Portwell

PORTWELL TRUSTED PLATFORM

www.portwell.com/products/ca_index.php

- 3G Wireless
- Wireless Gateway
- Media Server
  (VoIP, Video/Image Processing)
- Network Management
  (RAS, QoS, Load Balancing)
- Security
  (Firewall/VPN, IDS/IPS, Anti-Virus, Anti-Spam, Content Filtering)

Ver. 27C

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ABOUT CA

Who is Portwell, Inc.?

Portwell, Inc. founded in 1993, committed to advanced design and engineering expertise in electronics and mechanical with manufacturing integration capability. The effort to adhere to the world-class criteria in every aspect qualified Portwell as a member of the Intel Communications Alliance. With streamline access to the latest Intel technology, we deliver cutting-edge solutions to meet and exceed the demanding needs of market. Based on 815E and E7500/E7501 chipset, Portwell designed two Intel Proof of Concept appliance platforms. For more detailed information, please visit the web pages as follows:

http://developer.intel.com/platforms/applied/eiacomm/value2/value2.htm
http://developer.intel.com/platforms/applied/eiacomm/perform3/perform3.htm

Portwell provides system integration development experience, proven expertise in CPU board, chassis, thermal, power, and packaging, to create quality appliance platform with industry grade components for both ISVs and OEM customers.

Why Partner with Portwell?

Portwell offers industry-leading Communication Appliance platform solutions. They're easy to install and affordable, but also flexible and scalable to accommodate the future changes of your application. Portwell has great confidence to be the world number one in providing Communication Appliance Server platform based on the following facts...

- Provide full range of superior off-the-shelf appliance server solutions for one-stop source
- Design dedicated system for not only ultimate computing and communication performance but also ease of installation
- Meet the target of time-to-market so as to reduce your sales cycle and also cost of doing business
- Increase the success of market penetration by highly flexible and scalable appliance platform
- Enhance your brand-name awareness through private-label branding service
- Focus on core competencies on embedded H/W technology and listen to your request

Why Portwell Communication Appliance?

- Allow ISV entering the market with shorter time-to-market and lowest cost for a complete platform
- Allow ISV offering end-users with Plug-and-Play solution.
- Allow ISV promoting solutions with own brand image exposure.
- Allow ISV concentrating on software development without hardware headaches.
- Allow ISV providing preloaded complete system instead of software only solution.

What is the design concept?

Portwell's Communication Appliances are robust hardware embedded platforms with Intel open architecture that enable the porting of a variety of security and management applications. Portwell appliance server architecture is designed to supply consistent, high-stability, and 24-hour continuous operation. The product family ranges from desktop appliance perfect for remote and branch office to high-performance rack-mountable appliances for enterprise and data center.

ABOUT CA

Benefits to Our Customers

- **Faster time-to-market**
  Customer can port/develop their software to/on our ready-to-ship solution for time-to-market.
- **Better products scalability and coverage**
  Select from our wide range of solutions to scale your products. Portwell not only provides board level solutions but system and peripheral level solutions as well.
- **Leading edge hardware innovation**
  You can always trust the most leading-edge products from Portwell because of our dedication to hardware platform development.
- **Free of inventory and manufacturing hassle**
  Independent software venders can team up with Portwell to provide solutions to system integrators or end-users without manufacturing and inventory hassles.

What Value-added services will Portwell offer?

Hardware platform development

- Scalable and flexible appliance platform easy for Build-to-order business demand
- The minimum 3-year H/W lifecycle maintenance
- Dedicated and embedded system design for not only reliability but also ergonomic advantage
- Advanced thermal design to assure product stability
- Provide HDD, CF, and DOM storage solution
- Watchdog timer prevents the software lockup
- Redirect to console BIOS allows user to operate system through serial port
- Validated with embedded Linux and FreeBSD
- Load factory-default mechanism
- Multiple listing available on CE, FCC, and UL

Manufacturing

- In-house design, engineering, manufacturing, system integration to assure comprehensive quality and revision control
- ISO 14001 and ISO 9001 certified manufacturing facility
- Flexible to accept low- to high-volume requirement
- Manufacturing guide to flaw-less assurance
- Integration service for OS and AP loading

Private-label branding

- Custom BIOS splash screen
- Chassis desired color and Private-logo bezel printing
- Private branded packaging
- Data label with production number control, EMC and Safety mark
- Drop-shipment for global logistic service

REFERENCE TABLE

< x86 Architecture >




MODEL	NAR-7090	NAR-7080	NAR-5620	NAR-5612
Configuration	-1010	-1250	-0110	-1120
Chipset	Intel® 5000P	Intel® E7520	Intel® E3100	Intel® 82945GV
CPU (Max.)	2.93GHz Dual core 2.66GHz Quad core	Xeon® 3.6 GHz	Intel® Core™ 2 Duo up to 2.33GHz	Intel® Pentium® 4 LGA 775 type up to 3.8GHz
RAM (Max.)	16GB	8 GB	4GB	4GB
Ethernet				
Fiber GbE	-	up to 8(1)	up to 6	up to 2
Copper GbE	10	up to 10(2)	up to 6	up to 11
10/100 FE	0	2	1	N/A
Expansion Slot	Up to three expansion slots	Up to two front-access PCI-X, one internal PMC	One PCI-X on the rear panel	One PCI-X on the rear panel
Storage Device				
HDD	Up to Two Removable 3.5" HDD	One 3.5" SATA HDD	One 3.5" SATA HDD	One 3.5" HDD
CF	Standard	Optional	Standard	Optional
DOM	Option	Optional	Optional	Optional
DOC	N/A	N/A	N/A	N/A
Serial Port				
Console	RJ45 on the front panel	RJ45 on the front panel	RJ45 on the front panel	RJ45 on the front panel
COM	N/A	N/A	N/A	N/A
LCD module	Yes	Yes	Yes	Yes
LEDs	Power, Storage	Power, Storage	Power, Data-access, LAN-status & -speed	Power, Data-access, LAN-status & -speed
IDE	Two SATA connectors	One ATA-100 channels with 40-pin connector	One CF Socket and 3 SATA connectors	Two ATA-100 channels with 40-pin connector and another with CF-socket
USB	Two USB 2.0	Two on the front panel	Two USB 2.0	2
VGA	N/A	N/A	Optional	Internal pin-header
Power	400W 1+1 redundant PSU w/PFC	460W 1+1 redundant PSU w/PFC	150W full-range ATX	350W full-range ATX
Height (U)	2	2	1	1
Dimension (WxDxH)	454 x 510 x 88 mm 16.97" x 20.2" x 3.46"	443 x 518 x 88 mm 17.44" x 20.4" x 3.46"	443 x 465 x 44mm 17.4" x 18.3" x 1.73"	443 x 465 x 44 mm 17.4" x 18.3" x 1.73"
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(1) From two PCI-E Ethernet modules
(2) Two on-board and eight from PCI-E Ethernet modules

