	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	Low profile	128x64 mm

Products

	Model	Chip	Max. Speed	ESD Protection	Connector	Bracket	PCB Dimension	
2-port RS-232 Universal PCI Card								
	SER5037H	SUN1989	921.6Kbps	±15KV	DB9 Male	Standard	120x82 mm	
	SER5037HL	SUN1989	921.6Kbps	±15KV	DB44 Female	Low profile	120x63 mm	
	SER5037A	SUN1989	115.2Kbps	±2KV	DB9 Male	Standard	120x82 mm	
	SER5037AL	SUN1989	115.2Kbps	±2KV	DB44 Female	Low profile	120x63 mm	
	SER5037UH	SUN1989	921.6Kbps	±15KV	Pin Header (pitch 2.0mm)	Standard	120x65 mm	
	SER5037U	SUN1989	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	Standard	120x65 mm	
	SER5037UL	SUN1989	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	Low profile	120x65 mm	
1-port RS-232 Universal PCI Card								
	SER5027H	SUN1989	921.6Kbps	±15KV	DB9 Male	Standard	120x51 mm	
	SER5027HL	SUN1989	921.6Kbps	±15KV	DB9 Male	Low profile	120x51 mm	
	SER5027A	SUN1989	115.2Kbps	±2KV	DB9 Male	Standard	120x51 mm	
	SER5027AL	SUN1989	115.2Kbps	±2KV	DB9 Male	Low profile	120x51 mm	
	SER5027UH	SUN1989	921.6Kbps	±15KV	Pin Header (pitch 2.0mm)	Standard	120x65 mm	
	SER5027U	SUN1989	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	Standard	120x65 mm	
	SER5027UL	SUN1989	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	Low profile	120x65 mm	
4/2/1-port Remap RS-232 Universal PCI Card								
	Model	Chip	Port	Max. Speed	ESD Protection	Connector	Bracket	PCB Dimension
	SER4056D	SUN1889	4	115.2Kbps	±2KV	RJ-45	Standard	120x115 mm
	SER4037D	SUN1889	2	115.2Kbps	±2KV	DB9 Male & Pin Header	Standard	120x78 mm
	SER4027D	SUN1889	1	115.2Kbps	±2KV	DB9 Male & Pin Header	Standard	120x52 mm
	SER4027DL	SUN1889	1	115.2Kbps	±2KV	DB9 Male & Pin Header	Low profile	120x52 mm

SER5366A



Features

- Expands multi RS-232 serial ports on the system.
- High speed SUNIX UART controller on-board.
- Supports PCI/104, PC 104 or ISA bus type.
- Data transmission speeds up to 115.2Kbps.
- Built-in ESD protection for all serial signals.
- IRQ sharing and I/O address selectable for each serial port by jumper.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

1	Serial Communication
1.1	RS-232 Add-On Card Series
1.1.3	RS-232 PCI104 / PC104 / ISA Card

Specifications

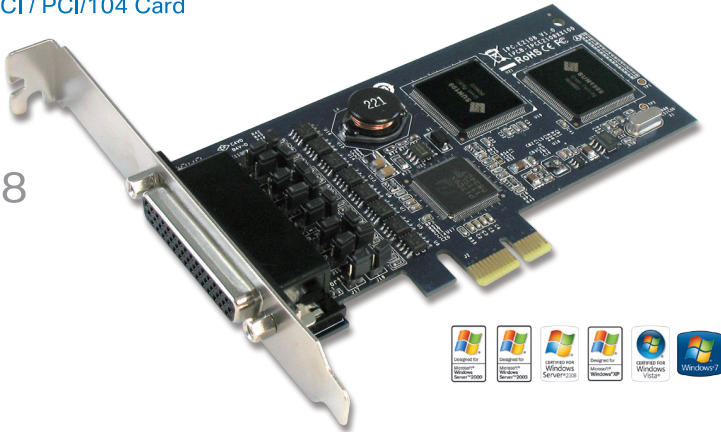
Serial Communication	
Interface	RS-232
Controller	SUNIX UART Controller
BUS	PCI/104 : 32-bit PCI/104
	PC/104 : 16-bit PC/104
Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
No. of Port	2/4/8-port
FIFO	PCI/104 Series : 128byte Hardware
	PC/104 & ISA Series : 64byte Hardware
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	None, Xon/Xoff, RTS/CTS
Baud rate	PCI/104 Series : 50bps ~921.6Kbps
	PC/104 & ISA Series : 50bps ~115.2Kbps
IRQ	PCI/104 Series : Assigned by System
	PC/104 & ISA Series : 3, 4, 5, 7, 9, 10, 11, 12, 15 Interrupt Sharing
IO	PCI/104 Series : Assigned by System
	PC/104 Series : 3F8, 3E8, 2F8, 2E8, 260, 268, 250, 258, 240, 248, 230, 238
Protection	PCI/104 Series :
	±15KV ESD protection for each signal Human Body Model (HBM)
	±15KV IEC1000-4-2 Air Gap Discharge
	±8KV IEC1000-4-2 Contact Discharge
	PC/104 & ISA Series : ±2KV ESD protection for each signal Human Body Model (HBM)
Driver Support	
Microsoft Client	XP / Vista / 7 (X86/X64)
Microsoft Server	2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	CE 4.2/5.0/6.0/XP Embedded / POS Ready 2009 / Embedded System 2009
Linux	Linux 2.4.x / 2.6.x
DOS	DOS
FreeBSD	FreeBSD 5.3~5.5 / 6.0~6.4
QNX	QNX 6.3.2 / 6.4.0
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Software	N.A.
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Products

	Model	No. of Port	Chip	Max. Speed	ESD Protection	Connector	PCB Dimension
RS-232 PCI/104 Card							
	SER5366A	8	SUN1999	921.6Kbps	±15KV	Pin Header (pitch 2.0mm)	95.6x90 mm
	SER5356A	4	SUN1999	921.6Kbps	±2KV	Pin Header (pitch 2.0mm)	95.6x90 mm
	SER5337A	2	SUN1989	921.6Kbps	±2KV	Pin Header (pitch 2.0mm)	95.6x90 mm
RS-232 PC/104 Card							
	SER4243I	4	SUN1699	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	95.6x90 mm
	SER4233I	2	SUN1699	115.2Kbps	±2KV	Pin Header (pitch 2.0mm)	95.6x90 mm

1	Serial Communication
1.2	RS-422/485 Add-On Card Series
1.2.1	RS-422/485 PCI Express / PCI / PCI/104 Card

IPC-E2108



Features

- Expands Multi RS-422/485 serial ports on the system
- High performance SUNIX 16C950 compatible UART controller on-board.
- Ultra low power consumption design for Green Environment.
- Data transmission speeds up to 921.6Kbps.
- Supports PCI Express, PCI or PCI/104 bus type
- On-chip hardware auto flow control to guarantee no data loss.
- RS-422 and RS-485 auto detect and switching technology.
- AHDC/CS™ technology for collision free communication.
- Built-in ± 15KV ESD protection for all serial signals.
- 2 KV optical isolation protection for all signal and power. (SI Version Only)
- 500W peak surge protection for all signal lines. (SI Version Only)
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

NOTE :

SUNIX RS-422/485 Card with Surge and Isolation (SI Version) is available with certain models which include TVSS (Transient Voltage Surge Suppressor) technology to help prevent damage due to lightning or high potential voltage. Optical isolation (2000V) and embedded protection (max. ESD of 16 KV, max. EFT of 2 KV). These features help provide protection in critical or harsh factory-type environments.

Specifications

Serial Communication	
Interface	RS-422/485
Controller	SUNIX SUN1999/SUN1989 (16C950 UART Compatible)
BUS	PCI Express : PCI Express one lane (x1)
	PCI : Universal PCI 64/32bit PCI Spec.Ver3.0/2.3/2.2/2.1
	PCI/104 : 32 bit PCI/104
No. of Port	2/4/8-port
Baud rate	50bps ~921.6Kbps
Stop bit	1, 1.5, 2
FIFO	128byte Hardware
Parity	even, odd, none, mark, space
IRQ & IO	Assigned by System
Flow Control	Xon/Xoff (software)
Signal	RS-422 : TxD+, TxD-, RxD+, RxD-, GND
	4-wire RS-485 : TxD+, TxD-, RxD+, RxD-, GND
	2-wire RS-485 : Data+, Data-, GND
ESD Protection	±15KV ESD protection for each signal Human Body Model (HBM)
	±15KV IEC1000-4-2 Air Gap Discharge
	±8KV IEC1000-4-2 Contact Discharge
Surge Protection	500W peak surge protection for all signal lines meet IEC 61000-4-5 (SI Version Only)
IsolationProtection	2.0 KV Isolation Protection for all signal and power (SI Version Only)
RS-485 Signal	SUNIX AHDC/CS™ Technology
Select RS-422/485	Select RS-422/485 Auto Detect and Switch
Driver Support	
Microsoft Client	XP / Vista / 7 (X86/X64)
Microsoft Server	2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	CE 4.2/5.0/6.0/XP Embedded / POS Ready 2009 / Embedded System 2009
Linux	Linux 2.4.x / 2.6.x
DOS	DOS
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Software	Microsoft WHQL Windows
	Microsoft Client : XP / Vista / 7 (X86/X64)
	Microsoft Server : 2000 / 2003 / 2008 (X86/X64)
Environment	
Operation Temperature	0 to 70°C (32 to 158°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

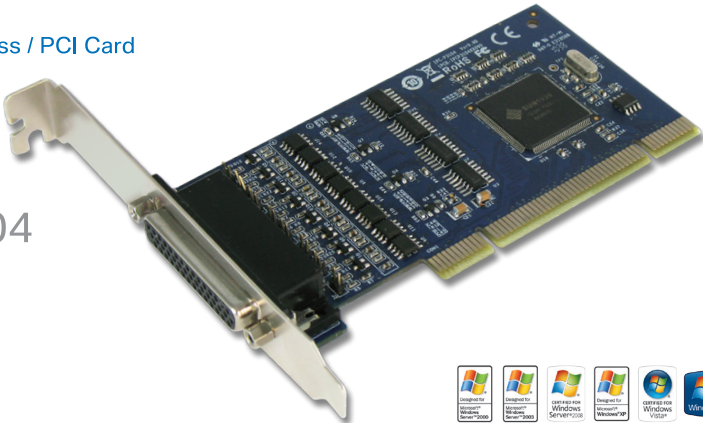
1	Serial Communication
1.2	RS-422/485 Add-On Card Series
1.2.1	RS-422/485 PCI Express / PCI / PCI/104 Card

Products

	Model	No. of Port	Chip	ESD Protection	Surge Protection	Isolation Protection	Connector	PCB Dimension
8/4/2-port RS-422/485 PCI Express Card								
	IPC-E2108	8	SUN1999	±15KV	-	-	DB44 Female	64x105 mm
	IPC-E2108SI	8	SUN1999	±15KV	500W	2KV	DB44 Female	95.5x120 mm
	IPC-E2104	4	SUN1999	±15KV	-	-	DB44 Female	64x105 mm
	PC-E2104SI	4	SUN1999	±15KV	500W	2KV	DB44 Female	68.5x123 mm
	IPC-E2102	2	SUN1989	±15KV	-	-	DB9 Male	99x86 mm
	IPC-E2102SI	2	SUN1989	±15KV	500W	2KV	DB9 Male	99x86 mm
8/4/2-port RS-422/485 PCI Card								
	IPC-P2116	16	SUN1999	±15KV	-	-	DB78 Female	120 x 105 mm
	IPC-P2108	8	SUN1999	±15KV	-	-	DB44 Female	120 x 63 mm
	IPC-P2108SI	8	SUN1999	±15KV	500W	2KV	DB44 Female	104 x 125 mm
	IPC-P2104	4	SUN1999	±15KV	-	-	DB44 Female	125 x 63 mm
	IPC-P2104SI	4	SUN1999	±15KV	-	-	DB44 Female	120 x 63 mm
	IPC-P2102	2	SUN1989	±15KV	500W	2KV	DB9 Male	120 x 62 mm
	IPC-P2102SI	2	SUN1989	±15KV	500W	2KV	DB9 Male	120 x 82 mm
8/4/2-port RS-422/485 PCI/104 Card								
	IPC-B2108	8	SUN1999	±15KV	-	-	Pin Header (Pitch 2.0 mm)	95.9x90 mm
	IPC-B2104	4	SUN1999	±15KV	-	-	Pin Header (Pitch 2.0 mm)	95.9x90 mm
	IPC-B2104SI	4	SUN1999	±15KV	500W	2KV	Pin Header (Pitch 2.0 mm)	95.9x90 mm
	IPC-B2102	2	SUN1989	±15KV	-	-	Pin Header (Pitch 2.0 mm)	95.9x90 mm
	IPC-B2102SI	2	SUN1989	±15KV	500W	2KV	Pin Header (Pitch 2.0 mm)	95.9x90 mm

