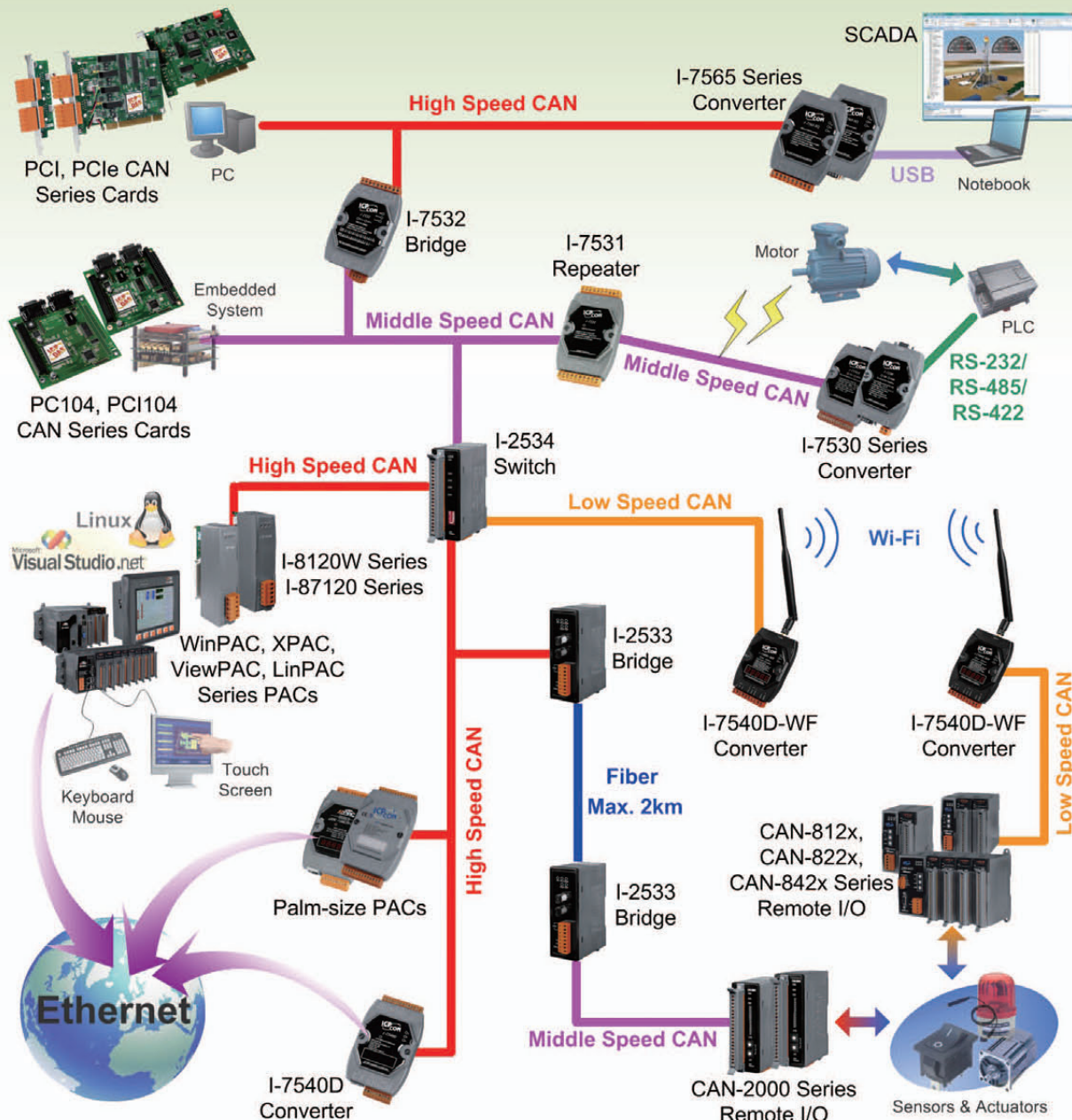# CAN Series

ICP DAS has been developing various CAN products for several years, including PCI interface cards, converters, PACs and expansion modules. ICP DAS holds CAN conference, exhibition and training course all of the world. We also help customers to resolve various CAN technology problems. In addition, we can provide CAN bus solution for our customers.

CAN Bus Features

Multi-master
When the CAN bus is free, any unit may transmit a message. When the bus is free any unit may start to transmit a message. The unit with the message of highest priority to be transmitted gains bus access.

Safety
In order to achieve the utmost safety of data transfer, powerful measures for error detection, signaling and self-checking are implemented in every CAN node.