REFERENCE TABLE

< x86 Architecture >




MODEL	NAR-5530			NAR-5510	NAR-5060		NAR-5020			
Configuration	-0926	-0920	-0624	B-810	-630	-631	-420	-421	-220	-221
Chipset	Intel® Q965			Intel® 82915GV	Intel® 845GV		Intel® 845GV			
CPU (Max.)	Intel® Core™ 2 Dual			Intel® Pentium® 4 LGA 775 up to 3.4GHz	Pentium® 4 2.8GHz		Pentium® 4 2.8GHz			
RAM (Max.)	4GB			2GB	2GB		2GB			
Ethernet										
Fiber GbE	N/A	N/A	N/A	N/A	-		-	-	-	-
Copper GbE	9	9	6	4+4[3]	4	0	4	0	2	0
10/100 FE	N/A	N/A	N/A	N/A	2	6	0	4	0	2
Expansion Slot	One PCI			One PCI on the rear panel	One (internal)/Two on the rear panel		Two PCI on the rear panel			
Storage Device										
HDD	3.5" HDD, default one, max. two			One 3.5" SATA HDD/Two 2.5" HDD with RAID 0, 1 (optional)	2.5" HDD/3.5" HD (optional)		Two 3.5" HDD			
CF	Optional			Optional	Optional		Optional			
DOM	Optional			Optional	Optional		Optional			
DOC	N/A			N/A	N/A		N/A			
Serial Port										
Console	RJ45 on the front panel			On the front panel	On the front panel		On the rear panel			
COM	N/A			N/A	N/A		N/A			
LCD module	Yes			Yes	Yes		N/A			
LEDs	Power, Data-access, LAN status & speed, Bypass			Power, Data-access, LAN-status & -speed	Power, Storage		Power, storage, Ethernet status			
IDE	One IDE channel with CF-socket/40-pin connector			Two ATA-100 channels, with 40-pin connector and another with CF-socket	Two ATA-100 channels with 40-pin and 44-pin connectors					
USB	Two on the front panel			2	Optional					
VGA	Internal pin-header			Internal pin-header	Optional					
Power	220W full-range ATX			220W full-range ATX	220W full-range ATX					
Height (U)	1			1	1					
Dimension (WxDxH)	443 x 406 x 44.5mm 17.4" x 16.0" x 1.73"			429 x 382 x 44 mm 16.9" x 15.0" x 1.73"	429 x 360 x 44 mm 16.87" x14.17"x1.73"		430 x 390 x 44 mm 16.83" x 15.35" x 1.73"			
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(3) With 2 bypass segments

REFERENCE TABLE

< x86 Architecture >




MODEL	NAD-2081		NAD-2065		NAR-2090	NAD-2070
Configuration	-600	-400	-660	-620	-553	-510
Chipset	Intel® 845GV		Intel® 852GM		VIA CN700	VIA CN700
CPU (Max.)	Intel® Pentium® 4 & Celeron®, 2.8GHz		Intel® Celeron® M 600MHz		VIA C7 1.5GHz	VIA Eden 1GHz
RAM (Max.)	2GB		2GB		1GB	1GB
Ethernet						
Fiber GbE	N/A	N/A	N/A	N/A	-	-
Copper GbE	6	4	6	N/A	0	0
10/100 FE	N/A	N/A	N/A	6	5	5
Expansion Slot	PCI x2, miniPCI x1		One PCI/MiniPCI		N/A	N/A
Storage Device						
HDD	3.5" HDD / 2.5" HDD (Optional)		One 2.5"/3.5" HDD		One 3.5"	One 2.5" HDD
CF	Optional		Optional		Optional	Optional
DOM	Optional		Optional		Optional	Optional
DOC	N/A		N/A		N/A	N/A
Serial Port						
Console	RJ45 on the rear panel		RJ45 on the rear panel		On the front panel	On the rear panel
COM	N/A		Yes		N/A	N/A
LCD module	N/A		N/A		Yes	N/A
LEDs	Power, Data-access, LAN-status & speed		Power, Data-access, LAN-status & speed, Bypass		Power, Data-access	Power, Data-access, Ethernet status
IDE	Two ATA-100 channels, one with 40-pin connector and another with CF-socket		One IDE channel with 40-pin connector		One IDE channel with 40-pin connector	One IDE channel with 40-pin connector
USB	2		Two on the rear panel		Optional	Two on the rear panel
VGA	Internal pin-header		Internal pin-header		Optional	Optional
Power	180W full-range ATX		60W Power adapter		65W full-range AT	60W Power adapter
Height (U)	1.6		>1		1	>1
Dimension (WxDxH)	350 x 240 x 70.4 mm 13.78" x 9.45" x 2.77"		225 x 205 x 50 mm 8.96" x 8.07" x 1.97"		428 x 255 x 44 mm 16.85" x 10.04" x 1.73"	225 x 205 x 50 mm 8.86" x 8.07" x 1.97"
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Gigabit Table

MODEL	NAR-7080	NAR-5612	NAR-5530	NAR-5510B
PCI-E GbE	8	6	6	4
64bit GbE				
133MHz	2	-	-	-
66MHz	-	-	-	-
32bit GbE	-	4	3	4
TOTAL	10	10	9	8

NAR-7090

2U communication appliance rack-mount server with dual-core dual processors for high-performance application

FEATURE

- Dual Intel® 51XX series CPU with 4M L2 cache/1333MHz FSB
- Flexible removable Ethernet/HDD modules
- Up to fourteen Gigabit Ethernet ports
- Eight DDR667/533 FBDIMM memory slots
- Up to three PCI-X expansion slots
- Redundant 400W ATX PSU
- Front access for user-friendly maintenance

SPECIFICATION

CPU Board	- Support dual Intel® 51XX series processors with 4MB L2 cache - Intel® 5000P chipset with 1333/1066MHz FSB
System Memory	Up to 16GB DDR-2 667/533 FBDIMM registered memory with ECC support
Ethernet Port	- Two PCI-Express Gigabit Ethernet ports (Intel® 82563) - Eight PCI-Express Gigabit Ethernet ports (Intel® 82571EB) - One flexible Ethernet modules with up to four Gigabit Ethernet ports
Expansion Slot	- Up to three PCI-X expansion slots or - One low profile PCI-X and one PCI-Express x4 slot
Storage Device	- Up to two 3.5" SATA HDD - CompactFlash - Support Disk on Module (DOM)
Serial Port	- One RJ45 connector (for system console) - One 2x5 pin-connector
LCD Panel	2x16 characters LCD module with 4-buttons
LEDs	LED indicator for power status and storage access
IDE	Two SATA connectors
USB	Two USB 2.0 port
VGA	N/A
Power	Full range 400W 1+1 redundant PSU
Dimension	443(W) x 512(D) x 88(H) mm 17.44"(W) x 20.1"(D) x 3.46"(H)
Packing Dimension	24.9"(W) x 24.9"(D) x 8.4"(H) (Subject to change without notice)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95% RH

400W ATX PSU

ORDERING GUIDE

Part No.	Ethernet Interface	EZIO	PCI-X Expansion
NAR-7090-1010	10 copper Gigabit Ethernet port	Yes	3
NAR-7090-1012	10 copper with 4 bypass segment	Yes	3
NAR-7090-1017	6 copper and 4 fiber Gigabit Ethernet port	Yes	3

NAR-7080

2U communication appliance rack-mount server with redundant PSU and flexible Ethernet modules

FEATURE

- Dual Intel® Nocona CPU with 1/2M L2 cache/ 800MHz FSB
- Flexible removable Ethernet modules
- Up to Twelve Gigabit Ethernet ports
- Optional crypto PMC card
- Four DDR400/DDRII memory slots
- Up to two PCI-X expansion slots
- Redundant 460W ATX PSU
- Front access for user-friendly maintenance
- Optional crypto solution
- Bypass option

SPECIFICATION

CPU Board	- Support dual Intel® Nocona processor with 1/2MB L2 cache - Intel® E7520 chipset with 800MHz FSB
System Memory	- Up to 8GB DDR400/DDRII registered memory with ECC support
Ethernet Port	- Two 64bit/133MHz Gigabit Ethernet ports (Intel® 82546) - Two 10/100Mbps Ethernet ports (Intel® 82551) - Two flexible Ethernet modules with up to four GbE ports for each module
Expansion Slot	- Up to two PCI-X expansion slots - One internal PMC connector
Storage Device	- Two optional swappable SATA 2.5" HDD - One SATA 3.5" HDD - CompactFlash - Disk on Module (DOM)
Serial Port	- One RJ45 connector (for system console) - One 2x5 pin-connector
LCD Panel	2x16 characters LCD module with 4-buttons
LEDs	LED indicator for power status and storage access
IDE	- Two SATA connectors - One 40pin IDE connector
USB	2
VGA	N/A
Power	Full-range 460W ATX 1+1 redundant PSU
Dimension	443(W) x 518(D) x 88(H) mm 17.44"(W) x 20.4"(D) x 3.46"(H)
Packing Dimension	24.9"(W) x 24.9"(D) x 8.4"(H) (Subject to change without notice)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL

460W 1+1 redundant PSU

Ethernet Modules

Ordering No.

