



TECHNICAL BULLETIN # 101

PrimeNet and 56xxx DSP Specification Chart

PIKA Technologies Inc., 20 Cope Drive, Kanata, Ontario, Canada, K2M 2V8 Ph: +1 (613) 591-1555 Fax: +1 (613) 591-9295

Date Issued: July 31st, 2001

Software Version: MonteCarlo v5.6 or greater

Product(s): PrimeNet PCI, PrimeNet MM PCI, PrimeNet MM cPCI

Purpose: Describe the hardware and DSP application differences between each type of PrimeNet card.

Hardware Specifications

Specification	PrimeNet PCI	PrimeNet MM PCI	PrimeNet MM cPCI
T1/E1 Spans	2 T1, 1 E1	1, 2, 4	4, 8
On-Board DSPs	2	2, 4	4, 8
VEngines (4/6 DSPs per module)	2	3	4
CT Bus Type	MVIP	H.100	H.110
CT Bus Data Rate	2 Mbps	2, 4, 8 Mbps	8 Mbps
Timeslots per DSP	64 (2 x 32)	256	256 (2 x 128)
CT Bus Channels	512 (16x32)	4096	4096 (32x128)
CT Bus Switch Connections	512 ¹	512 ¹	512 ¹
Data Bus Type	PCI	PCI	cPCI
Physical streams from switch to DSPs	2	6	6
DSP chip type	Motorola 56156	Motorola 56303	Motorola 56303
DSP memory	128 K	128 K	128 K
DSP clock speed	60 MHz	100 MHz	100 MHz
DSP instruction speed	30 MIPS ²	100 MIPS ²	100 MIPS ²
DSP instruction speed per board	60 MIPS ²	200, 400 MIPS ²	400, 800 MIPS ²
Hot swap capability	No	No	Yes (future s/w release)
Supported OSes	NT / 2000	NT / 2000	NT / 2000
Miscellaneous	Different hardware modules (NIMs) to set board as T1 or E1	Software selectable as T1 or E1	Software selectable as T1 or E1

¹ 256 simultaneous Full Duplex connections

² Million Instructions Per Second, based on Motorola algorithm
 (# of DSPs x Instructions per cycle x DSP clock speed)

DSP Applications

Feature Group	Feature	56156 DSP	56303 DSP
Voice Applications	Audio	12-15 (per dedicated DSP)	80 (per dedicated DSP)
	Tone Detection	40 (per dedicated DSP)	80 (per dedicated DSP)
	DTMF	40 (per dedicated DSP)	80 (per dedicated DSP)
	Tone Generation	64 (per dedicated DSP)	80 (per dedicated DSP)
	Speech Detection	64 (per dedicated DSP)	80 (per dedicated DSP)
	Voice (all of the above combined)	12 / DSP	30-36 / DSP
Advanced Applications	Fax	8 @ 14.4k Tx 12 @ 9.6k Tx 3 @ 9.6k Rx	Future release
	Conference	16 members/DSP max (12/DSP if linked conferences)	36 members/DSP max (32/DSP if linked conferences)
	Pulse Detection	10pps	Not Supported
	Small Audio Buffers	12 / DSP	30 / DSP
	Gain Pad	30 / DSP	80 / DSP
	Echo Cancellation	24 ms tail max / instance (150 ms total/DSP)	Future release
Signaling Applications	T-1 Robbed Bit	Not applicable	Fully supported on T1 cards
	FSK Transceiver	12/DSP	30/DSP
	MF/R2	Supported on T1/E1 30/DSP max	80/DSP
	Caller ID	12/DSP typical (filter can lower)	30/DSP (implemented with FSK)