Speed & Distance

Basically, a CAN network follows daisy-chain topology. A branch by T-connector will affect the working distance of the trunk. In ideal case, the speed and working distance of a CAN network are inverse relationship. The higher CAN baud causes the shorter working distance. The condition is shown in the right-hand-side table. Besides, the driver capability, bus resistance, wire gauge and noise also have the decisive influences of the working distance. There are some rules between the wire gauge and the numbers of nodes in a CAN network. Roughly speaking, more nodes need bigger wire gauge. Using twice-paired shielding wire to be the CAN bus line and applying a 120 ohm terminator resistances on each end of the CAN network are recommended.

Baud (bit/sec)	Ideal Bus Length
1M	25
800K	50
500K	100
250K	250
125K	500
50K	1000
20K	2500
10K	5000

Arbitration

If two or more nodes start transmitting messages at the same time, the arbitration mechanism is applied to guarantee that one of these messages can be sent successfully according to the priority.

Priorities

The CAN IDENTIFIER defines a static message priority during bus access.

CAN Series Selection Guide

	Product	CPU	Interface	Tools	Description	Page
Converter	I-7530	8-bit, 20 MHz	CAN <--> RS-232	VC6, VB6, VS.Net	CAN to RS-232 converter	1-03
	I-7530A-MR	32-bit, 96 MHz	CAN <--> RS-232/ 485/ 422	VC6, VB6, VS.Net	CAN to RS232/485/422 converter with Modbus RTU	1-05
	I-7530A	8-bit, 20 MHz	CAN <--> RS-232/ 485/ 422	VC6, VB6, VS.Net	CAN to RS232/485/422 converter	1-07
	I-7530-FT	8-bit, 20 MHz	CAN <--> RS-232	VC6, VB6, VS.Net	Fault tolerance low speed CAN to RS-232 converter	1-09
	I-7531	---	CAN <--> CAN	---	CAN bus isolation repeater	1-11
	I-7532	---	CAN <--> CAN	---	CAN bus isolation bridge	1-13
	I-2534	---	CAN <--> CAN	---	CAN bus isolation switch	1-15
	I-7540D	---	CAN <--> Ethernet	VC6, VB6, VS.Net	CAN to Ethernet converter	1-17
	I-7540D-WF	---	CAN <--> Wi-Fi	VC6, VB6, VS.Net	CAN to Wi-Fi converter	1-19
	I-2532	---	CAN <--> Fiber	---	CAN to fiber converter	1-21
	I-2533	---	CAN <--> Fiber	---	CAN to fiber bridge	1-23
	I-7565	8-bit, 20 MHz	CAN <--> USB	VC6, VB6, VS.Net	CAN to USB converter	1-25
	I-7565-H1	32-bit 72 MHz	CAN * 1 <--> USB	VC6, VB6, VS.Net	High performance 1-port CAN to USB converter	1-27
	I-7565-H2	32-bit 72 MHz	CAN * 2 <--> USB	VC6, VB6, VS.Net	High performance 2-port CAN to USB converter	1-29
uPAC Moudle	I-7188XBD-CAN	80186, 40 MHz Built-in MiniOS7	RS-232 and RS-485 DI * 1 and DO * 1 CAN * 1	* Turbo C/C++ * Borland C/C++ * MiniOS7 Studio	Stand along programmable CAN module	1-31
	uPAC-7186EXD-CAN	80186, 80 MHz Built-in MiniOS7	RS-232 and RS-485 Ethernet port CAN * 1		Stand along programmable CAN module	1-33
CAN Module	I-87120	80186, 80 MHz Built-in MiniOS7	Backplane COM port CAN * 1	Firmware Tools : * Turbo C/C++ * Borland C/C++ * MiniOS7 Studio MCU Tools : * eVC++ , VS .NET	I-87K programmable CAN module	1-35
	I-8120W	80186, 80 MHz Built-in MiniOS7	Dual Port RAM CAN * 1		I-8K programmable CAN module	1-37
CAN PC-based Board	PEX-CAN200i	---	PCI-E x1 CAN * 2	VC6, VB6, VS.Net, OPC, ActiveX, RTX, DASYLab, LabVIEW	2-CAN PCI-Express board	1-39
	PISO-CAN 200U/400U	---	Universal PCI bus CAN * 2 / CAN * 4		2-CAN/4-CAN universal PCI board	1-41 1-43
	PCM-CAN100	---	PCI-104 CAN * 1		1-CAN PCI-104 board	1-45
	PCM-CAN200	---	PCI-104 CAN * 2		2-CAN PCI-104 board	1-47
	PCM-CAN200P	---	PCI-104+ CAN * 2		2-CAN PCI-104+ board	1-47
	PISO-CM100U	80186, 80 MHz Built-in MiniOS7	Universal PCI bus CAN * 1	Firmware Tools : MiniOS7 Studio PC Tools : VC6, VB6, VS.NET	1-CAN programmable universal PCI board	1-49