AKN-374-2

4xRJ45 PCI-E Ethernet card with Intel® 82571EB

AKN-384-2

4xSFP PCI-E Ethernet card with Intel® 82571EB

AKN-394-2

4xRJ45 PCI-E bypass Ethernet card with Intel® 82571EB

ORDERING GUIDE

Part No.	Ethernet	EZIO	PCI-X Expansion
NAR-7080-1250	- 2 Copper GbE - 2 10/100 FE - 2 Ethernet Modules	Yes	2

NAR-5620

1U communication appliance rack-mount server with 2 PCI-E I/O modules and PCI-X expansion slot

FEATURE

- Removable PCI-E Ethernet modules for flexible application request and easy maintenance
- Supports Intel® Core™ Duo and Core™ 2 Duo CPU up to 2.33GHz
- Supports FSB 667 MHz
- Support DDR2 ECC RAM up to 4GB
- Up to Eight Gigabit Ethernet ports
- Support up to 4 bypass segments
- Dual Personality for flexible use of Fiber-optical or copper interface
- One real accessible PCI-X expansion slot

SPECIFICATION

CPU Board	- Supports Intel® Core™ 2 Duo T7xxx series and Core™ Duo T2xxx - Intel® E3100 chiset with 667 MHz FSB
System Memory	- Two 240-pin DDR2 DIMM - Support DDR-2 400 ECC un-buffer RAM up to 4GB
Ethernet Port	Two flexible PCI-E slots for variable Ethernet I/O requirement, details refer to **Ordering Guide**
Expansion Slot	One PCI-X expansion slot available, with real access I/O
Storage Device	- One 3.5" SATA HDD as default - One compact flash socket for type-I CF card
Serial Port	- One front accessible RJ-45 connector for system console - One internal 2X5 pin-header for connection with EZIO or preferred device
LCD Panel	2x16 character LCD module with 4 buttons
LEDs	LED indicators for power status, data access, Ethernet status/ Speed and bypass
USB	Two USB 2.0 ports, front accessible
VGA	No VGA function provide
Power	Full-range 150W ATX PSU
Dimension	443 (W) x 465 (D) x 44 (H) mm; 17.4" (W) x 18.3" (D) x 1.73" (H)
Operating Environment	- Temperature: 0 to 40°C - Humidity: 20%~90% RH
Storage Environment	- Temperature: -20 to 40°C - Humidity: 20%~90% RH
Certification	CE/FCC/UL/cUL

ORDERING GUIDE

Part No.	PCI-E Slot-1 module	PCI-E Slot-2 module	10/100M	Bypass	Dual Personality	EZIO	PCI-X Slot
NAR-5620-0810	AKN-454	AKN-433B	Yes, 1	Yes	N/A	Yes	Yes, 1
NAR-5620-0510	AKN-454	N/A	Yes, 1	N/A	Yes	Yes	Yes, 1
NAR-5620-0110	N/A	N/A	Yes, 1	N/A	Yes	Yes	Yes, 1

NAR-5612

1U communication appliance rack-mount server with 2 PCI-E I/O modules and PCI-X expansion slot

FEATURE

- Removable PCI-E Ethernet modules for flexible application request and easy maintenance
- Supports Intel® Celeron® D, Pentium® 4, Pentium® D and Core™ 2 Dual CPUs
- Supports FSB 1066/800/533 MHz
- Support dual channel DDR2 667/533 up to 4GB
- Up to ten Gigabit Ethernet ports
- Supports up to 3 bypass segments
- Dual-personality for flexible use of fiber-optical (SFP) or copper (RJ45) interface
- One rear-accessible PCI-X expansion slot

SPECIFICATION

CPU Board	- Supports Intel® Celeron® D, Pentium® 4, Pentium® D and Core™ 2 Dual CPUs - Intel® 82945G chipset with 1066/800/533 MHz FSB
System Memory	- Dual channel DDR2 with two 240-pin DIMM socket - Supports DDR2 667/533, un-buffered, none ECC up to 4GB
Ethernet Port	Two flexible PCI-E slots for variable Ethernet I/O requirements. Details refer to **Ordering Guide**
Expansion Slot	One PCI-X expansion slot available, with rear access I/O
Storage Device	- One 3.5" SATA HDD as default - One compact flash socket for type-I CF card - Supports DOM (Disk on Module)
Serial Port	- One front accessible RJ45 connector for system console - One internal 2x5 pin-header for connection with EZIO or preferred device
LCD Panel	2x16 characters LCD module with 4 buttons
LEDs	LED indicators for power status, data access, Ethernet status/ speed and bypass
USB	Two USB 2.0 ports, front accessible
VGA	Build in on-board 2x5 pin-header
Power	Full-range 350W ATX PSU
Dimension	443 (W) x 465 (D) x 44 (H) mm; 17.4" (W) x 18.3" (D) x 1.73" (H)
Operating Environment	- Temperature: 5 to 40°C - Humidity: 20%~90% RH
Storage Environment	- Temperature: -20 to 70°C - Humidity: 20%~90% RH
Certification	CE/FCC/UL/cUL

One PCI-X expansion slot

350W ATX PSU

ORDERING GUIDE

Part No.	Ethernet	EZIO	PCI-X Expansion
NAR-5612-1120	- 4 PCI32 GbE ports - 2 Ethernet Modules	Yes	1

NAR-5612

PCI-E modules for NAR-5610 system series

AKN-434B series

PCI-E x1 Gigabit Ethernet module with up to four GbE ports and 2 bypass segments

	AKN-434B	AKN-432B
PCI-E x1 GbE port	4	2
Ethernet Controller	Intel® 82573L	
Interface Type	RJ45	
Bypass Segment	2	1
Slot Location	Slot-1	Slot-2

AKN-434B Module

AKN-362

PCI-E x4 Gigabit Ethernet module with dual-personality feature

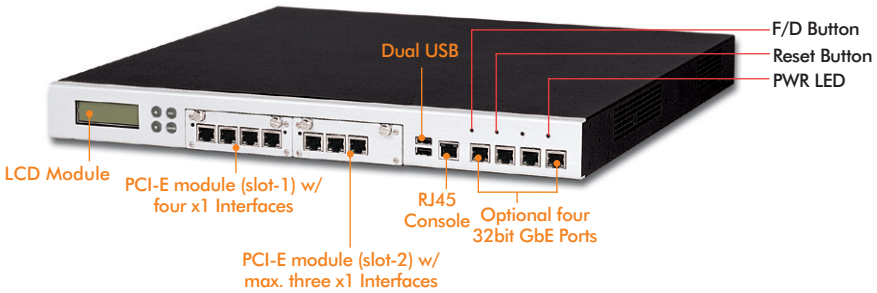
AKN-372B

PCI-E x4 Gigabit Ethernet module with dual GbE ports and 1 bypass segment

AKN-382

PCI-E x4 Gigabit Ethernet module with two fiber-optical GbE ports (SFP)