1	Serial Communication
1.2	RS-422/485 Add-On Card Series
1.2.2	RS-232/422/485 PCI Express / PCI Card

IPC-P3104



Features

- Expands Multi RS-232/422/485 serial ports on the system.
- High performance SUNIX 16C950 compatible UART controller on-board.
- Ultra low power consumption design for Green Environment.
- Data transmission speeds up to 921.6Kbps.
- Supports PCI Express or PCI bus type
- On-chip hardware auto flow control to guarantee no data loss.
- RS-422 and RS-485 auto detect and switching technology.
- AHDC/CS™ technology for collision free communication.
- Built-in ± 15KV ESD protection for all serial signals.
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

1

Serial Communication

1.2

RS-422/485 Add-On Card Series

1.2.2

RS-232/422/485 PCI Express / PCI Card

Specifications

Serial Communication	
Interface	RS-232/422/485
Controller	SUNIX SUN1999 (16C950 UART Compatible)
BUS	PCI Express : PCI Express one lane (x1)
	PCI : Universal PCI 64/32bit PCI Spec.Ver3.0/2.3/2.2/2.1
No. of Port	4/8-port
Baud rate	50bps ~921.6Kbps
Stop bit	1, 1.5, 2
FIFO	128byte Hardware
Parity	even, odd, none, mark, space
IRQ & IO	Assigned by System
Flow Control	Xon/Xoff (software)
ESD Signal	RS-232 : TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
	RS-422 : TxD+, TxD-, RxD+, RxD-, GND
	4-wire RS-485 : TxD+, TxD-, RxD+, RxD-, GND
	2-wire RS-485 : Data+, Data-, GND
Protection	±15KV ESD protection for each signal Human Body Model (HBM)
	±15KV IEC1000-4-2 Air Gap Discharge
	±8KV IEC1000-4-2 Contact Discharge
RS-485 Signa	SUNIX AHDC/CS™ Technology
Select RS-422/485	Select RS-422/485 Auto Detect and Switch
Driver Support	
Microsoft Client	XP / Vista / 7 (X86/X64)
Microsoft Server	2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	CE 4.2/5.0/6.0/XP Embedded / POS Ready 2009 / Embedded System 2009
Linux	Linux 2.4.x / 2.6.x
DOS	DOS
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Software	Microsoft WHQL Windows
	Microsoft Client : XP / Vista / 7 (X86/X64)
	Microsoft Server : 2000 / 2003 / 2008 (X86/X64)
Environment	
Operation Temperature	0 to 70°C (32 to 158°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Products

	Model	Chip	ESD Protection	Surge Protection	Isolation Protection	Connector	PCB Dimension
4-port RS-232/422/485 PCI Express Card							
	IPC-E3104	SUN1999	±15KV	-	-	DB44 Female	64x105 mm
8-port RS-232/422/485 PCI Card							
	IPC-P3108	SUN1999	±15KV	-	-	Mini SCSI 68pin	64x120 mm
4-port RS-232/422/485 PCI Card							
	IPC-P3104	SUN1999	±15KV	-	-	DB44 Female	64x120 mm

1

Serial Communication

1.3

RS-232 over Ethernet

1.3.1

RS-232 to Ethernet Device Server

SL-0200D



Features

- Expands 2/1 RS-232 serial port on system via Ethernet connection.
- SUNIX SUN8989 SOC design for high efficiency and reliability.
- Serial port provides transmission rate up to 115.2Kbps.
- Built-in ±2KV ESD protection for all serial signals.
- Easy setup and configuration with user-friendly Windows SLAN Utility.
- Ideal networking current serial devices with existing software or API.
- Supports TCP Server, TCP Client, UDP and Real COM mode.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

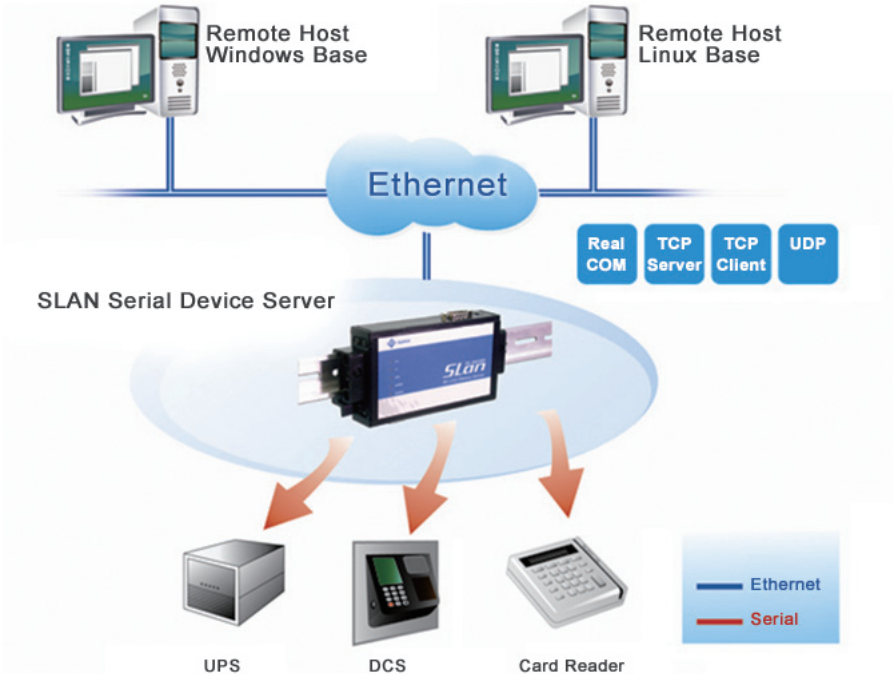
Specifications

Serial Communication	
Interface	RS-232
Controller	SUNIX SUN8989
No. of Port	2/1-port
FIFO	128byte Hardware
IRQ & IO	Assigned by System
ESD Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
Protection	±2KV ESD protection for each signal Human Body Model (HBM)
Connector	DB9 Male
Baud rate	50bps ~921.6Kbps
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	RTS/CTS (Hardware), XON/XOFF(Software)
LAN Communication	
Ethernet	10/100 Mbps, Auto-select 10BaseT or 100BaseTX
Board Connector	8-pin RJ45
Protection	2KV Magnetic Isolation
Software	
Mode	Real COM, TCP Server/Client, UDP
Configuration	SLAN Utility, Serial Console
Utility	SLAN Utility for Microsoft Windows O.S.
Real COM / TTY	Windows 98SE/ME/2000/XP/2003/Vista/7
	Windows 98SE/ME/2000/XP/2003/Vista/7
	Linux 2.4.X and Linux 2.6.X Kernels (Redhat8/9, Fedora Core 2.0, SUSE9.2)
Power	
Input	SL-S0200D / SL-S0100D : 12VDC External Power, DC Jack type
	SL-S0100P : 5VDC External Power, DC Jack type
Consumption	SL-S0200D / SL-S0100D : < 6.0W = 12Vx500mA
	SL-S0100P : < 1W = 5Vx200mA
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

1	Serial Communication
1.3	RS-232 over Ethernet
1.3.1	RS-232 to Ethernet Device Server

Products

	Model	No. of Port	Chip	RS-232 ESD Protection	LAN Protection	Case	Mounting	PCB Dimension
2/1-port RS-232/422/485 PCI Express Card								
	SL-S0200D	2	SUN8989	±2KV	±2KV	Metal	DIN Rail and Wall Mount	120x90x24 mm
	SL-S0100D	1	SUN8989	±2KV	±2KV	Metal	DIN Rail and Wall Mount	120x90x24 mm
	SL-S0100P	1	SUN8989	±2KV	±2KV	Hard Plastic (PC)	N.A.	51x33x15 mm



1	Serial Communication
1.4	Surge Protector
1.4.1	RS-232 Surge Protector

RSP1000



Features

- Prevent your RS-232 electrical equipment from power surges and spikes.
- Extremely sensitive avalanche-diode technology.
- Each RS-232 data signal line built-in 600 Watt Peak Surge protectors.
- Maximum peal pulse current up to 14 amps / per line.
- Maximum clamping voltage up to 42 voltages / per line.
- Response time is less than 1.0 ns.
- Absolute network reliability.
- Simple installation at the port.

1

Serial Communication

1.4

Surge Protector

1.4.1

RS-232 Surge Protector

Specifications

Serial Communication	
Model	RSP1000
Description	RS-232 Surge Protector
Interface	RS-232
Connector	DB9 Male and Female at each side
Surge Protection and Filtering	
Model	1ns
Description	14 amps / per line (Maximum)
Interface	42 voltages / per line (Maximum)
Connector	RS-232 Signal
	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND, RI
Mechanical	
Dimension	75 (W)x40 (D)x22 (H) mm
Ground Wire Cable Length	600mm / 2 ft
Material	ABS
Weight	85g
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Products

	Model	No. of Port	Connector	Cable Length	Material	PCB Dimension
RS-232 Surge Protector						
	RSP1000	1	DB9 Male & Female	600mm / 2 ft	ABS	75x40x22 mm

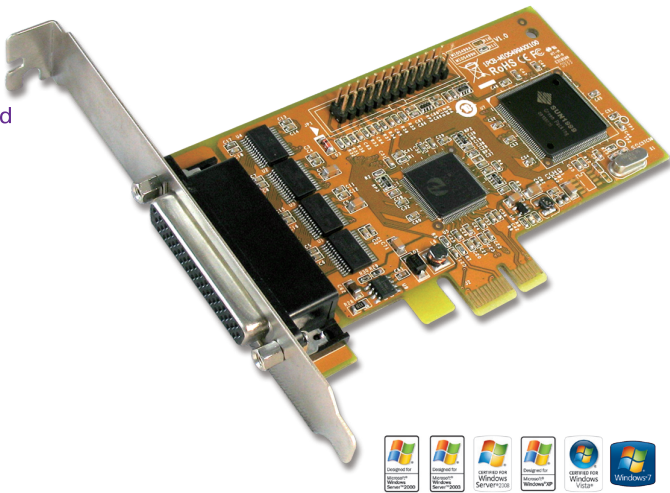


2 Multi I/O Communication

2.1 Multi I/O Add-On Card Series

2.1.1	Multi I/O / PCI Express Card	027
2.1.2	Multi I/O / Parallel PCI Card	030

MIO5499H



Features

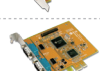
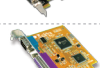
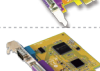
- High performance SUNIX 16C950 UART Multi-IO controller on-board.
- Expands both RS-232 COM and IEEE1284 LPT ports on system.
- Ultra low power consumption design for Green Environment.
- Designed to meet PCI Express Base Specifications Revision 1.1.
- Supports x1, x2, x4, x8, x16 (lane) PCI Express Bus connector keys.
- RS-232 COM port communication speed supports up to 115.2Kbps (921.6Kbps Optional*).
- On-chip hardware auto flow control to guarantee no data loss.
- Built-in ±15KV ESD protection for all serial signals.
- Parallel LPT port supports IEEE 1284-1994 parallel port standard
ECP(Enhance Capacity Port) / EPP(Enhance Parallel Port)
SPP(Standard Parallel Port) / BPP(Bi-direction Parallel Port)
- Auto-switching between ECP/EPP/SPP/BPP modes without configuration.
- L Version - Low profile bracket design idea for slim or portable PC.
- Plug-n-Play, I/O address and IRQ assigned by system.
- Certified by CE, FCC, RoHS, and Microsoft WQHL approval.
- Support Microsoft Windows, Linux, and DOS.

