



# SER6456AL

4-port RS-232 Low Profile  
PCI Express Board



## Introduction

SUNIX SER6456AL, PCI Express serial communication boards meet the PCI Express Base Specification Revision 2.0. It is compatible with PCI Express x1, x2, x4, x8 and x16 lane Bus allowing it to be installed in any slim size PC-based system with low profile bracket structure. The majorities of today's motherboards is not equipped with serial ports or only have one serial port. With SUNIX PCI Express serial board, users can add four serial ports to their system, allowing them to use serial devices further. SUNIX SER6456AL card has 128-bytes onboard FIFO buffer and compatible with 16C950 UART specification. It is designed with SUNIX UART controller, SUN2410 and as well built with many of SUNIX advanced features and technologies, making it the best solution for commercial and industrial automation applications.

## Features

- Expands 4 independent RS-232 serial ports with communication speeds up to 115.2Kbps.
- With high reliable SUNIX SUN2410 native PCI Express 16C950 UART controller.
- Designed to meet PCI Express Base Specification Revision 2.0.
- Supports x1, x2, x4, x8, x16 (lane) PCI Express Bus connector keys.
- On-chip hardware auto flow control to guarantee no data loss.
- Built-in  $\pm 15$ KV ESD protection for all serial signals meets IEC1000-4-2 standard.
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- 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.

## Specifications

### General

<b>Interface</b>	RS-232
<b>Controller</b>	SUNIX SUN2410 (16C950 UART Compatible)
<b>BUS</b>	PCI Express Spec 2.0, Single-Lane (x1)
<b>IRQ &amp; IO</b>	Assigned by System

### Serial Communication

<b>Interface</b>	RS-232
<b>No. of Port</b>	4-port
<b>FIFO</b>	128byte Hardware
<b>Signal</b>	DCD, TxD, RxD, RTS, CTS, DTR, DSR, GND, RI
<b>Baud rate</b>	50bps ~ 115.2Kbps
<b>Stop bit</b>	1, 1.5, 2
<b>Parity</b>	even, odd, none, mark, space
<b>Flow Control</b>	None, Xon/Xoff, RTS/CTS
<b>Protection</b>	±15KV ESD protection for each signal Human Body Model (HBM) ±15KV IEC1000-4-2 Air Gap Discharge ±8KV IEC1000-4-2 Contact Discharge
<b>PCB Connector</b>	DB44 Female

### Driver Support

<b>Microsoft Client</b>	XP / Vista / 7 / 8 (X86/X64)
<b>Microsoft Server</b>	2000 / 2003 / 2008 / 2008R2 (X86/X64)
<b>Microsoft Embedded</b>	Windows CE 4.2/5.0/6.0/XP Embedded/POS Ready 2009/Embedded System 2009
<b>Linux</b>	Linux 2.4.x / 2.6.x /3.x
<b>DOS</b>	DOS
<b>FreeBSD</b>	FreeBSD 5.3~5.5 / 6.0~6.4
<b>QNX</b>	QNX 6.3.2/6.4.0

### Regulatory Approvals

<b>Hardware</b>	CE EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, VCCI Class B FCC Part 15 Class B, BSMI: CNS13438, C-Tick: CISPR22 AS/NZS, RoHS
<b>Software</b>	Microsoft WHQL Windows Microsoft Client: XP / Vista / 7 / 8 (X86/X64) Microsoft Server: 2000 / 2003 / 2008 (X86/X64)

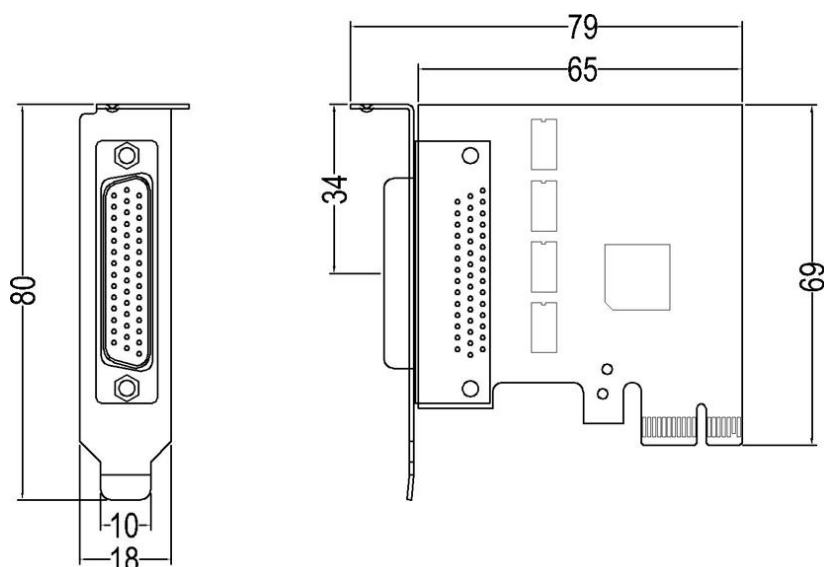
## Environment

<b>Operation Temperature</b>	0 to 60°C (32 to 140°F)
<b>Operation Humidity</b>	5 to 95% RH
<b>Storage Temperature</b>	-20 to 85°C (-4 to 185°F)