	AKN-362	AKN-372B	AKN-382
PCI-E x4 GbE port	2	2	2
Ethernet Controller	Intel® 82571EB		
Interface Type	RJ45+SFP	RJ45	SFP
Bypass Segment	N/A	1	N/A
Slot Location	Slot-1	Slot-1	Slot-1



NAR-5530

1U communication appliance rack-mount server with up to 9 GbE and 3 bypass segments

FEATURE

- Most cost-effective dual core system with high performance GbE ports
- Up to Nine Gigabit Ethernet ports available
- Up to three Gen.-2.0* bypass segments
- Support Intel® Conroe, Cedar Mill and most available desktop LGA775 CPUs
- Supports FSB 1066/800 MHz
- Supports dual channel DDR2 800/667/533 up to 4GB
- Highly integrated system in compact chassis but still supports dual 3.5" HDD installation and/or one removable HDD (optional via project base)

SPECIFICATION

CPU Board	- Support Intel® Core™ 2 Duo, Ceder Mill and most available desktop CPUs in LGA775 socket - Intel® Q965 chipset with ICH8 and 1066/800 MHz FSB
System Memory	- Dual channel DDR2 with two 240-pin DIMM socket - Supports DDR2 800/667/533, unbuffered, none ECC up to 4GB
Ethernet Port	- Six PCI-Express x1 Gigabit Ethernet ports with RJ45 via Intel® 82573L - Up to three PCI32 Gigabit Ethernet ports via Intel® 82541PI
Bypass Feature	Up to three Gen.-2.0* bypass segments available
Expansion Slot	- One PCI32 slot for proprietary PCI card and internal installation
Storage Device	- One 3.5" SATA HDD as default, up to two installable - One onboard Compact Flash socket for Type-I CF - Removable 3.5" HDD design ready for project based request
Serial Port	- One front accessible RJ45 connector for system console - One internal 2x5 pin-header for connection with EZIO or preferred device
LCD Panel	2x16 characters LCD module with blue backlight and 4-buttons
LEDs	Power status, data access, Ethernet status (LNK/ACT), Ethernet speed (10/100/1000) and bypass
USB	Dual USB 2.0 ports, front accessible
VGA	Build-in onboard 2x5 pin-header
Power	Full-range 220W PSU
Dimension	443(W) x 406(D) x 44.5(H) mm 17.4"(W) x 16.0"(D) x 1.73"(H)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity: 5% to 95% RH
Certification	CE/FCC/UL/cUL

220W ATX PSU

ORDERING GUIDE

Part No.	PCI-E GbE	PCI32 GbE	Bypass	EZIO	PCI-Slot	PCI-X slot
NAR-5530-0926	6	3	3	Yes	1	N/A
NAR-5530-0920	6	3	N/A	Yes	1	N/A
NAR-5530-0624	6	N/A	2	Yes	1	N/A

*Gen.-2.0 bypass: The latest bypass generation with software programmable Open/Bypass mode by power failure and Next Boot Mode.

NAR-5510

1U server with PCI-Express Gigabit Ethernet, bypass and optional RAID function

FEATURE

- Four Gigabit Ethernet ports via x1 PCI-Express provide wire-speed like performance
- Variable combination with 2 or 4 32-bit Gigabit Ethernet ports (by model)
- Support most up-to-date LGA 775 CPUs up to 3.4GHz with 800MHz FSB
- Support dual channel DDR, up to 2GB
- Optional bypass function on four PCI-Express GbE ports
- Optional crypto solution: Cavium CN1010 to be built 32bit by project
- One rear-accessible PCI expansion slot
- Optional RAID 0,1 function with two 2.5" HDD by project

SPECIFICATION

CPU Board	- Support Intel® LGA 775 P4 processors up to 3.4GHz - Intel® 82915GV chipset with 800/533 MHz FSB
System Memory	- Dual channel DDR with two 184-pin DIMM sockets - Support DDR 333/400, un-buffered, none ECC, up to 2GB
Ethernet Port	- 4 x1 PCI-Express Gigabit Ethernet ports via Intel® 82573L - Up to six 32-bit Gigabit Ethernet ports via Intel® 82541PI
Bypass Function	- Two segments (four ports) on PCI-Express Gigabit ports - Hardware / software configurable
PCI Expansion	One PCI 32/33 expansion slot available, with rear-access I/O
Crypto Option	Location of on board Cavium CN1010 available for project
Storage Device	- One 3.5" SATA HDD as default - One compact flash socket for type-I CF card - Supports Disk on Module (DOM) - Optional two 2.5" hot-swappable HDDs with RAID 0, 1 function
Serial Port	- One front accessible RJ45 connector for system console - One internal 2x5 pin-header for connection with EZIO
LCD Panel	2x16 characters LCD module with 4-buttons
LEDs	LED indicators for power status, data access and bypass-status
USB	Two USB 2.0 ports, front accessible
VGA	On-board 2x5-pin connector for programming and debugging
Power	Full-range 250W ATX PSU
Dimension	429 (W) x 382 (D) x 44 (H) mm; 16.9" (W) x 15.0" (D) x 1.73" (H)
Weight	Gross: 11.1kg(24.47 lbs); Net: 6.5kg(14.33 lbs)
Operating Environment	- Temperature 5~40°C (67~130°F) for up to P4 2.8GHz processors. 5~35°C (67~121°F) for P4 3.0~3.4GHz processors. - Humidity 20%~90% RH
Storage Environment	- Temperature: -20 to 70°C (22 to 184°F) - Humidity 20% to 90% RH
Certification	CE/FCC/UL/cUL

ORDERING GUIDE

Part No.	PCI-E GbE	32bit GbE	Bypass	EZIO	PCI-Slot
NAR-5510B-810	4	4	2 Segments	Yes	1

None-Bypass model is available for project base. Please contact your sales for more details!

NAR-5060

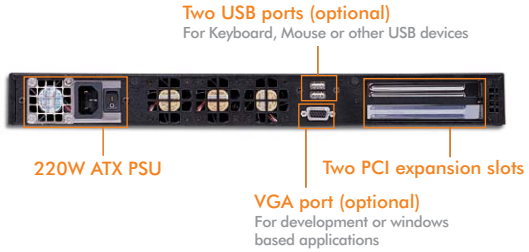
1U server with up to six Gigabit/Fast Ethernet ports and two PCI expansion slots

FEATURE

- Scalable from Intel® Celeron® to Pentium® 2.8 GHz processor
- Up to six GbE/FE supported
- One/two (with backplane) PCI expansion slots
- Non-volatile memory on-board
- Support Compact Flash and Disk on Module (DOM)
- Load Factory-Default mechanism
- Front access for user-friendly maintenance
- 2x16 LCD/keypad for friendly installation and operation interface
- Optional crypto solution