Specifications

Board Communication	
Interface	RS-232 & Parallel
BUS	PCI Express One lane (x1)
Controller	SUNIX SUN1999/ SUN1989 (16C950 UART Compatible)
IRQ & IO	Assigned by System
Serial Communication	
Interface	RS-232
No. of Port	1, 2, or 4-port (Depend on product user bought)
FIFO	128 byte Hardware
Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
Baud rate	50bps ~115.2Kbps (921.6Kpbs Optional*)
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	None, Xon/Xoff, RTS/CTS
Protection	±15KV ESD protection for each signal Human Body Model (HBM)
Connector	DB9 Male
Parallel Communication	
Interface	IEEE-1284
Mode	SPP/ECP/EPP/BPP (Auto-switching)
Data Speed	Maximum 1.8 MB/s
FIFO	16 byte Hardware
Number of Port	1 or 2-port
Connector	DB25 Female
Driver Support	
Microsoft Client	Windows XP / Vista / 7 (X86/X64)
Microsoft Server	Windows 2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	Windows XP Embedded / POS Ready 2009 / Embedded System
Linux	Linux 2.4.x / 2.6.x
DOS	DOS
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Software	Microsoft WHQL Windows
	Microsoft Client : XP / Vista / 7 (X86/X64)
	Microsoft Server : 2000 / 2003 / 2008 (X86/X64)
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

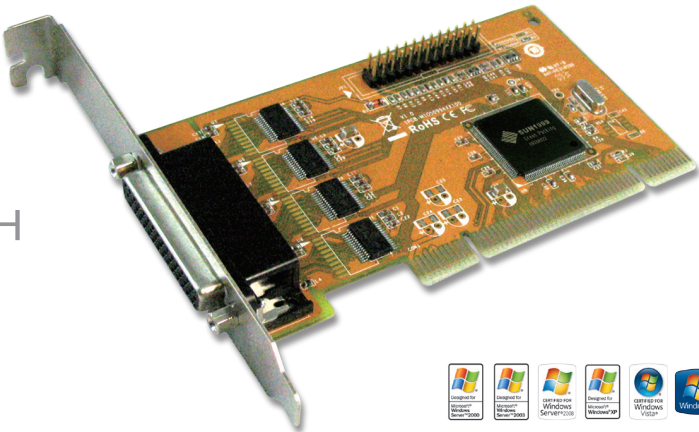
2	Multi I/O Communication
2.1	Multi I/O Add-On Card Series
2.1.1	Multi I/O / Parallel PCI Express Card

Products

	Model	Port COM	LPT	Chip	Serial Baud Rate	Connector COM	LPT	Bracket	PCB Dimension
Multi I/O (RS-232 & Parallel) PCI Express Card									
	MIO5499H	4	1	SUN1999	921.6Kbps	DB44 Female	13x2 Pin Header	Standard	116x98 mm
	MIO5499HL	4	1	SUN1999	921.6Kbps	DB44 Female	13x2 Pin Header	Low profile	116x98 mm
	MIO5499A	4	1	SUN1999	115.2Kbps	DB44 Female	13x2 Pin Header	Standard	116x98 mm
	MIO5499AL	4	1	SUN1999	115.2Kbps	DB44 Female	13x2 Pin Header	Low profile	116x98 mm
	MIO5479H	2	1	SUN1989	921.6Kbps	DB9 Male	13x2 Pin Header	Standard	106x96 mm
	MIO5479HL	2	1	SUN1989	921.6Kbps	DB44 Female		Low profile	112x68 mm
	MIO5479A	2	1	SUN1989	115.2Kbps	DB9 Male	13x2 Pin Header	Standard	106x96 mm
	MIO5479AL	2	1	SUN1989	115.2Kbps	DB44 Female		Low profile	112x68 mm
	MIO5469H	1	1	SUN1989	921.6Kbps	DB9 Male	DB25 Female	Standard	78x99 mm
	MIO5469A	1	1	SUN1989	115.2Kbps	DB9 Male	DB25 Female	Standard	78x99 mm
Parallel PCI Express Card									
	Model	Port	Chip	Connector	Bracket	PCB Dimension			
	PAR4418A	2	SUN1888	DB25 Female & 13x2 Pin Header	Standard	82x69 mm			
	PAR4418AL	2	SUN1888	DB25 Female & 13x2 Pin Header	Low profile	82x69 mm			
	PAR5408A	1	SUN1989	DB25 Female	Standard	94x68 mm			
	PAR5408AL	1	SUN1989	DB25 Female	Low profile	94x68 mm			

2	Multi I/O Communication
2.1	Multi I/O Add-On Card Series
2.1.2	Multi I/O / Parallel PCI Card

MIO5099H



Features

- High performance SUNIX 16C950 UART Multi-IO controller on-board.
- Expands both RS-232 COM and IEEE1284 LPT ports on system.
- Ultra low power consumption design for Green Environment.
- Compliance with PCI 33MHz Version 3.0/2.3/2.2./2.1 Specifications.
- Supports both 64-bit PCI-X & 32-bit PCI bus slot.
- RS-232 COM port communication speed supports up to 115.2Kbps (921.6Kbps Optional*).
- On-chip hardware auto flow control to guarantee no data loss.
- Built-in ± 2KV ESD protection for all serial signals. (± 15KV ESD Optional)
- Parallel LPT port supports IEEE 1284-1994 parallel port standard
ECP(Enhance Capacity Port) / EPP(Enhance Parallel Port)
SPP(Standard Parallel Port) / BPP(Bi-direction Parallel Port)
- Auto-switching between ECP/EPP/SPP/BPP modes without configuration.
- L Version - Low profile bracket design idea for slim or portable PC.
- Plug-n-Play, I/O address and IRQ assigned by system.
- Certified by CE, FCC, RoHS, and Microsoft WQHL approval.
- Support Microsoft Windows, Linux, and DOS.

- NOTE :
- SUNIX High Speed RS-232 Card (H Version) supports ±15KV ESD protection for each signal and 921.6Kpbs baud rate setting. Please refer to Product Family for detail.
 - LPT port does NOT support legacy 278 / 378 ISA address under Windows nor Linux operation systems, but only DOS mode.
 - Do not support LPT Key Locker Parallel devices, because of legacy ISA address limitation.

2	Multi I/O Communication
2.1	Multi I/O Add-On Card Series
2.1.2	Multi I/O / Parallel PCI Card

Specifications

Board Communication	
Interface	RS-232 & Parallel
BUS	Universal PCI 64/32bit PCI Spec.Ver3.0/2.3/2.2/2.1
Controller	SUNIX SUN1999/ SUN1989 (16C950 UART Compatible)
IRQ & IO	Assigned by System
Serial Communication	
Interface	RS-232
No. of Port	1, 2, or 4-port
FIFO	128 byte Hardware
Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
Baud rate	50bps ~115.2Kbps (921.6Kpbs Optional*)
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	None, Xon/Xoff, RTS/CTS
Protection	±2KV ESD protection for each signal Human Body Model (HBM)(±15KV ESD Optional*)
Connector	DB9 Male
Parallel Communication	
Interface	IEEE-1284
Mode	SPP/ECP/EPP/BPP (Auto-switching)
Data Speed	Maximum 1.8 MB/s
FIFO	16 byte Hardware
Number of Port	1 or 2-port
Board Connector	DB25 Female
Driver Support	
Microsoft Client	Windows XP / Vista / 7 (X86/X64)
Microsoft Server	Windows 2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	Windows XP Embedded / POS Ready 2009 / Embedded System
Linux	Linux 2.4.x / 2.6.x
DOS	DOS
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Software	Microsoft WHQL Windows
	Microsoft Client : XP / Vista / 7 (X86/X64)
	Microsoft Server : 2000 / 2003 / 2008 (X86/X64)
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Products

	Model	Port COM	LPT	Chip	Serial Baud Rate	Connector COM	LPT	Bracket	PCB Dimension
Multi I/O (RS-232 & Parallel) PCI Card									
	MIO5099H	4	1	SUN1999	921.6Kbps	DB44 Female	13x2 Pin Header	Standard	120x68 mm
	MIO5099A	4	1	SUN1999	115.2Kbps	DB44 Female	13x2 Pin Header	Standard	120x68 mm
	MIO4096AM	4	2	Matrix UL7522EQ	115.2Kbps	DB44 Female	13x2 Pin Header	Standard	140x61 mm
	MIO4089AM	2	2	Matrix UL7522EQ	115.2Kbps	DB9 Male & 5x2 Pin Header	DB25 Female & 13x2 Pin Header	Standard	120x100 mm
	MIO5079H	2	1	SUN1989	921.6Kbps	DB9 Male	13x2 Pin Header	Standard	120x82 mm
	MIO5079HL	2	1	SUN1989	921.6Kbps	DB44 Female		Low Profile	120x 63 mm
	MIO5079A	2	1	SUN1989	115.2Kbps	DB9 Male	13x2 Pin Header	Standard	120x82 mm
	MIO5079AL	2	1	SUN1989	115.2Kbps	DB44 Female		Low Profile	120x63 mm
	MIO5069H	1	1	SUN1989	921.6Kbps	DB9 Male	DB25 Female	Standard	120x100 mm
	MIO5069A	1	1	SUN1989	115.2Kbps	DB9 Male	DB25 Female	Standard	120x100 mm
Multi I/O (RS-232 & Parallel) Embedded Type PCI Card									
	MIO5079UH	2	1	SUN1989	921.6Kbps	5x2 Pin Header	13x2 Pin Header	Standard	120x65 mm
	MIO5079U	2	1	SUN1989	115.2Kbps	5x2 Pin Header	13x2 Pin Header	Standard	120x65 mm
	MIO5079UL	2	1	SUN1989	115.2Kbps	5x2 Pin Header	13x2 Pin Header	Low Profile	120x65 mm
	MIO5069UH	1	1	SUN1989	921.6Kbps	5x2 Pin Header	13x2 Pin Header	Standard	120x65 mm
	MIO5069U	1	1	SUN1989	115.2Kbps	5x2 Pin Header	13x2 Pin Header	Standard	120x65 mm
	MIO5069UL	1	1	SUN1989	115.2Kbps	5x2 Pin Header	13x2 Pin Header	Low Profile	120x65 mm

- 2Multi I/O Communication
- 2.1Multi I/O Add-On Card Series
- 2.1.2Multi I/O / Parallel PCI Card

Products

	Model	Port	Chip	Connector	Bracket	PCB Dimension
Parallel PCI Card						
	PAR4018A	2	SUN1888	DB25 Female & 13x2 Pin Header	Standard	120x64 mm
	PAR4018AL	2	SUN1888	DB44 Female	Low profile	120x64 mm
	PAR5008A	1	SUN1989	DB25 Female	Standard	82x69 mm
	PAR5008AL	1	SUN1989	DB25 Female	Low profile	82x69 mm
Parallel PCI Card (Remap Function)						
	PAR5008D	1	Matrix UL7512EQ	DB25 Female	Standard	94x68 mm
	PAR5008DL	1	Matrix UL7512EQ	DB25 Female	Low profile	94x68 mm

3

USB Extension

- 3.1USB Extension Series
- 3.1.1COMHub - USB to RS-232 / Parallel / Multi I/O Adapter

UTS4009H



Features

- Expands 4/2/1 RS-232 or 1 Parallel ports on system via USB2.0 connection.
- High Speed 480Mbps USB communication and backward compatible with USB1.1 interface.
- No IRQ, DMA, I/O address resource required.
- Supports Universal Serial Bus Plug-n-Play and Hot-Swapping feature.
- Each serial port supports transmission rate up to 115.2Kbps (921.6Kbps Optional).
- Built-in ±15KV ESD protection for all serial signals meets IEC1000-4-2 standard.
- Plug-n-Play, I/O address and IRQ assigned by system.
- Supports Microsoft Windows and Linux operation system.
- Certificated by CE, FCC, RoHS, and Microsoft WHQL approval.

Special Features only for UTS4009H

- External LED indicates system status and data transmission.
- Each serial port supports transmission rate up to 921.6Kbps.
- Rugged and slim form factor aluminum chassis design meets IP30 standard.
- Supports USB panel mount design to assure USB connections extremely safety and professional.
- Extends operation temperature environment up to +70 °C (158 °F).
- Optional accessory for easy DIN-Rail and Wall-Mounting ability.