## Dimension

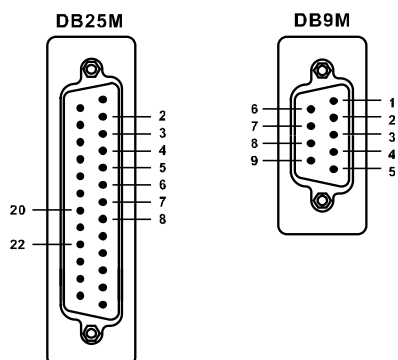
<b>PCB Dimension</b>	65 x 68 mm
<b>Bracket</b>	Low Profile 80 mm
<b>Bracket Space</b>	1

## Mechanical Drawings (Unit = mm)



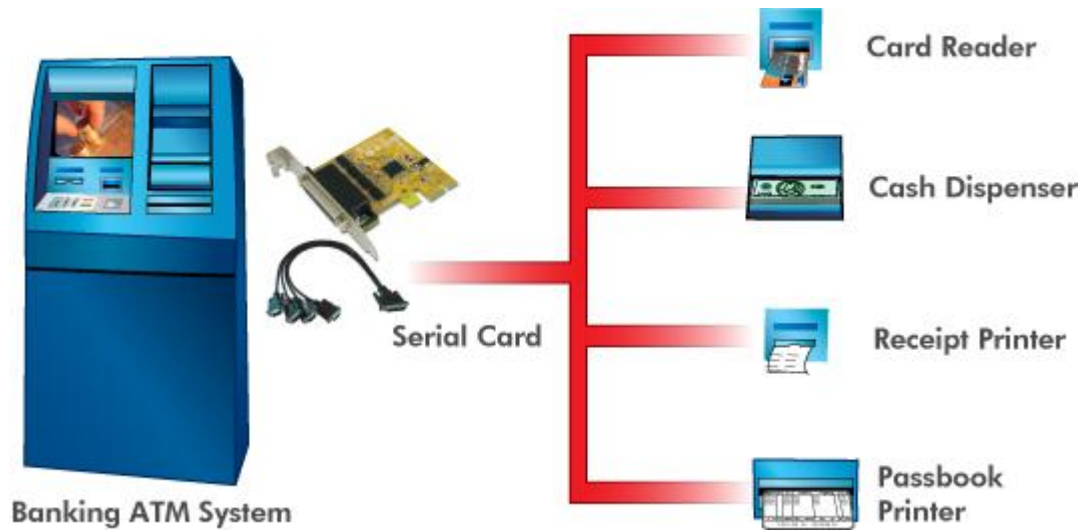
## Pin Assignment

### Serial



PIN	DB9M	DB25M
DCD	1	8
RxD	2	3
TxD	3	2
DTR	4	20
GND	5	7
DSR	6	6
RTS	7	4
CTS	8	5
RI	9	22

## Application



## Package

- SER6456AL- 4-port RS-232 Low Profile PCI Express Board.
- Quick Installation Guide.
- Software CD Driver

## Optional Accessories

- DB44 to 4-port DB9 Male Connection Cable, 40cm  
**Part No.: 1WDB-44M04009D4001**
- DB44 to 4-port DB25 Male Connection Cable, 40cm  
**Part No.: 1WDB-44M04025D4000**
- DB44 to 4-port DB9 Male Connection Cable, 100cm  
**Part No.: 1WDB-44M10009C4000**
- DB44 to 4-port DB25 Male Connection Cable, 100cm
- PCIe Add-on Card Holder  
**Part No.: 13BF-PCIEFIX010000**





## Order Information

Bus	Port	Connecter	Baud Rate	ESD Protection	Power output	Bracket	Model NO.
PCI Express	16	Mini SCSI 68 Female	921.6Kbps	±15KV	-	Standard	SER5416H
			115.2Kbps				SER5466A
	921.6Kbps	SER5466H					
	115.2Kbps	SER5466AL					
	8	DB62 Female	921.6Kbps			SER5466HL	
			115.2Kbps			SER6456A	
		Mini SCSI 68 Female	921.6Kbps			SER6456H	
			115.2Kbps			SER6456P	
	4	DB44 Female	921.6Kbps			SER6456S	
			115.2Kbps			SER6456PH	
			921.6Kbps			SER6456SH	
			115.2Kbps			SER6456AL	
			921.6Kbps		SER6456HL		
			115.2Kbps		SER6456PL		
			921.6Kbps		SER6456SL		
			921.6Kbps		SER6456PHL		
			921.6Kbps		SER6456SHL		
			115.2Kbps		SER6437A		
			921.6Kbps		SER6437H		
			2		DB9 Male	115.2Kbps	SER6437P
	921.6Kbps	SER6437S					
	921.6Kbps	SER6437PH					
	921.6Kbps	SER6437SH					
	DB44 Female	115.2Kbps			SER6437AL		
		921.6Kbps			SER6437HL		
		115.2Kbps			SER6437PL		
		115.2Kbps			SER6437SL		
	1	DB9 Male	921.6Kbps		SER6437PHL		
			921.6Kbps		SER6437SHL		
			115.2Kbps		SER6427A		
			921.6Kbps		SER6427H		
			115.2Kbps		SER6427P		
921.6Kbps			SER6427S				
921.6Kbps			SER6427PH				
921.6Kbps			SER6427SH				
115.2Kbps			SER6427AL				
921.6Kbps			SER6427HL				
115.2Kbps			SER6427PL				
921.6Kbps			SER6427SL				
921.6Kbps	SER6427PHL						
921.6Kbps	SER6427SHL						

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