SPECIFICATION

CPU Board	- Support Intel® P4 processor up to 2.8GHz - Intel® 845GV chipset with 533MHz FSB
System Memory	Up to 2GB DDR 200/266 on two 184-pin DIMM socket
Ethernet Port	Six 32-bit/33MHz Gigabit/Fast Ethernet ports (Intel® 82541/82551)
PCI Expansion	One PCI exp. slot on-board or two with backplane, support 3.3V/5V
Storage Device	- One 2.5" HDD / 3.5"HDD (optional) - CompactFlash - Disk on Module (DOM)
Serial Port	- One DB9 (for system console) - One 2x5 pin-connector
LCD Panel	2x16 characters LCD module with 4-buttons
LEDs	LED indicators for power status and storage access
IDE	One 40-pin and one 44-pin IDE connectors
USB	Pin header on-board for two USB devices
VGA	Built-in on-board VGA pin-connector
Power	Full-range 220W ATX PSU
Dimension	428.6(W) x 360(D) x 44(H) mm 16.87"(W) x 14.17"(D) x 1.73"(H)
Packing Dimension	22.4"(W) x 24.4"(D) x 8.7"(H)
Weight	Gross: 9.8kg(21.59 lbs); Net: 5.2kg (11.45 lbs)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	Ethernet	EZIO	PCI Exp.	Crypto
NAR-5060-630	- 4 Copper GbE - 2 10/100 FE	Yes	1/2	N/A
NAR-5060-631	- 6 10/100 FE	Yes	1/2	N/A

NAR-5020

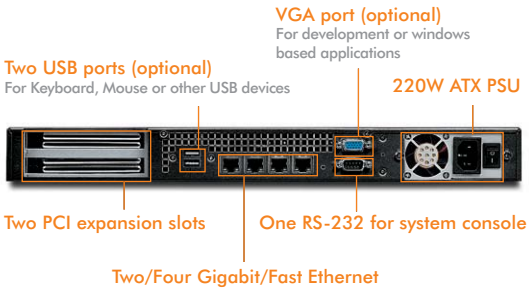
1U server with two rear-accessible Gigabit/Fast Ethernet ports and two PCI expansion slots

FEATURE

- Scalable from Intel® Celeron® to Pentium® 2.8G Hz processor
- Two/Four rear-accessible GbE/FE supported
- Two PCI expansion slots
- Non-volatile memory on-board
- Support Compact Flash and Disk on Module (DOM)
- Load Factory-Default mechanism
- Optional crypto solution
- Bypass option

SPECIFICATION

CPU Board	- Support Intel® P4 processor up to 2.8GHz - Intel® 845GV chipset with 400/533MHz FSB
System Memory	- Up to 2GB DDR 200/266 on two 184-pin DIMM socket
Ethernet Port	- Two/four 32-bit/33MHz Gigabit/Fast Ethernet ports (Intel® 82541/82551)
PCI Expansion	Two PCI exp. slot for development
Storage Device	- Two 3.5" HDD - CompactFlash - Disk on Module (DOM)
Serial Port	- One DB9 (for system console) - One 2x5 pin-connector
LCD Panel	N/A
LEDs	- LED indicators for power status and storage access - Ethernet AC/LNK and speed status
IDE	- One 40-pin and one 44-pin IDE connectors
USB	Pin header on-board for two USB devices
VGA	Built-in on-board VGA pin-connector
Power	Full-range 220W ATX PSU
Dimension	430(W) x 390(D) x 44(H)mm 16.83"(W) x 15.35"(D) x 1.73"(H)
Packing Dimension	22.4"(W) x 24.4"(D) x 8.7"(H)
Weight	Gross: 10.2kg(22.47 lbs); Net: 5.6kg (12.33 lbs)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity 20% to 90%RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95%RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	Ethernet	EZIO	PCI Exp.	Crypto
NAR-5020-220	2 GbE	N/A	2	N/A
NAR-5020-221	2 10/100 FE	N/A	2	N/A
NAR-5020-420	4 GbE	N/A	2	N/A
NAR-5020-421	4 10/100 FE	N/A	2	N/A

NAD-2081

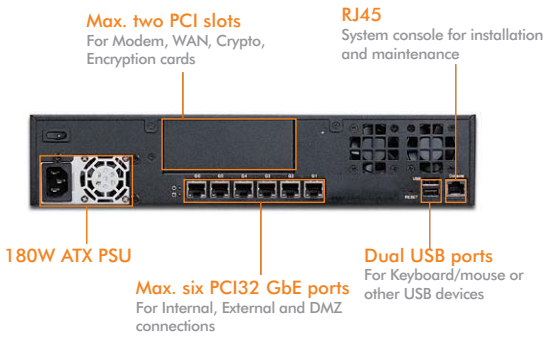
Pentium® 4 Desktop Server with max. six Gigabit Ethernet Ports

FEATURE

- Scalable from Intel Celeron to Pentium 2.8GHz processors
- Up to six 32bit Gigabit Ethernet ports supported
- Two PCI-expansion slots and one internal MiniPCI socket
- Non-volatile memory on-board
- Reserved Load Factory-Default mechanism
- Support Compact Flash and Disk on Module (DOM)

SPECIFICATION

CPU Board	- Support Intell® Pentiuml® 4 and Celeronl® processors up to 2.8GHz - Intell® 845GV chipset with 400/533MHz FSB
System Memory	Supports up to 2GB DDR 200/266 on two 184-pin DIMM socket
Ethernet Port	Up to 6 32bit/33MHz Gigabit Ethernet ports via Marvell 88E8001
PCI Expansion	- Two PCI expansion slots for half-size PCI card, rear-access I/O (no PCI expansion slot available by using 3.5" HDD) - One on-board Mini-PCI socket
Storage Device	- One 3.5" HDD as default (PCI-slots not available) - One compact flash socket for type-I CF card - Supports Disk on Module (DOM) - Optional one 2.5" HDDs (two PCI-slots available)
Serial Port	- One RJ45 connector for system console - One internal 2x5 pin-header
LCD Panel	N/A
LEDs	- LED indicators for power status, data access - ACT/LNK and speed status of Ethernet and switching ports
USB	Two USB 2.0 ports, rear accessible
VGA	On board 2x5-pin connector
Power	Full-range 180W ATX PSU
Dimension	350(W) x 240(D) x 70.4(H) mm 13.78"(W) x 9.45"(D) x 2.77"(H)
Packing Dimension	480(W) x 380(D) x 200(H) mm 18.90"(W) x 14.96"(D) x 7.87"(H)
Weight	Gross: 6.1kg; Net: 5.1kg
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity: 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity: 5% to 95% RH (non-condensing)
Certification	CE/FCC/UL/cUL



ORDERING GUIDE

Part No.	32bit GbE	Switching Port	EZIO	PCI-slot	MiniPCI
NAD-2081-600	6	N/A	N/A	2	1
NAD-2081-400	4	N/A	N/A	2	1

NAD-2065

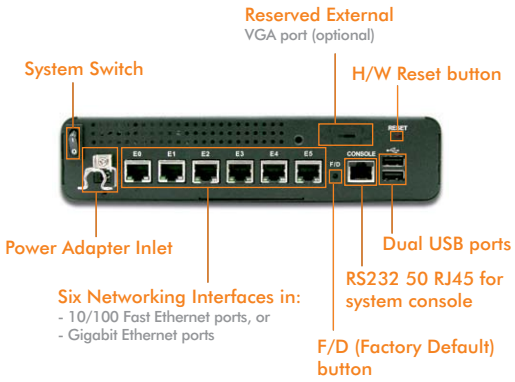
Fanless Intel® desktop communication appliance platform with up to six Ethernet ports

FEATURE

- Outstanding system performance with 512KB cache built-in in CPU
- High cost-effective fan-less desktop solution
- Up to six Gigabit Ethernet ports available
- Supports one Gen.-1.5[1] bypass segments
- Supports one Compact Flash socket (internal)