Specifications

Serial Communication	
Interface	RS-232
Controller	Please refer to Product Family for Detail
Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND.
BUS	Universal Serial Bus (USB) 2.0 / 1.1
No. of Port	1/2/4-port
IRQ & IO	Assigned by System
FIFO	16byte Hardware
Protection	±15KV ESD protection for each signal Human Body Model (HBM)
Baud rate	50bps ~115.2Kbps (921.6Kpbs Optional)
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	RTS/CTS(Hardware), XON/XOFF(Software)
Connector	DB9
Parallel Communication	
Interface	Parallel
Mode	SPP Mode (Support Printer only)
Cable connectors	DB25 Female
Protection	±2KV ESD protection for each signal Human Body Model (HBM)
Power	
Input	USB Bus-power
Consumption	UTS4009HP : < 1W = 5Vx200mA
	UTS4009P4 : < 0.7W = 5Vx130mA
	UTS2009B : < 1.0W = 5Vx200mA
	UTS1009B / UTS1009D : < 0.8W = 5Vx150mA
	UTM1925B / UTP1025B : < 1W = 5Vx200mA
Driver Support	
Microsoft Client	98 / ME / XP / Vista / 7 (X86/X64)
Microsoft Server	2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	CE 5.0
Linux	Linux 2.4.x / 2.6.x
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Environment	
Operation Temperature	0 to 60°C (32 to 140°F) UTS4009HP : 0 to 70°C (32 to 158°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Products

	Model	Port	Chip	Max. Speed	ESD Protection	Connector	Case	Dimension	
USB to RS-232 Adapter									
	UTS4009H	4	Moschip MOS7840	921.6Kbps	±15KV	DB9 male	Aluminum and Polycarbonate (PC)	200x72.4x30 mm	
	UTS4009P4	4	Profilic 2303Hx	115.2Kbps	±15KV	DB9 male	ABS	180x70x26 mm	
	UTS2009B	2	Moschip MOS7720	115.2Kbps	±15KV	DB9 male	ABS	150 mm	
	UTS1009B	1	Profilic 2303Hx	115.2Kbps	±15KV	DB9 male	ABS	150 mm	
	UTS1009D	1	Profilic 2303Hx	115.2Kbps	±15KV	DB9 male	ABS Molding Cable	150 mm	
USB to Multi I/O (RS-232 & Parallel) Adapter									
	Model	Port COM	LPT	Chip	Serial Baud Rate	Connector COM	LPT	Case	Cable Length
	UTM1925B	1	1	Moschip MCS7715	115.2Kbps	DB9 Male	DB25 Female	ABS	150 mm
USB to Parallel Adapter									
	Model	Port	Chip	Connector	Case	Cable Length			
	UTP1025B	1	Prolific 2305	DB25 Female	ABS	150 mm			

4 Portable Serial Communication

4.1 Serial/Parallel ExpressCard & CardBus

4.1.1	Serial/Parallel ExpressCard / CardBus	039
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Features

- Expands 4/2/1 RS-232 or 2/1 parallel port.
- Supports ExpressCard or CardBus bus type.
- High speed SUN1999/SUN1989 16C950 compatible UART controller on-board.
- Data transmission speeds up to 921.6Kbps.
- On-chip hardware auto flow control to guarantee no data loss.
- Data transmission speeds up to 921.6Kbps.
- Built-in ± 15KV ESD protection for all serial signals.
- Hot-swapping feature allows you to connect/disconnect devices without powering down the system.
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- Ultra low power consumption design for Green Environment.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

Specifications

Serial Communication	
Interface	RS-232
Controller	SUNIX SUN1999/SUN1989
BUS	ExpressCard : PCI Express one lane (x1)
	CardBus : PCMCIA Typell 32-bit CardBus
Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND.
Baud rate	50bps ~921.6Kbps
No. of Port	1/2/4-port
IRQ & IO	Assigned by System
FIFO	16byte Hardware
Protection	±15KV ESD protection for each signal Human Body Model (HBM)
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	RTS/CTS(Hardware), XON/XOFF(Software)
Connector	DB9
Parallel Communication	
Interface	Parallel IEEE1284
Mode	SPP/ECP/EPP/BPP(PS2)
Speed	Maximum 1.8Mbps
FIFO	16 byte (Hardware)
Cable connectors	DB25 Female
Driver Support	
Microsoft Client	Windows XP / Vista / 7 (X86/X64)
Microsoft Server	Windows 2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	Windows XP Embedded / POS Ready 2009 / Embedded System
Linux	Linux 2.4.x / 2.6.x
DOS	DOS
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Software	Microsoft WHQL Windows
	Microsoft Client : XP / Vista / 7 (X86/X64)
	Microsoft Server : 2000 / 2003 / 2008 (X86/X64)
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

4

Portable Serial Communication

4.1

Serial / Parallel ExpressCard & CardBus

4.1.1

Serial / Parallel ExpressCard / CardBus

Products

	Model	Port		Chip	Max. Speed	ESD Protection	Connector	Size	Dimension
RS-232 ExpressCard									
	ECS4000	4		SUNIX1999	921.6Kbps	±15KV	DB44 Female	34mm	Iron Case : 80x34x5 mm Plastic Case : 39x64x20 mm
	ECS1000	1		SUNIX1989	921.6Kbps	±15KV	DB9 Male	34mm	
Multi I/O (Serial & Parallel) ExpressCard									
	Model	Port COM	LPT	Chip	Max. Speed	Connector COM	LPT	Size	Dimension
	ECP0020	-	2	SUNIX UL7512EQ	1.8Mbps	-	DB25 Female	34mm	Iron Case : 80x34x5 mm Plastic Case : 39x64x20 mm
	ECP0010	-	1	SUNIX UL7512EQ	1.8Mbps	-	DB25 Female	34mm	
RS-232 CardBus									
	Model	Port		Chip	Max. Speed	ESD Protection	Connector	Size	Dimension
	CBS4009	4		SUNIX UL7512EQ	230.4Kbps	±15KV	DB44 Female	54mm	132x58x21 mm
	CBS2009	2		SUNIX UL7512EQ	230.4Kbps	±15KV	DB44 Female	54mm	
	CBS1009	1		SUNIX UL7512EQ	230.4Kbps	±15KV	DB9 Male	54mm	
Multi I/O (Serial & Parallel) CardBus									
	Model	Port COM	LPT	Chip	Serial Baud Rate	Connector COM	LPT	Size	Dimension
	CBM2925	2	1	SUNIX UL7512EQ	230.4Kbps	DB9 Male	DB25 Female	54mm	132x58x21 mm
	CBM1925	1	1	SUNIX UL7512EQ	230.4Kbps	DB9 Male	DB25 Female	54mm	
	CBP0020M	-	2	SUNIX UL7512EQ	-	-	DB25 Female	54mm	
	CBP0010M	-	1	SUNIX UL7512EQ	-	-	DB25 Female	54mm	

5

I/O Control

5.1

Cash Drawer Control Series

5.1.1

Cash Drawer PCI Card

043

5.2

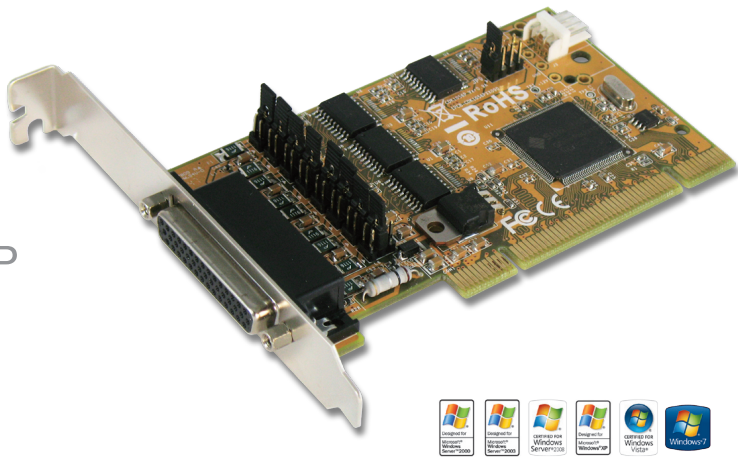
Digital I/O Control

5.2.1

Digital I/O PCI Card

046

CDK1056P



Features

- Expands 4/2 independent RS-232 serial ports with communication speeds up to 115.2Kbps.
- Expands single 6-pin RJ11/12 Type Cash Drawer interface to drive +12 / 24 VDC Cash Drawer.
- High speed 16C950 compatible UART controller on-board.
- Compliance with PCI 33MHz Ver. 3.0/2.3/2.2./2.1 Specifications.
- Supports both 64-bit & 32-bit PCI bus slot and 3.3V & 5V power.
- Provides RS-232 serial ports with +5 or +12 VDC power output via COM 1st or 9th pin.(Optional)
- Expands single +12VDC Power Jack to connect POS peripheral, such as touch display. (Optional)
- On-chip hardware auto flow control to guarantee no data loss.
- Built-in ± 2KV ESD protection for all serial signals.
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- SUNIX Windows based APIs for user easily implement Cash Drawer operation.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

Specifications

Serial Communication	
Interface	RS-232
Controller	SUNIX SUN1999/ SUN1989 (16C950 UART Compatible)
BUS	Universal PCI 64/32bit 3.3V/5V PCI Ver 3.0, 2.3, 2.2, 2.1
No. of Port	4/2-port
IRQ & IO	Assigned by System
FIFO	128byte Hardware
Protection	±2KV ESD protection for each signal Human Body Model (HBM)
Signal	TxD, RxD, RTS, CTS, DTR, DSR, GND, DCD, RI P Verion : TxD, RxD, RTS, CTS, DTR, DSR, GND, 5V/12V/ DCD, +5V/12V/RI
Baud rate	50bps ~115.2Kbps
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	None, Xon/Xoff, RTS/CTS
PCB Connector	DB9 Male
Cash Drawer Communication	
Interface	RJ11/12 (6-pin) EPSON Printer Compatible
Output	+12VDC
Power Output (Optional)	
DC Power Jack Output	DC Jack +12VDC / 3A (depends on system power supply ability)
COM port Output	+5 or 12VDC / 1A (depends on system power supply ability)
Driver Support	
Microsoft Client	XP/Vista/7(X86/X64)
Microsoft Server	2000/2003/2008(X86/X64)
Microsoft Embedded	XP Embedded / POS Ready 2009/ Embedded System 2009
Linux	Linux 2.4.x/2.6.x
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, BSMI : CNS13438, C-Tick : CISPR22 AS/NZS, RoHS
Software	Microsoft WHQL Windows Microsoft Client : XP/Vista/7 (X86/X64) Microsoft Server : 2000/2003/2008 (X86/X64)
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

5	I/O Control
5.1	Cash Drawer Control Series
5.1.1	Cash Drawer PCI Card

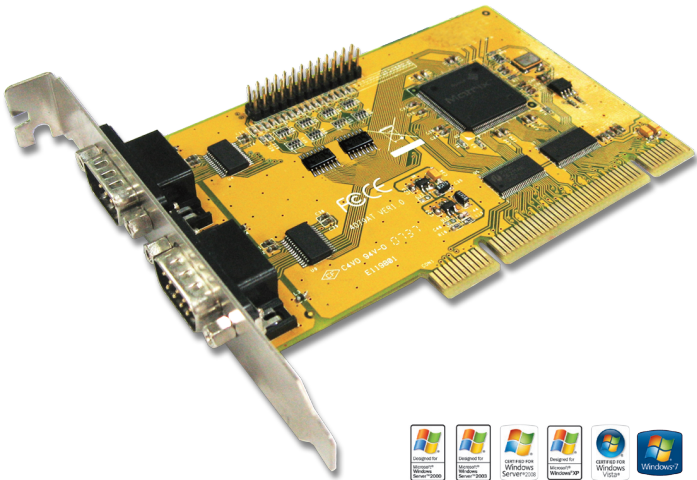
Products

	Model	Chip	COM Power Output	Serial Baud Rate	Connector RS-232	Cash Drawer	DC Jack	Bracket	PCB Dimension
RS-232 Universal PCI Card									
	CDK1056P	SUN1999	5V/12V	115.2Kbps	DB9 Male	RJ11/12 (6-pin)	+12VDC	Standard	120x69 mm
	CDK1037N	SUN1989	5V/12V	115.2Kbps	DB9 Male	RJ11/12 (6-pin)	+12VDC	Standard	120x91 mm
	CDK1037A	SUN1989	-	115.2Kbps	DB9 Male	RJ11/12 (6-pin)	-	Standard	120x91 mm



5	I/O Control
5.2	Digital I/O Control
5.2.1	Digital I/O PCI Card

DIO3200A



Features

- Compliance with PCI 33MHz Ver. 3.0/2.3/2.2./2.1 Specifications.
- Supports both 64-bit & 32-bit PCI bus slot and 3.3V & 5V power.
- Expands 32/16/8 channel TTL digital I/O lines with changing of State (COS) detection and interrupt capabilities.
- Flexible design for user programming data inputs or outputs for each channel.
- Supports +12 & 5VDC power output with over current protection.
- Expands two independent RS-232 serial ports with communication speeds up to 115.2Kbps.
- High speed 16C950 compatible UART controller, SUNIX Matrix on-board.
- On-chip hardware auto flow control to guarantee no data loss.
- Built-in ± 2KV ESD protection for all serial signals.
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- SUNIX Windows based APIs for user easily implement digital I/O operation.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