SPECIFICATION

CPU Board	- Intel® Celeron® M 600MHz CPU with 512KB cache - Intel® 82852GM chipset with ICH4
System Memory	- Two 200-pin SODIMM socket supports DDR266 up to 2GB
Ethernet Port	Up to six PCI32 Gigabit Ethernet ports via Intel® 82541PI or 10/100 Fast Ethernet ports via Intel® 82551
Bypass Feature	One Gen.-1.5[1] bypass segment available
Expansion Slot[2]	- One PCI32 slot for proprietary PCI card - One Mini PCI socket on board
Storage Device	- Support one 3.5" or 2.5" IDE HDD - One onboard Compact Flash socket for Type-I CF
Serial Port	- One rear accessible RJ45 connector for system console - One internal 2x5 pin-header for connection with EZIO or preferred device
LCD Panel	N/A
LEDs	Power status, data access, Ethernet status (LNK/ACT), Ethernet speed (10/100/1000) and bypass
USB	Dual USB 2.0 ports, front accessible
VGA	Built-in on-board 2x5 pin-header
Power	60W power adaptor
Dimension	225(W) x 205(D) x 50(H)mm 8.96"(W) x 8.07"(D) x 1.97"(H)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity 20% to 90%RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95%RH
Certification	CE/FCC/UL/cUL



ORDERING GUIDE

Part No.	PCI32 GbE	10/100 FE	Bypass	EZIO	PCI-Slot
NAD-2065-660	6	N/A	1	N/A	1
NAD-2065-620	N/A	6	1	N/A	1

[1] Gen.-1.5 bypass: The latest bypass generation with pre-settable Open/Bypass mode by power failure and Next Boot Mode via jumper setting

[2] There are two types of PCI expansion in NAD-2065: one standard PCI slot and one Mini PCI. The two interfaces use one same PCI bus and connot be used con-corrently.

NAR-2090

1U communication appliance rack-mount server with up to five Ethernet ports

FEATURE

- Cost-effective rack-mount solution
- Up to VIA C7 1.5GHz CPU performance
- 256MB memory and SODIMM socket on board
- Support 3.5" HDD, Compact Flash and Disk on Module (DOM)
- Optional bypass function
- Front-side access for user-friendly maintenance
- Optional 2x16 LCD/keypad for installation and operation interface
- Optional crypto solution

SPECIFICATION

CPU Board	- Support VIA V4 Eden/C7 series processor - VIA CN700 chipset with 400FSB
System Memory	- 256MB memory on board - One DDRII SODIMM up to 1GB
Ethernet Port	- 5x RealTek RTL8100C Fast Ethernet ports (RTL8110S 32-bit GbE for option) - One segment bypass function for project base application
PCI Expansion	N/A
Storage Device	- CompactFlash - Disk on Module (DOM) - One IDE/SATA 3.5" HDD
Serial Port	- One DB9 (for system console) - One 2x5 pin-connector
LCD Panel	Optional
LEDs	Indicators for power status and storage access
IDE/SATA	- One 40-pin IDE connector - Two SATA connectors
USB	Pin header on-board
VGA	Pin header on-board
Power	Full-range AT 65W PSU
Dimension	428(W) x 255(D) x 44(H) mm 16.85"(W) x 10.04"(D) x 1.73"(H)
Packing Dimension	22.2"(W) x 16.1"(D) x 15.6"(H) (2 in 1 packing)
Weight	Gross: 8.2kg (18.06 lbs) (2 in 1 packing) Net: 3kg (6.61 lbs)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity: 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity: 5% to 95% RH
Certification	CE/FCC/UL

ORDERING GUIDE

Part No.	CPU	Ethernet	EZIO	PCI Exp.
NAR-2090-553-000	VIA C7 1.5GHz	5 (one bypass seg.)	Yes	N/A

NAD-2070

Fanless Desktop Communication appliance platform with up to five Ethernet ports

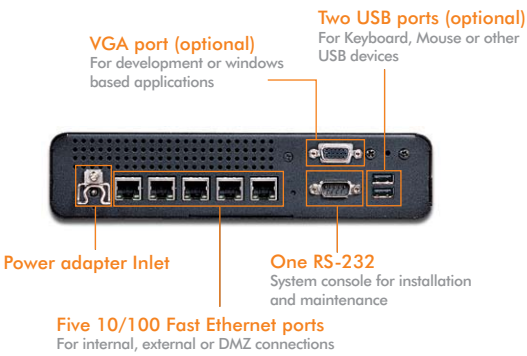
FEATURE

- Cost-effective fanless solution
- Upgradeable to VIA V4 Eden 1.2GHz CPU performance
- Support max to five Ethernet ports
- 256MB memory and SODIMM socket on board
- Support Compact Flash and Disk on Module (DOM)
- Optional bypass function for project base application
- OS: support most updated Linux
- Power adapter solution

SPECIFICATION

CPU Board	- Support VIA V4 Eden series processor - VIA CN700 chipset with 400FSB
System Memory	- 256MB memory on board - One DDRII SODIMM up to 1GB
Ethernet Port	- 5 x RealTek RTL8100C Fast Ethernet ports - Optional bypass function for project base application
PCI Expansion	N/A
Storage Device	- CompactFlash - Disk on Module (DOM) - IDE/SATA 2.5" HDD
Serial Port	- One DB9 (for system console) - One 2x5 pin-connector
LCD Panel	N/A
LEDs	- Indicators for power status and storage access - Ethernet ACT/LNK and speed status
IDE	- One 40-pin IDE connector - Two SATA connectors
USB	Dual USB connectors
VGA	Pin header on-board
Power	60W power adapter
Dimension	225(W) x 205(D) x 50(H) mm 8.86"(W) x 8.07"(D) x 1.97"(H)
Packing Dimension	13.19"(W) x 12.60"(D) x 13.58"(H) (2 in 1 packing)
Weight	Gross: 5.8kg(12.787 lbs) (2 in 1 packing) Net: 1.7kg(3.74lbs)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°C) - Humidity 20% to 90%RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°C) - Humidity 5% to 95%RH
Certification	CE/FCC class B/UL

Side view of NAD-2070

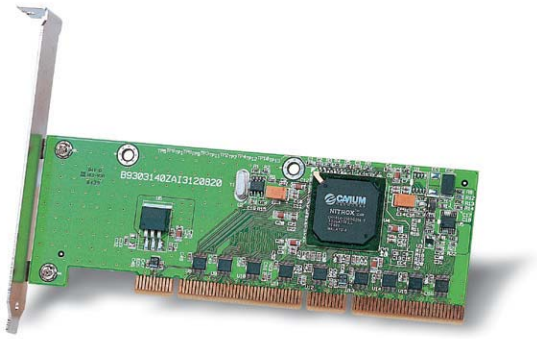


ORDERING GUIDE

Part No.	CPU	Ethernet	PCI Exp.
NAD-2070-510	VIA 500MHz	5	N/A
NAD-2070-542 (Project Base)	VIA 1.2GHz	5 (one bypass)	N/A