5

I/O Control

5.2

Digital I/O Control

5.2.1

Digital I/O PCI Card

Specifications

Serial Communication	
Interface	RS-232
Controller	SUNIX Matrix (16C950 UART Compatible)
BUS	Universal PCI 64/32bit 3.3V/5V PCI Ver 3.0, 2.3, 2.2, 2.1
No. of Port	2-port
IRQ & IO	Assigned by System
FIFO	128byte Hardware
Protection	±2KV ESD protection for each signal Human Body Model (HBM)
Signal	TxD, RxD, RTS, CTS, DTR, DSR, GND, DCD, RI
Baud rate	50bps ~115.2Kbps
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	None, Xon/Xoff, RTS/CTS
PCB Connector	DB9 Male
Digital I/O Communication	
Interface	TTL digital I/O lines
Channel	8/16/32
Digital Inputs	Logic High : 5~2V(min); 20uA(Max)
	Logic Low : 0~0.8V(Max); 0.4mA(Max)
Digital Outputs	Logic High : 2.4V(min); 2.6mA(Max), 3.4V (typical)
	Logic Low : 0.5V(Max); 24mA(Max), 0.35V (typical, full load)
VCC Output	+12VDC (500mA) & +5VDC (500mA)
Protection	0.75A Resettable Fuse for each power output
Bus	Universal PCI 64/32bit 3.3V/5V PCI Ver 3.0, 2.3, 2.2, 2.1
VCCIO	+5V (TTL)
Driver Support	
Microsoft Client	XP/Vista/7(X86/X64)
Microsoft Server	2000/2003/2008(X86/X64)
Microsoft Embedded	XP Embedded / POS Ready 2009/ Embedded System 2009
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, BSMI : CNS13438, C-Tick : CISPR22 AS/NZS, RoHS
Software	Microsoft WHQL Windows
	Microsoft Client : XP/Vista/7 (X86/X64)
	Microsoft Server : 2000/2003/2008 (X86/X64)
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Products

	Model	Chip	Interface Digital I/O(TTL Level)Channel	RS-232 Port	VCC Output	Bracket	PCB Dimension
Digital I/O Universal PCI Card							
	DIO3200A	Matrix	32	2	+5VDC & 12VDV	Standard	120x91 mm
	DIO1602A	Matrix	16	2	+5VDC & 12VDV	Standard	120x91 mm
	DIO0802A	Matrix	8	2	+5VDC & 12VDV	Standard	120x91 mm



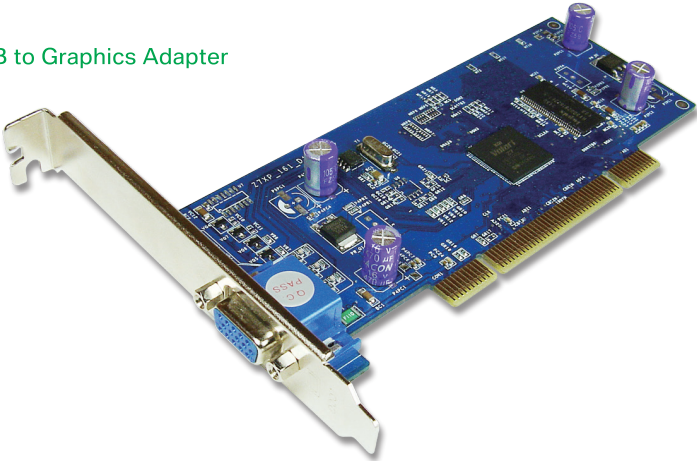
6

Graphics Solution

6.1 Graphics Add-On Card & USB Extension Series

6.1.1 Graphics Add-On Card / USB to Graphics Adapter

VGA0011



Features

Graphics Add-On Card Features

- Supports PCI Express or PCI Card type.
- Ultra-Low power consumption 2W makes heat sink free.
- Low profile bracket design idea for slim or portable PC.
- Max 2D resolution 32-bit 1280x1024@60Hz and 16-bit 1600x1200@75Hz
- Certified by CE, FCC, and RoHS approval.
- Supports a variety operation system, including Windows, Windows Embedded, Linux, DOS, FreeBSD, Solaris and Netware.

USB to Graphics Adapter Features

- Add-on monitor, LCD or projector through USB3.0 Super-Speed connectivity.
- Supports widescreen aspect ratio of 16 : 9 Full HD 1080P video streaming.
- High performance USB Graphics Engine supports resolutions up to 2048x1152 @ 32bit.
- Low power consumption via USB Bus power supply (without Heat Sink).
- Supports desktop display mirror, extend mode, multi screen mode and screen rotation mode
- Up to four USB3.0 graphic adapters to work simultaneously.
- Automatic recognition of monitor type, resolution, and features.
- Hot-swapping / Plug-n-Play of monitors without reconfiguration.
- Movement of windows on the desktop is smooth, with no trail or shuddering.
- Compatible with Windows power management hibernate and suspend modes.
- Specialized for office using, home entertainment, and video playing.
- Supports Microsoft Windows operation system.
- Certified by CE, FCC, and RoHS approval.

Specifications

Graphics Add-On Card		
Interface	VGA0411 / VGA0011 : VGA(D-sub)	
	VGA0421 : DVI	
Chip	XGI Volari™	
Bus	PCI Express : PCI Express one lane (x1)	
	PCI : Universal PCI 64/32bit 3.3V/5V PCI Ver 3.0, 2.3, 2.2, 2.1	
Support Mode	Extend Mode, Multi Screen Mode	
Memory	16MB DDR RAM	
Power Consumption	2W	
Driver Support	Microsoft Client	XP/Vista/7(X86/X64)
	Microsoft Server	2000/2003/2008(X86/X64)
	Microsoft Embedded	4.2/5.0
	Linux	RHEL / Fedora / Suse / RedFlag / Turbo Linux Server / Debian / Miracle
	Others	FreeBSD / Solaris / NetWare / DOS
USB to Graphics Adapter		
Interface	VGA2718 : VGA	
	VGA2728 : DVI	
	VGA2788 : HDMI	
	VGA2798 : DisplayPort	
Chip	Evolution ET12U320	
Bus	USB3.0 (Back compatible with USB2.0)	
Support Mode	Extend mode, Mirror mode, Multi Screen mode, Screen Rotation mode	
Memory	16 MBx16 DDR Synchronous DRAM (SDRAM)	
Power Consumption	+ 5VDC / 400mA over USB bus power	
USB Cable	USB3.0 A -Type Male to USB3.0 Micro B-Type Male	
Resolutions	640x480, 800x600, 1024x768, 1152x864, 1280x720, 1280x768, 1280x800, 1280x960, 1280x1024, 1360x768,	
	1400x1050, 1440x900, 1600x1200, 1680x1050, 1920x1080, 1920x1200, 2048x1152	
Driver Support	Windows 2000/XP/Vista/7 (X86/X64)	
Regulatory Approvals		
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, BSMI : CNS13438,	
	C-Tick : CISPR22 AS/NZS, RoHS	
Environment		
Operation Temperature	0 to 60°C (32 to 140°F)	
Operation Humidity	5 to 95% RH	
Storage Temperature	-20 to 85°C (-4 to 185°F)	

6

Graphics Solution

6.1

Graphics Add-On Card & USB Extension Series

6.1.1

Graphics Add-On Card / USB to Graphics Adapter

Products

	Model	Chip	BUS	Interface	Bracket	PCB Dimension
Graphics Add-On Card						
	VGA0411	XGI Volari™Z11	PCI Express	VGA(D-sub)	Standard	150x64 mm
	VGA0421	XGI Volari™Z11	PCI Express	DVI	Standard	150x64 mm
	VGA0011	XGI Volari™Z7	PCI	VGA(D-sub)	Standard	150x64 mm
Graphics Adapter						
	Model	Chip	BUS	Interface	Case Material	Dimension
	VGA2718	Evolution ET12U320	USB3.0	VGA(D-sub)	ABS	56x87x22 mm
	VGA2728	Evolution ET12U320	USB3.0	DVI	ABS	56x87x22 mm
	VGA2788	Evolution ET12U320	USB3.0	HDMI	ABS	56x87x22 mm
	VGA2798	Evolution ET12U320	USB3.0	DisplayPort	ABS	56x87x22 mm

7

Powered I/O Communication

7.1

Powered Serial Series

7.1.1

Powered RS-232 PCI Express / PCI Card

055

7.1.2

USB to Powered RS-232 Hub

059

7.2

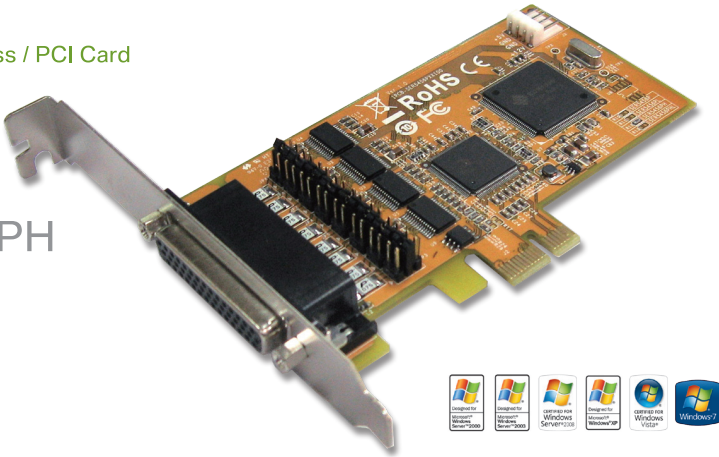
PoweredUSB Series

7.2.1

PoweredUSB PCI Card / Hub

062

SER5456PH



Features

- Expands Multi RS-232 serial ports on the system.
- High performance SUNIX 16C950 compatible UART controller on-board.
- Supports PCI Express and PCI bus type.
- On-chip hardware auto flow control to guarantee no data loss.
- Supports RS-232 serial COM ports with +5 or +12 VDC power output.
- Optional RS-232 signal or Power output to serial device.
- Data transmission speeds up to 115.2Kbps (921.6Kbps Optional).
- Built-in ± 2KV ESD protection for all serial signals. (± 15KV ESD Optional)
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- Ultra low power consumption design for Green Environment.
- L Version - Low profile bracket design idea for slim or portable PC.
- Certified by CE, FCC, RoHS, and Microsoft WHQL approval.
- Support Microsoft Windows, Linux, and DOS.

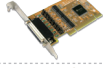
NOTE :

SUNIX High Speed RS-232 Card (H Version) supports ±15KV ESD protection for each signal and 921.6Kpbs baud rate setting.
Please refer to the Product Family for detail.

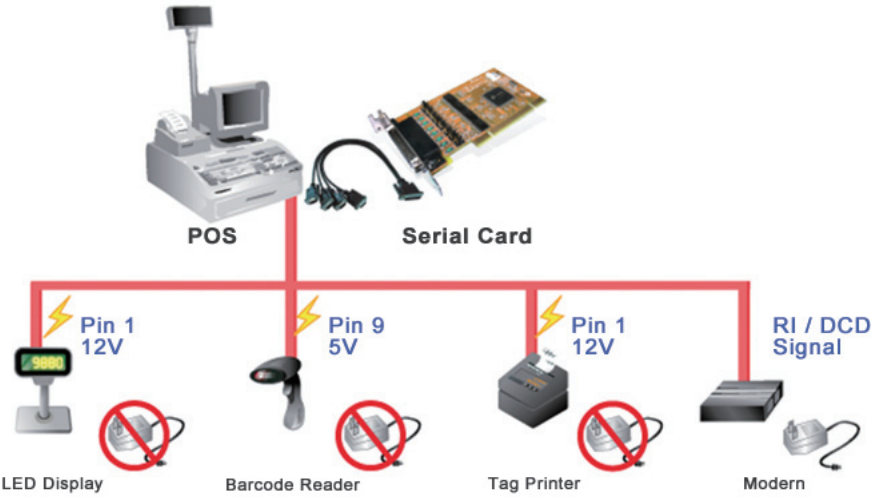
Specifications

Serial Communication	
Interface	RS-232
Controller	SUNIX SUN1999/SUN1989 (16C950 UART Compatible)
BUS	PCI Express : PCI Express one lane (x1)
	PCI : Universal PCI 64/32bit PCI Spec.Ver3.0/2.3/2.2/2.1
Signal	TxD, RxD, RTS, CTS, DTR, DSR, GND, 5V/12V/ DCD, 5V/12V/RI
Baud rate	50bps ~115.2Kbps (921.6Kpbs Optional)
No. of Port	1/2/4-port
IRQ & IO	Assigned by System
FIFO	128byte Hardware
Protection	±2KV ESD protection for each signal Human Body Model (HBM) (±15KV ESD Optional)
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	None, Xon/Xoff, RTS/CTS
Connector	DB9 / 25 Male
Parallel Communication (Only for MIO Series Card)	
Interface	IEEE-1284
Mode	SPP/ECP/EPP/BPP (Auto-switching)
Data Speed	Maximum 1.8 MB/s
FIFO	16 byte Hardware
Number of Port	1 or 2-port
Board Connector	DB25 Female
Driver Support	
Microsoft Client	XP / Vista / 7 (X86/X64)
Microsoft Server	2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	CE 4.2/5.0/6.0/XP Embedded / POS Ready 2009 / Embedded System 2009
Linux	Linux 2.4.x / 2.6.x
DOS	DOS
FreeBSD	FreeBSD 5.3~5.5 / 6.0~6.4
QNX	QNX 6.3.2 / 6.4.0
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Software	Microsoft WHQL Windows
	Microsoft Client : XP / Vista / 7 (X86/X64)
	Microsoft Server : 2000 / 2003 / 2008 (X86/X64)
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Products

	Model	Chip	Max. Speed	ESD Protection	Connector	Bracket	PCB Dimension
4-port RS-232 with Power Output PCI Express Card							
	SER5456PH	SUN1999	921.6Kbps	±15KV	DB44 Female	Standard	120x68 mm
	SER5456PHL	SUN1999	921.6Kbps	±15KV	DB44 Female	Low profile	120x68 mm
	SER5456P	SUN1999	115.2Kbps	±15KV	DB44 Female	Standard	120x68 mm
	SER5456PL	SUN1999	115.2Kbps	±15KV	DB44 Female	Low profile	120x68 mm
2-port RS-232 with Power Output PCI Express Card							
	SER5437PH	SUN1989	921.6Kbps	±15KV	DB9 Male	Standard	116x68 mm
	SER5437PHL	SUN1989	921.6Kbps	±15KV	DB44 Female	Low profile	86x68 mm
	SER5437P	SUN1989	115.2Kbps	±15KV	DB9 Male	Standard	116x68 mm
	SER5437PL	SUN1989	115.2Kbps	±15KV	DB44 Female	Low profile	86x68 mm
4-port RS-232 with Power Output PCI Card							
	SER5056PH	SUN1999	921.6Kbps	±15KV	DB44 Female	Standard	120x68 mm
	SER5056PHL	SUN1999	921.6Kbps	±15KV	DB44 Female	Low profile	120x68 mm
	SER5056P	SUN1999	115.2Kbps	±2KV	DB44 Female	Standard	120x68 mm
	SER5056PL	SUN1999	115.2Kbps	±2KV	DB44 Female	Low profile	12x68 mm
2-port RS-232 with Power Output PCI Card							
	SER5037PH	SUN1989	921.6Kbps	±15KV	DB9 Male	Standard	120x82 mm
	SER5037PHL	SUN1989	921.6Kbps	±15KV	DB44 Female	Low profile	120x63 mm
	SER5037P	SUN1989	115.2Kbps	±2KV	DB9 Male	Standard	120x82 mm
	SER5037PL	SUN1989	115.2Kbps	±2KV	DB44 Female	Low profile	120x63 mm

	Model	Chip	Max. Speed	ESD Protection	Connector	Bracket	PCB Dimension
1-port RS-232 with Power Output PCI Card							
	SER5027PH	SUN1989	921.6Kbps	±15KV	DB9 Male	Standard	120x51 mm
	SER5027PHL	SUN1989	921.6Kbps	±15KV	DB9 Male	Low profile	120x51 mm
	SER5027P	SUN1989	115.2Kbps	±2KV	DB9 Male	Standard	120x51 mm
	SER5027PL	SUN1989	115.2Kbps	±2KV	DB9 Male	Low profile	120x51 mm
1-port RS-232 with Power Output & 1-port Parallel PCI Card							
	MIO5069PH	SUN1989	921.6Kbps	±15KV	DB9 Male	Standard	120x110 mm
	MIO5069P	SUN1989	115.2Kbps	±2KV	DB9 Male	Standard	120x110 mm



UTS4009HP



Features

- Expands 4-port RS-232 on system via USB2.0 High-Speed connection.
- High Speed 480Mbps USB communication and backward compatible with USB1.1 interface.
- Each serial port supports transmission rate up to 921.6Kbps.
- Built-in ±15KV ESD protection for all serial signals meets IEC1000-4-2 standard.
- External LED indicates system status, data transmission and power output.
- Provides RS-232 serial port with optional +5 or +12VDC power output over 9th-pin.
- Each Powered COM port built-in short circuit and over current protection.
- Supports USB panel mount design to assure USB connections extremely safety and professional.
- Rugged and slim form factor aluminum chassis design meets IP30 standard.
- Optional accessory for easy DIN-Rail and Wall-Mounting ability.
- Plug-n-Play, I/O address and IRQ assigned by system.
- Extends operation temperature environment up to +70°C (158°F).
- Supports Microsoft Windows and Linux operation system.
- Certificated by CE, FCC, RoHS, and Microsoft WHQL approval.

Specifications

Serial Communication	
Interface	RS-232
Controller	Moschip MOS7840
Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND, +5V/12VDC
BUS	Universal Serial Bus (USB) 2.0 / 1.1
No. of Port	4-port
IRQ & IO	Assigned by System
FIFO	16byte Hardware
Protection	±15KV ESD protection for each signal Human Body Model (HBM)
RS-232 Connector	DB9
USB Connector	Mini Type B with Panel Mount Design
Baud rate	50bps ~921.6Kpbs
Stop bit	1, 1.5, 2
Parity	even, odd, none, mark, space
Flow Control	RTS/CTS(Hardware), XON/XOFF(Software)
Power	
Power for product working	USB Bus Power +5VDC / 0.5A / 2.5W
Power Output to device	External Power Adapter (Optional)
	+12VDC / 2A / 24W (DC Jack Adapter)
	+12VDC / 4A / 48W (Mini Din Adapter)
Power Consumption	+5VDC / 250mA @ (Non-Loading)
Driver Support	
Microsoft Client	98 / ME / XP / Vista / 7 (X86/X64)
Microsoft Server	2000 / 2003 / 2008 (X86/X64)
Microsoft Embedded	CE 5.0
Linux	Linux 2.4.x / 2.6.x
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)
Mechanical	
Dimension	200x72.4x30 mm
Enclosure	IP30 standard
Material	Aluminum and Polycarbonate (PC)
Mounting	DIN Rail and Wall Mount (Optional Accessory)

7

Serial Communication

7.1

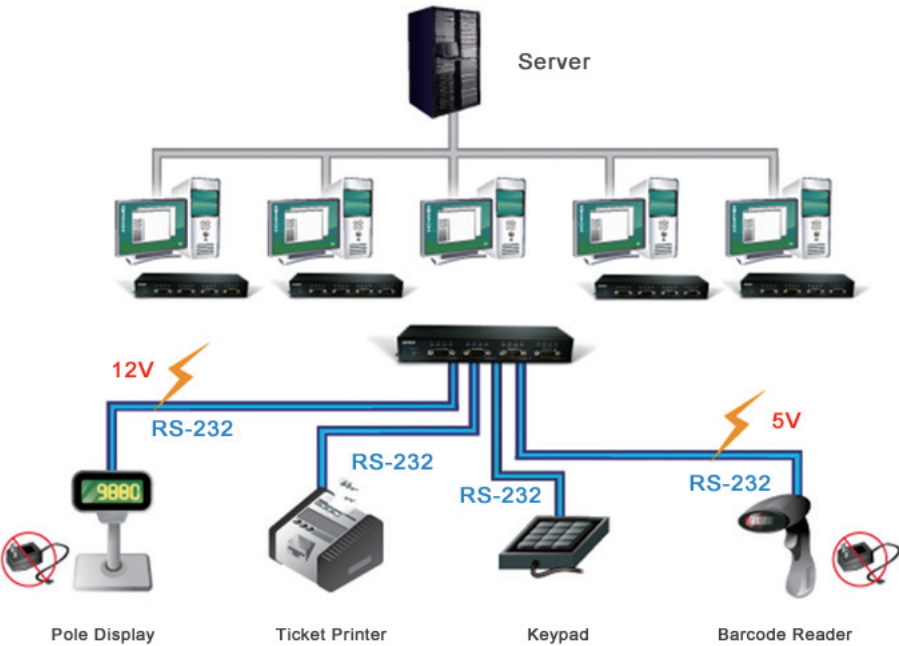
Powered Serial Series

7.1.2

USB to Powered RS-232 Hub

Products

	Model	Chip	Max. Speed	ESD Protection	Connector	Case	PCB Dimension
USB to RS-232 with Power Output Hub							
	UTS4009HP	Moschip MOS7840	921.6Kbps	±15KV	DB9 male	Aluminum and Polycarbonate (PC)	200x72.4 x30 mm



7

Powered I/O Communication

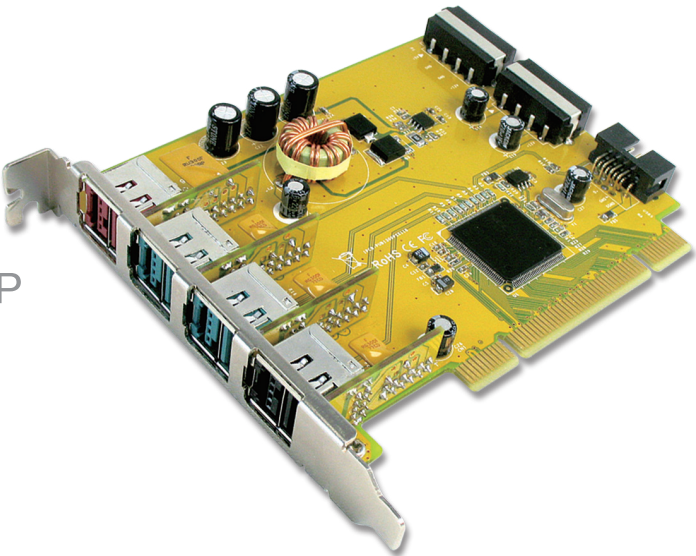
7.2

PoweredUSB Series

7.2.1

PoweredUSB PCI Card / Hub

PUB1200P



Features

- Card Features**

 - Compliance with PCI 33MHz Version 2.2 & 2.1 specification.
 - Compliant with the Universal Serial Bus (USB) Specification Revision 2.0
 - High performance NEC USB2.0 PCI host controller on board.
 - Powered USB port supports +24, +12, and +5VDC power output with maximum current up to 3A.
 - Each Powered USB ports built-in over current protection.
 - Plug-n-Play, I/O address and IRQ assigned by operating system.
 - Supports USB device Hot-Swapping and Plug-n-Play function.
 - Certified by RoHS CE, FCC ClassB approval.
 - Support Linux, Microsoft 9x, 2000, XP, 2003 Vista, Vista, 2008 and 7(X86/X64) operation system.
- Hub Features**

 - Compliance with Universal Serial Bus (USB) Specification Revision 2.0
 - High performance NEC USB2.0 Hub controller on board.
 - Add 4 external Powered USB ports on your PC.
 - Powered USB port supports +24VDC and +12VDC power output.
 - Each Powered USB ports built-in short circuit and over current protection.
 - External LED indicates system status and power output.
 - Support USB peripheral power control by stand-by and wakeup commands.
 - Built-in USB panel mount design to avoid USB cable easily comes off problem.
 - Rugged and slim form factor aluminum chassis design meets IP30 standard.
 - Optional accessory for easy DIN-Rail and Wall-Mounting ability.
 - Supports USB device Hot-Swapping and Plug-n-Play function.
 - Certified by RoHS CE, FCC Class B approval.
 - Support Linux, MAC, and Microsoft 9 x, 2000, XP, 2003 Vista, 2008 and 7(X86/X64) operation system.