ABC-200

High performance IPSec and SSL accelerator PCI-X card with Cavium CN1010X



SPECIFICATION

Crypto Chip	- Cavium CN1010-350BG256-X
PCI Bus	- Compliant with PCI-X 1.0, 64bit/100MHz bus
Algorithm Support	- RSA and Diffie-Hellman - DES/3DES, AES, ARC4 - MD5, SHA-1, HMAC-MD5, HMAC-SHA-1
Protocol Support	- Macro support for IPSec and IKE - Macro support for SSL, TLS and WTLS
Driver Support	- Linux - BSD - VxWorks/Windows
Performance	- 12K 1024bit Diffie Hellman ops/sec - 7K 1024bit RSA operations/sec - Full SSL record throughput 1Gbps (ARC4+MD5) - Full IPSec packet processing 1Gbps (AES/3DES+SHA1)
Dimension	56(W) x 164(L) mm; 2.2"(W) x 6.46"(L)

FEATURE

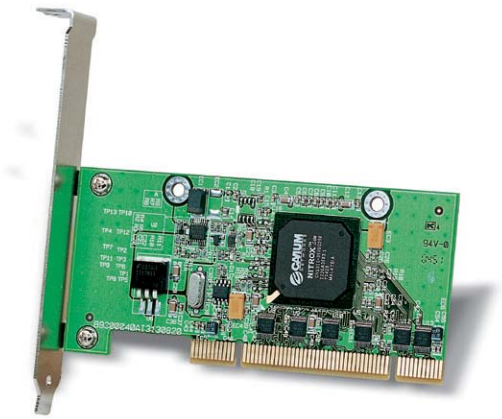
- Support 64-bit/100MHz PCI-X bus
- Multi Algorithm support
- Multi Protocol support: IPSec & SSL
- Support unlimited SSL sessions and IPSec SAs with host memory
- On chip true Random Number Generator
- Software drivers for Linux, BSD and VxWorks

ORDERING GUIDE

Part No.	Description
ABC-200	Crypto accelerator PCI-X card with Cavium CN1010X

ABC-130

High performance IPSec and SSL accelerator PCI card with Cavium CN1010



SPECIFICATION

Crypto Chip	- Cavium CN1010-350BG256
PCI Bus	- 32-bit, 66MHz universal (5V or 3.3V) PCI card
Algorithm Support	- RSA and Diffie-Hellman - DES/3DES, AES, ARC4 - MD5, SHA-1, HMAC-MD5, HMAC-SHA-1
Protocol Support	- Macro support for IPSec and IKE - Macro support for SSL, TLS and WTLS
Driver Support	- Linux - BSD - VxWorks/Windows
Performance	- 12K 1024bit Diffie Hellman ops/sec - 7K 1024bit RSA operations/sec - Full SSL record throughput 1Gbps (ARC4+MD5) - Full IPSec packet processing 1Gbps (AES/3DES+SHA1)
Dimension	56(W) x 120(L) mm; 2.2"(W) x 4.72"(L)

FEATURE

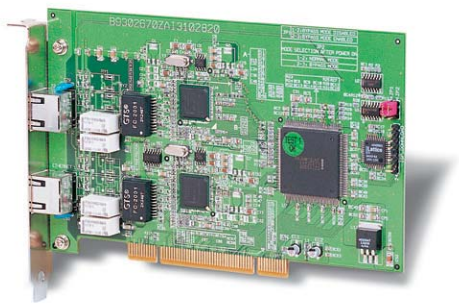
- Universal voltage input, support both +3.3V and +5V
- Multi Algorithm support
- Multi Protocol support: IPSec & SSL
- Support unlimited SSL sessions and IPSec SAs with host memory
- On chip true Random Number Generator
- Software drivers for Linux, BSD and VxWorks

ORDERING GUIDE

Part No.	Description
ABC-130	Crypto accelerator PCI card with Cavium CN1010

ABN-112

Dual Intel® 82551 Fast Ethernet PCI card with bypass function



FEATURE

- Switch automatically to bypass mode while power fails or software hangs
- Built-in watchdog timer to switch Ethernet ports to bypass while power lost or software hang
- Ethernet status and bypass mode pin-headers for optional LED display
- Universal voltage input, supports both +3.3V and +5V
- Hardware selectable (by Jumper setting) to normal or bypass mode after PCI reset
- Software programmable to select normal or bypass mode

SPECIFICATION

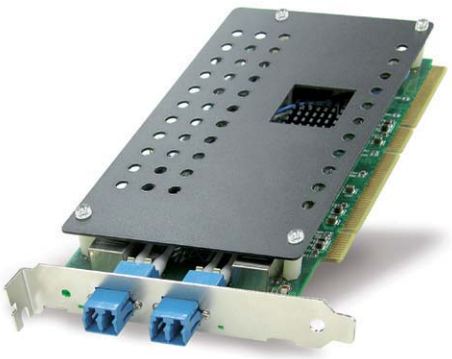
Ethernet Port	- Intel® 82551 high performance IEEE 802.3 - 10/100 BaseTX Ethernet controller
Bridge	Intel® 21152 32-bit PCI bridge
PCI bus	32-bit, 33MHz universal (5V or 3.3V) PCI card
Watchdog Timer	Build-in watchdog timer to switch to bypass mode for Ethernet ports while power fails or software hangs
Jumper Setting	Selectable by Jumper setting to normal or bypass mode after PCI reset. Also software programmable to select normal or bypass mode
LED Display	Two LEDs adjacent to each RJ45 port to display Active/Link & 10/100Mbps speed
LED Pin-Head	Pin-heads reserved for LAN status and bypass mode for optional LED display
Dimension	176.5(W) x 107(D) mm 6.95"(W) x 4.21"(D)

ORDERING GUIDE

Part No.	Description
ABN-112	Dual Intel® 82551 Fast Ethernet PCI card with bypass function

ABN-182

Dual-Port 64-bit Gigabit Ethernet Adaptor with Fiber Bypass Function



FEATURE

- Dual MM LC fiber ports with fiber-bypass function
- Switch automatically, and programmable, to bypass mode while power fails and software hangs
- Software control to switch bypass/non-bypass function in software hang and power failure
- Built-in LED for Ethernet status and bypass mode
- PCI-X interface

SPECIFICATION

Ethernet Port	Intel 82546GB high performance dual ports
Bus Type	64bit/133MHz PCI-X, backwards compatible with PCI-64/32
Compliance	- IEEE 802.3ab, 802.3u compliant - IEEE 802.3x flow control supported
Connector	- Two full duplex MM LC connectors - Multi-mode Fiber ports, 850nm, 1.25Gbps.
Watchdog Timer	Built-in watchdog timer to switch to bypass mode for Fiber ports by power failure and software hang
S/W Programmable	- Software programmable to select normal mode or bypass mode - WDT time-out setting
LED Display	- Two LEDs adjacent to each LC fiber connectors to display the status of linking - One on-board LED to show bypass status
Dimension	170(W) x 90(L) mm; 6.69"(W) x 3.54"(L)

ORDERING GUIDE

Part No.	Description
ABN-182	Dual 64-bit Intel® 82546GB Fiber PCI-X card with bypass function

ABN-192

Dual-Port 64-bit Gigabit Ethernet Adaptor with Bypass Function

FEATURE

- Dual 64-bit Gigabit Ethernet ports base on Intel® 82546GB controller
- Supports 133MHz PCI-X bus and backwards compatible with 64/32-bit PCI
- Built-in Watchdog Timer (WDT) to switch Ethernet ports to bypass mode3 by system hang and power failure
- Easy configuration of Normal/Bypass mode and WDT time-out by hardware setting or software programming
- Built with both on-board LED and LED pin-out for LAN status and bypass mode, provides variable LED location for system integration