7

Powered I/O Communication

7.2

PoweredUSB Series

7.2.1

PoweredUSB PCI Card / Hub

Specifications

USB Communication	
Interface	Universal Serial Bus 2.0
Controller	NEC UPD720102
BUS	PCI 33MHz Ver2.1/2.2
External Powered USB Port	+24VDC / Maximum 3A +12VDC / Maximum 3A +5VDC / Maximum 2A
Internal USB Port (Pin Header Type)	+5VDC / 1-port / Maximum 0.5A
IRQ & IO	Assigned by System
Speed	Data Transfer rate of 1.5, 12, and 480Mbps
Protection	3A PTC fuse for each USB port
Board Connector	Powered USB Connector
Power Input (Only for Hub Series)	
Power Consumption	150mA @ 5VDC (Non-Loading)
Power Input	+24VDC / 2A / 48W (Power Adapter) +12VDC / 4A / 48W (Power Adapter) +5VDC / 0.5A / 2.5W (USB Bus Power)
Driver Support	
Microsoft Client	95/98/ME/2000/XP/Vista/7 (X86/X64)
Microsoft Server	NT/2003/2008 (X86/X64)
Microsoft Embedded	CE5.0/XP Embedded
Linux	Linux 2.4.x / 2.6.x
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)
Mechanical (Only for Hub Series)	
Enclosure	IP30 standard
Material	Aluminum and Polycarbonate (PC)
Mounting	DIN Rail and Wall Mount (Optional Accessory)

Products

	Model	Chip	24V	12V	5V	Bracket	Dimension
Powered USB PCI Card							
	PUB0400P	NEC UPD720102	-	4	-	Standard	130x100 mm
	PUB1300P	NEC UPD720102	1	3	-	Standard	130x100 mm
	PUB1210P	NEC UPD720102	1	2	1	Standard	130x100 mm
	PUB0300PL	NEC UPD720102	-	3	-	Low Profile	130x67 mm
	PUB1200PL	NEC UPD720102	1	2	-	Low Profile	130x67 mm
	PUB1110PL	NEC UPD720102	1	1	1	Low Profile	130x67 mm
Powered USB Hub							
	Model	Chip	24V	12V	5V	Case	Dimension
	PUB1300H	NEC UPD720102	1	3	-	Aluminum and Polycarbonate (PC)	130x100 mm

8 Media Converter

8.1 Media Converter Series

8.1.1	Fiber Media Converter	067
8.1.2	Ethernet Media Converter	071
8.1.3	Serial Media Converter	074

8	Media Converter
8.1	Media Converter Series
8.1.1	Fiber Media Converter

FTS-6011-SSC



Features

- Industrial grade design for stability and reliability.
- Support RS-232, RS-422/485 and Fiber 3-way communication.(Optional)
- Extends serial transmission distance up to 80 KM with Single Mode SC Fiber.
- Embedded ESD surge protection built-in.
- Protect against electronic degradation and chemical corrosion.
- Supports baud rate up to921.6 Kbps with auto baud rate detection.
- 12V DC Jack & External power 12~48V DC terminal block with reverse polarity protection
- Detachable wall and din-rail mounting kit design.
- Plug-n-play & compact size designed.

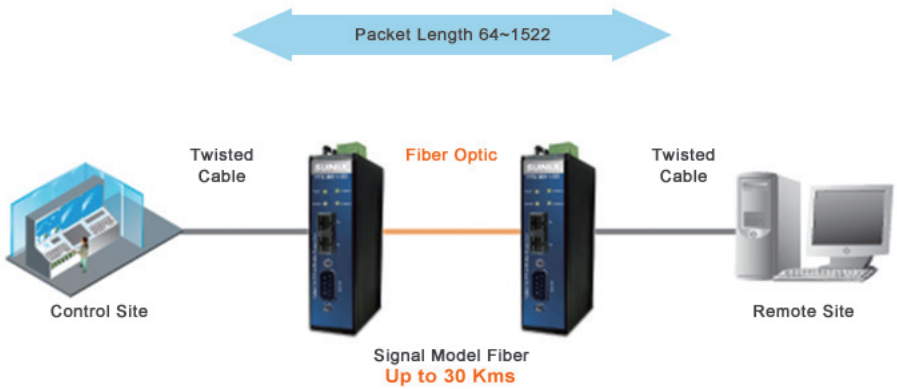
Specifications

Interface	
Serial Port	RS-232 / RS-422/485 / RS-232/422/485
Fiber Port	Standard Fiber SC / ST Type
Cable length	Multi-modes : 50 / 125 m : Standard 2 km
	Single-modes : 9 / 125 m : Standard 30 km
Communication	
Serial baud Rate	75 bps up to 921.6 Kbps
RS-232 signals	TxD, RxD, GND
Connector	DB9 Male
RS-422/485 signals	RS-422 : TxD+, TxD-, RxD+, RxD-, GND
	4 Wire RS-485 : TxD+, TxD-, RxD+, RxD-, GND
	2 Wire RS-485 : Data+, Data-, GND
Connector	5-pin Removable Terminal Block
Protection	Embedded ±15KV ESD protection
Power	
Redundancy	Dual Power Inputs
Connector	3-pin Removable Terminal Block + DC Jack
Consumption	1A @ 12VDC
Input	12~48 VDC (24 VDC)
Power Reverse	Present
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Environment	
Operation Temperature	0 to 70°C (32 to 158°F)
Operation Humidity	5 to 95% RH
Storage Temperature	Standard 0 ~ 60°C / Extend -40 ~ 80°C
Dimensions	
Casing	Present Aluminum (IP30)
Dimensions	30x68.5x105 mm (WxDxH)
Mounting Options	DIN Rail and Wall Mountable

Products

	Model	Serial Port	Fiber Port	Cable Length Multi-modes	Single-modes	Storage Temperature
Fiber Media Converter						
	FTS-6011-SSC	RS-232	SC type	-	9 / 125 μm	0 ~ 60°C
	FTS-6011-SST	RS-232	ST type	-	9 / 125 μm	0 ~ 60°C
	FTS-6011-MMC	RS-232	SC type	50 / 125 μm	-	0 ~ 60 °C
	FTS-6011-MMT	RS-232	ST type	50 / 125 μm	-	0 ~ 60°C
	FTS-6011-SSC-E	RS-232	SC type	-	9 / 125 μm	-40 ~ 80°C
	FTS-6011-SST-E	RS-232	ST type	-	9 / 125 μm	-40 ~ 80°C
	FTS-6011-MMC-E	RS-232	SC type	50 / 125 μm	-	-40 ~ 80°C
	FTS-6011-MMT-E	RS-232	ST type	50 / 125 μm	-	-40 ~ 80°C
	FTD-6011-SSC	RS-422/485	SC type	-	9 / 125 μm	0 ~ 60°C
	FTD-6011-SST	RS-422/485	ST type	-	9 / 125 μm	0 ~ 60°C
	FTD-6011-MMC	RS-422/485	SC type	50 / 125 μm	-	0 ~ 60 °C
	FTD-6011-MMT	RS-422/485	ST type	50 / 125 μm	-	0 ~ 60°C
	FTD-6011-SSC-E	RS-422/485	SC type		9 / 125 μm	-40 ~ 80°C
	FTD-6011-SST-E	RS-422/485	ST type		9 / 125 μm	-40 ~ 80°C
	FTD-6011-MMC-E	RS-422/485	SC type	50 / 125 μm	-	-40 ~ 80°C
	FTD-6011-MMT-E	RS-422/485	ST type	50 / 125 μm	-	-40 ~ 80°C
	FTC-6011-SSC	RS-232/422/485	SC type	-	9 / 125 μm	0 ~ 60°C

	Model	Serial Port	Fiber Port	Cable Length Multi-modes	Single-modes	Storage Temperature
Fiber Media Converter						
	FTC-6011-SST	RS-232/422/485	ST type	-	9 / 125 μm	0 ~ 60°C
	FTC-6011-MMC	RS-232/422/485	SC type	50 / 125 μm	-	0 ~ 60 °C
	FTC-6011-MMT	RS-232/422/485	ST type	50 / 125 μm	-	0 ~ 60°C
	FTC-6011-SSC-E	RS-232/422/485	SC type	-	9 / 125 μm	-40 ~ 80°C
	FTC-6011-SST-E	RS-232/422/485	ST type	-	9 / 125 μm	-40 ~ 80°C
	FTC-6011-MMC-E	RS-232/422/485	SC type	50 / 125 μm	-	-40 ~ 80°C
	FTC-6011-MMT-E	RS-232/422/485	ST type	50 / 125 μm	-	-40 ~ 80°C



FTL-1218



Features

- Industrial grade design for stability and reliability.
- Extends 10/100 LAN transmission distance up to 80 KM with Single Mode SC Fiber.
- Supports 10/100 Base-T(X) auto negotiation and auto MDI/MDI-X.
- Supports Link Fault Pass-through and far-end fault function.
- Built in a watchdog timer to monitor internal switch error.
- Relay output for power failure or port break alarm.
- Protect against electronic degradation and chemical corrosion.
- 12V DC Jack & External power 12~48V DC terminal block with reverse polarity protection.
- Detachable wall and DIN-rail mounting kit design.
- Plug-n-play & compact size designed.

Specifications

Interface	
Ethernet Port	Gigabit / 10/100 Base-(TX)
Ethernet Connector	RJ-45
Fiber Port	Standard Fiber SC / ST Type
Cable length	Multi-modes : 50 / 125 μm : Standard 2 km
	Single-modes : 9 / 125 μm : Standard 30 km
Power	
Redundancy	Dual Power Inputs
Connector	3-pin Removable Terminal Block + DC Jack
Consumption	1A @ 12VDC
Input	12~48 VDC (24 VDC)
Power Reverse	Present
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Environment	
Operation Temperature	Standard 0 ~ 60°C (-32 to 140°F) / Extend -40 ~ 80°C (-40 to 176°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-40 to 85°C (-40 to 185°F)
Dimensions	
Casing	Present Aluminum (IP30)
Dimensions	30x68.5x105 mm (WxDxH)
Mounting Options	DIN Rail and Wall Mountable

8	Media Converter
8.1	Media Converter Series
8.1.2	Ethernet Media Converter

Products

	Model	Serial Port	Fiber Port	Cable Length Multi-modes	Single-modes	Storage Temperature
Fiber Media Converter						
	FTL-1218H-SSC	10/100 Base-(TX)	SC type	-	9 / 125 μm	0 ~ 60°C
	FTL-1218H-SST	10/100 Base-(TX)	ST type	-	9 / 125 μm	0 ~ 60°C
	FTL-1218H-MMC	10/100 Base-(TX)	SC type	50 / 125 μm	-	0 ~ 60°C
	FTL-1218H-MMT	10/100 Base-(TX)	ST type	50 / 125 μm	-	0 ~ 60°C
	FTL-1218H-SSC-E	10/100 Base-(TX)	SC type	-	9 / 125 μm	-40 ~ 80°C
	FTL-1218H-SST-E	10/100 Base-(TX)	ST type	-	9 / 125 μm	-40 ~ 80°C
	FTL-1218H-MMC-E	10/100 Base-(TX)	SC type	50 / 125 μm	-	-40 ~ 80°C
	FTL-1218H-MMT-E	10/100 Base-(TX)	ST type	50 / 125 μm	-	-40 ~ 80°C
	FTL-1218H-GSC	Gigabit	SC type	-	9 / 125 μm	0 ~ 60°C
	FTL-1218H-GST	Gigabit	ST type	-	9 / 125 μm	0 ~ 60°C
	FTL-1218H-GMC	Gigabit	SC type	50 / 125 μm	-	0 ~ 60°C
	FTL-1218H-GMT	Gigabit	ST type	50 / 125 μm	-	0 ~ 60°C
	FTL-1218H-GSC-E	Gigabit	SC type	-	9 / 125 μm	-40 ~ 80°C
	FTL-1218H-GST-E	Gigabit	ST type	-	9 / 125 μm	-40 ~ 80°C
	FTL-1218H-GMC-E	Gigabit	SC type	50 / 125 μm	-	-40 ~ 80°C
	FTL-1218H-GMT-E	Gigabit	ST type	50 / 125 μm	-	-40 ~ 80°C

8	Media Converter
8.1	Media Converter
8.1.3	Serial Media Converter

STD-1918H



Features

- Industrial grade design for stability and reliability.
- RS-232 to RS-422/485 converter with RTS+/- CTS+/- support.
- 12V DC Jack & External power 12~48V DC terminal block with reverse polarity protection.
- Embedded ESD surge protection built-in.
- Optical isolation provides protection against damage from static electrical charge.
- Power surge protection provides protection against surge damage from high energy spike.
- Auto Tune feature provides automatic setup of communication protocol.
- RS-485 AHDC/CS technology allows accurate switching of the transmitter on and off for precise timing of the data transmission.
- Plug-in screw terminal block for easy RS-422/485 wiring.
- Detachable wall and DIN-rail mounting kit design.
- Plug-n-play & compact size designed.

8	Media Converter
8.1	Media Converter Series
8.1.3	Serial Media Converter

Specifications

Communication	
Port 1	RS-232(DB9) Female
Port 2	RS-422/485 (4/9-pin Terminal Block)
Distance	1.2km (RS-422/485)
Serial baud Rate	50 bps up to 460.8 Kbps
RS-232 signals	TxD, RxD, RTS, CTS, GND
RS-422/485 signals	RS-232 : RxD, TxD, RTS, CTS, GND
	RS-422 : TxD+, TxD-, RxD+, RxD-, RTS+, RTS-, CTS+, CTS-, GND
	RS-485 : TxD+/Data+, TxD-/Data-, RxD+, RxD-, RTS+, RTS-, CTS+, CTS-, GND
RS-422/485 switch	Auto Identify and Switch RS-422 & RS-485
RS-485 Control	RS-485 Auto Hardware Direction Control / Carrier Sense : AHDC/CS™
Protection	
ESD	Embedded ±15KV ESD protection
Surge (Optional)	400W Surge Protection for all signals
Isolation (Optional)	2.5KV Optical Isolation Protection
Power	
Redundancy	Dual Power Inputs
Connector	3-pin Removable Terminal Block + DC Jack
Consumption	1A @ 12VDC
Input	12~48 VDC (24 VDC)
Power Reverse	Present
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Environment	
Operation Temperature	Standard 0 ~ 60°C (-32 to 140°F) / Extend -40 ~ 80°C (-40 to 176°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-40 to 85°C (-40 to 185°F)
Dimensions	
Casing	Present Aluminum (IP30)
Dimensions	30x68.5x105 mm (WxDxH)
Mounting Options	DIN Rail and Wall Mountable

Products

	Model	Serial Port	Fiber Port	Cable Length Multi-modes	Single-modes	Storage Temperature
Fiber Media Converter						
	STD-1914A	DB9 Female	4-pin Terminal Block	-	-	0 ~ 60°C
	STD-1914SA	DB9 Female	4-pin Terminal Block	400W	-	0 ~ 60°C
	STD-1918H	DB9 Female	9-pin Terminal Block	-	-	0 ~ 60°C
	STD-1918H-E	DB9 Female	9-pin Terminal Block	-	-	-40 ~ 80°C
	STD-1918H-SI	DB9 Female	9-pin Terminal Block	400W	2.5KV	0 ~ 60°C
	STD-1918H-SI-E	DB9 Female	9-pin Terminal Block	400W	2.5KV	-40 ~ 80°C

9 Industrial Ethernet Switches

9.1	Industrial Ethernet Switch Series	
9.1.1	Managed Switches	079
9.1.2	Unmanaged switches	082

ESW-8062



Features

- Fast redundant Ethernet ring (recovery time < 10ms) and RSTP/STP.
- Support SNMPv1/v2c/v3 & RMON network management.
- Support Web-based, Telnet, Console, SUNIX Commander Pro (Windows Utility).
- Supports IGMPv1/v2/v3 snooping, Quality of Service determined by port.
- Supports port base/802.1Q VLAN and Dynamic VLAN Register Protocol (GVRP).
- Event notification by Email, SNMP trap and Relay Output.
- Supports online port mirroring and IP security.
- Rapid-Provides centralized password management.
- Port rate limiting and broadcast storm limiting.
- Redundant Dual low-voltage DC inputs (24~48VDC).
- Supports 802.3ad, LACP for optimum bandwidth utilization.
- Port Trucking for optimum bandwidth utilization.
- Long-haul transmission distance of 2km or 30km (Fiber port).
- Support setting all LAN switches at the same time by the SUNIX Commander Pro.
- DIN-Rail/Wall-mounting installation.

Specifications

Interface	
Total Ports	8 ports
10/100 Base-T(X)	6 ports
10/100/1000Base-T(X)	2 or N/A
1000Base FX	2 or N/A
Alarm Contact	
Alarm Contact	1 Configurable Relay Outputs
Cable Length	
Multi-mode	50 / 125 μm : Standard up to 2 km (Optional)
Single-mode	9 / 125 μm : Standard 30 km (Optional)
Network Control & Management	
Standard	IEEE802.3, IEEE802.3ad, IEEE802.3u, IEEE802.3x, IEEE802.1p, IEEE802.1Q, IEEE802.1W
Redundancy	SUNIX's Elite- Ring with recovery time less than10ms, STP and RSTP
VLAN	IEEE802.1Q Tagged VLAN and Port based VLAN
SNMP	V1/V2c/V3
IGMP Snooping	IGMP V1/V2/V3
RMON	RMON Group 1,2,3,9
Security	IP Security, MAC based Security, RADIUS Server
Traffic Control	Rate Limiting, Port Lock, QoS/ToS
Configuration	Web browser, Telnet, Serial Console, SNMP, and Windows Utility
Diagnostics	Alarm Relay Output, Alarm LED, E-mail Warning, Port mirroring, SNMP Traps
Device Management	Broadcast Storm Protection and Port break Alarm
Power	
Redundancy	Dual Power Inputs
Connectors	7-pin Removable Terminal Block + DC Jack
Inputs	12~48VDC (24VDC)
Consumption	9 Watts Max
Protection	
ESD	4000VDC (Ethernet Ports)
Surge	2000VDC (Power)
Reverse Power	Present
Regulatory Approvals	
EMC	FCC Part 15, CISPR (EN55022) Class A, CE
Shock	IEC60068-2-27
Freefall / Vibration	IEC60068-2-32 / IEC60068-2-6
Environment	
Operation Temperature	Standard 0 to 60°C / Extend-40 to 80°C
Operation Humidity	5 to 95% RH
Storage Temperature	-40 to 85°C
Dimensions	
Casing	Present Aluminum (IP30)
Dimensions	56.5x110x150 mm (DxWxH)
Mounting Options	DIN Rail and Wall Mountable

Products

	Model	Total Port	10/100 Base-T(X)	10/100/1000 Base-T(X)	1000 Base FX	Cable Length Multi-modes	Single-modes	Storage Temperature
Gigabit Managed Ethernet Switch								
	ESW-8062-GMC	8	6	-	2	50 / 125 μm		0 ~ 60°C
	ESW-8062-GMT	8	6	-	2	50 / 125 μm		0 ~ 60°C
	ESW-8062-GMC-E	8	6	-	2	50 / 125 μm		-40 ~ 80°C
	ESW-8062-GMT-E	8	6	-	2	50 / 125 μm		-40 ~ 80°C
	ESW-8062-GSC	8	6	-	2	-	9 / 125 m	0 ~ 60°C
	ESW-8062-GST	8	6	-	2	-	9 / 125 m	0 ~ 60°C
	ESW-8062-GSC-E	8	6	-	2	-	9 / 125 m	-40 ~ 80°C
	ESW-8062-GST-E	8	6	-	2	-	9 / 125 m	-40 ~ 80°C
	ESW-8082-GT	8	6	2	-	-	-	0 ~ 60°C
10/100 Base-T(X) Managed Ethernet Switch								
	Model	Total Port	10/100 Base-T(X)	10/100/1000 Base-T(X)	Cable Length Multi-modes	Single-modes	Storage Temperature	
	ESW-8062-TX	8	8	-	-	-	0 ~ 60°C	
	ESW-8062-MMC	8	6	2	50 / 125 μm	-	0 ~ 60°C	
	ESW-8062-MMT	8	6	2	50 / 125 μm	-	0 ~ 60°C	
	ESW-8062-MMC-E	8	6	2	50 / 125 μm	-	-40 ~ 80°C	
	ESW-8062-MMT-E	8	6	2	50 / 125 μm	-	-40 ~ 80°C	
	ESW-8062-SSC	8	6	2	-	9 / 125 m	0 ~ 60°C	
	ESW-8062-SST	8	6	2	-	9 / 125 m	0 ~ 60°C	
	ESW-8062-SSC-E	8	6	2		9 / 125 m	-40 ~ 80°C	
	ESW-8062-SST-E	8	6	2		9 / 125 m	-40 ~ 80°C	

ESW-1050-TX



Features

- 10/100BaseT(X) (RJ45), 100BaseFX (SC/ST connector, Multi/Single mode) .
- Broadcast storm protection.
- Store and Forward switching process type.
- IEEE802.3/802.3u/802.3x supported.
- 10/100M, Full/Half-Duplex, MDI/MDI-X auto sensing.
- Power failure, port break alarm by relay output.
- IP30, rugged high-strength metal case.
- DIN-Rail or Wall mounting ability.
- Long-haul transmit distance of 2 km or 30 km.
- Designed for hazardous locations (Class 1 Div. 2/Zone 2).
- Redundant dual 12-48 VDC power inputs and over current protection.

9	Industrial Ethernet Switches
9.1	Industrial Ethernet Switche Series
9.1.2	Unmanaged Switches

Specifications

Interface	
Total Ports	5 ports
10/100 Base-T(X)	4 or 5 ports
10/100/1000Base-T(X)	1 or N/A
Cable Length	
Multi-mode	50 / 125 μm : Standard up to 2 km (Optional)
Single-mode	9 / 125 μm : Standard 30 km (Optional)
Power	
Redundancy	Dual Power Inputs
Connectors	3-pin Removable Terminal Block + DC Jack
Inputs	12~48VDC (24VDC)
Consumption	12V / 1A (<12W)
Protection	
ESD	4000VDC (Ethernet Ports)
Surge	2000VDC (Power)
Reverse Power	Present
Regulatory Approvals	
EMC	FCC Part 15, CISPR (EN55022) Class A, CE
Shock	IEC60068-2-27
Freefall / Vibration	IEC60068-2-32 / IEC60068-2-6
Regulatory Approvals	
EMC	FCC Part 15, CISPR (EN55022) Class A, CE
Shock	IEC60068-2-27
Freefall / Vibration	IEC60068-2-32 / IEC60068-2-6
Environment	
Operation Temperature	Standard 0 to 60°C
Operation Humidity	5 to 95% RH
Storage Temperature	-40 to 85°C
Dimensions	
Casing	Present Aluminum (IP30)
Dimensions	56,5x110x150 mm (DxWxH)
Mounting Options	DIN Rail and Wall Mountable

Products

	Model	Total Port	10/100 Base-T(X)	10/100/1000 Base-T(X)	Cable Length Multi-modes	Single-modes	Storage Temperature
10/100 Base-T(X) Unmanaged Ethernet Switch							
	ESW-1050-TX	5	5	-	-	-	0 ~ 60°C
	ESW-1041-SSC	5	4	1		9 / 125 μm	0 ~ 60°C
	ESW-1041-SST	5	4	1		9 / 125 μm	0 ~ 60°C
	ESW-1041-SSC	5	4	1	50 / 125 μm	-	0 ~ 60°C
	ESW-1041-SST	5	4	1	50 / 125 μm	-	0 ~ 60°C

10

Bluetooth to Serial Communcation

10.1

Bluetooth to RS-232

10.1.1	Bluetooth to RS-232 Adapter	087
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BTS1109A



Features

- Link RS-232 device to a Bluetooth communication.
- Supports Bluetooth Class 1 (20 dbm) version V2.1+EDR.
- Operating distance of up to 100 meters in free space.
- Supports baud rate up to 921 Kbps.
- Compact sized and easy operation design with User-friendly Windows configuration software.
- Intelligent draw/provide 5VDC power to/from the device through the 9th-pin.
- Powered by external power adapter or USB port on hosting device.
- Support for Microsoft Windows 98SE, Me, 2000, XP, 2003, Vista and 7.
- Certified by CE, FCC, and RoHS approval.

Specifications

Description	
Product Description	Bluebooth to RS-232 Adapter
Serial Communication	
Standard	Bluetooth V2.1+EDR
Frequency Band	2402 ~ 2480 MHz
Services Supported	Series Port Profile (SPP)
Transfer Rate	1200~ 921,600 bps Baud
RF Output Power	Class 1
Antenna	2dBi Chip Embed and External Antenna
Working Distance	Up to 100m in free space
TX Output Power@ DH5	12dBm (max)
RX Sensitivity	-82dBm (min)
Power Consumption	Tx Typical: 115mA
	Rx Typical: 75mA
	Standby Mode: 15mA
Input Power	+5V DC
I/O Interface	RS-232 DTE Mode
Connector	DB9 Male
Signal	RxD, TxD, RTS, CTS, GND
LEDs Indicator	Power / Bluetooth active / Mode active
Driver Support	
Utility	Windows 2000/XP/Vista/7
Regulatory Approvals	
Hardware	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, FCC Part 15 Class B, RoHS
Environment	
Temperature	0 oC ~ + 40 oC (50-104°F)
Operation Humidity	5 ~ 90% non-condensing
Storage temperature	-10 oC ~ +85 oC (14~176°F)
Mechanical	
Case Material	ABS
Size	109 (L) x 34(W) x 18(H) mm
Weight	150 ± 2g

Application

Host Control Mode :
User can control maximum 7 BTS1109A adapters via one USB Bluetooth Dongle or embedded Bluetooth module on PC host. After establishing an exclusive connection by utilizing Bluetooth MAC Address and PIN code, BTS1109A adapter will automatically try to link (Master) or to be linked (Slave) with another paired Bluetooth device wirelessly, just like there is a cable connected between them.



Pair Connection Mode :
User can pair two BTS1109A adapters with different RS-232 devices without any PC host controlling. After pairing process is done and power is on, two BTS1109A adapters will automatically establish an exclusive connection with each other, just like there is a RS-232 cable connected between them.



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