SPECIFICATION

Ethernet Port	Intel® 82546EB high performance dual-port Gigabit Ethernet controller
Bus Type	64bit/133MHz PCI-X
Compliance	- IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX and 10BASE-T supported - IEEE 802.3x flow control supported
Watchdog Timer	Built in watchdog timer to switch to bypass mode for Ethernet ports by power failure and software hang
S/W Programmable	- S/W programmable to select normal mode or bypass mode - WDT time-out setting
LED Display	- Two LEDs adjacent to each RJ45 port to display Active/Link & 10/100/1000Mbps - One on-board LED to show bypass status
Dimension	197.8(W) x 78(L) mm; 6.9"(W) x 3.07"(L)

ORDERING GUIDE

Part No.	Description
ABN-192	Dual 64-bit intel® 82546GB Gigabit Ethernet PCI-X card with bypass function

ABN-194

Quad-Port 64-bit PCI-X Gigabit Ethernet Adaptor with 2nd Generation Bypass Function

FEATURE

- Configuration of Normal/Bypass mode and WDT time-out period can be deployed by software commands
- Software programmable modes (Bypass, Normal, Open) after reboot
- Two independent bypass segments
- Quad 64-bit Gigabit Ethernet ports based on Intel® 82546GB controllers
- Supports 133MHz PCI-X bus and is backwards compatible with 64/32-bit PCI
- Built-in Watchdog Timer (WDT) to switch Ethernet ports to bypass mode by system hang
- Built with both on-board LED and LED pin-out for LAN status and bypass mode, provides variable LED location for system integration

SPECIFICATION

Ethernet Port	Intel® 82546GB high performance dual-port Gigabit Ethernet controller
Bus Type	64bit/133MHz PCI-X, backwards compatible with PCI-64/32
Compliance	- IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX and 10BASE-T supported - IEEE 802.3x flow control supported
Watchdog Timer	Built in watchdog timer to switching to bypass mode for Ethernet ports by software hang
S/W programmable	- Selection of normal-, bypass- or open mode - WDT time-out setting
LED Display	- Two LEDs adjacent to each RJ45 port to display Active/Link & 10/100/1000Mbps - One on-board LED for each bypass segment to show bypass status
Dimension	167.64(W) x 106.68(L) mm

ORDERING GUIDE

Part No.	Description
ABN-194	Quad-Port 64-bit PCI-X Gigabit Ethernet Adaptor with 2nd Generation Bypass Function

Accessory

ACCESSORY TABLE

Accessory	Description	Ordering#	NAR-7090	NAR-7080	NAR-5620	NAR-5612	NAR-5530	NAR-5510	NAR-5060	NAR-5020	NAD-2081	NAD-2065	NAR-2090	NAD-2070
Ethernet Cable	CAT.6, Cross-over, orange, 1.8M	B7861700	V	V	V	V	V	V			V	V		
Ethernet Cable	CAT.6, Straight, grey, 1.8M	B7861580	V	V	V	V	V	V			V	V		V
Ethernet Cable	CAT.5, Cross-over, grey, 2 M	B8762200	V	V	V	V	V	V	V	V	V	V	V	V
Ethernet Cable	CAT.5, Straight, black, 2 M	B7861610	V	V	V	V	V	V	V	V	V	V	V	V
VGA Cable	VGA Cable assembly with DB15 Connector, 28cm	B6900385						V	V	V	V	V	V	V
VGA Cable	VGA Cable assembly with DB15 Connector, 43cm	B7864720				V	V							
VGA Kit	3.3V PCI VGA Card	B4720780		V	V									
USB Cable	USB cable assembly with dual USB ports	B7861800							V	V	V		V	
USB Cable Kit	Cable with connectors between on-board pin header and back panel of chassis	B9970030												
K/M Y-Cable	10P to PS/2 keyboard/ moouse Y-Cable	B6900900							V	V				
Null Modem Cable	Null Modem cable with DB9 female connector, 1.2M	B7863030							V	V			V	V
Console Cable	Console Cable with RJ45 connector, 1.8M	B7864490	V	V	V	V	V	V			V	V		
Foot Stand	22mm*22mm square foot stand - black rubber made, 1 piece only	B7750030		V					V	V		V	V	V

ABOUT KiLIN KiLIN™

KiLIN-6000

KiLIN-6005

KiLIN-6020

KiLIN-6030

Product Overview

The wire speed performance in small packets, has been long attempted since day one. Portwell's Kilin family platforms achieve it by implementing the new generation MIPS64 technology from Cavium.

To adapt this new technology, ISVs need time to migrate their existing computing centric architecture to network (or packet processing) centric architecture. Portwell has seamlessly embedded x86 module into Kilin platforms so the migration can be smooth. Besides, some written codes has been fully optimized based on x86 hardware. Embedded x86 module also offers customers the opportunity to enjoy the synergy between x86 and MIPS64 technologies.

No matter it is a voice or data connection, " security " is always the first concern by service providers as well as enterprises. To ensure " secure " voice/data connection between two or more parties, Kilin platforms equip all necessary security features in hardware based.

Although there are up to sixteen MIPS64 cores available to make the real-time applications feasible, the power consumption of the processor unit is less than 30 watts. This low power merit not only saves the daily operating cost but also improves the system reliability due to fewer moving parts being used.

Kilin Family is Built for

- Traditional security appliances, such as Firewall, VPN, AV, and IPS, call for wire speed performance in small packets
- High performance UTM appliance requires remarkable processing capability as well as HW based security features
- New generation appliances which consider 10 Giga Ethernet interface is mandatory
- VOIP and Wireless appliances/gateways demand high quality and "secure" communication
- Triple or Quadruple play systems

REFERENCE TABLE

< MIPS 64 Architecture >

MODEL	KiLIN-6030	KiLIN-6020	KiLIN-6010	KiLIN-6005		KiLIN-6000	
Sub-Model	-4300	-0350	-0350	-1270	-3270	-1270	-3270
Processor	Cavium Octeon CN3860	Cavium Octeon CN3840	Cavium Octeon CN3830	Cavium Octeon CN3120 series		Cavium Octeon CN3120 series	
CPU (Max.)	600MHz, 16 cores	600MHz, 8 cores	600MHz, 4 cores	500MHz, 2 cores		500MHz, 2 cores	
RAM (Max.)	8GB	8GB	8GB	4GB		4GB	
Ethernet							
Fiber	-	-	-	N/A		N/A	
Copper GbE	14	8	4	3 or 6		3 or 6	
10/100 FE	2	1	1	1		1	
Expansion Slot	2	1	1	1		1	
Storage Device							
HDD	Two Removable 3.5" HDD	Two 2.5" HDD	Two 2.5" HDD	One 3.5" HDD		N/A	
CF	Optional	Optional	Optional	Optional		Optional	
DOM	N/A	N/A	N/A	N/A		N/A	
DOC	N/A	N/A	N/A	N/A		N/A	
Serial Port							
Console	RJ45 on front Panel	RJ45 on front Panel	RJ45 on front Panel	RJ45 on the front Panel		RJ45 on the front Panel	
COM	N/A	N/A	N/A	N/A		N/A	
LCD module	YES	YES	YES	YES		N/A	
LEDs	Power, Storage	Power, Storage	Power, Storage	Power, Storage		Power, Storage	
IDE	Two SATA connectors	Two SATA connectors	Two SATA connectors	Two SATA connectors		Two SATA connectors	
USB	Optional	Optional	Optional	One USB 2.0		One USB 2.0	
VGA	N/A	N/A	N/A	N/A		N/A	
Power	350W 1+1 redundant PSU w/PFC	200W Full-range ATX	200W Full-range ATX	65W Full-range		60W Adapter	
Height (U)	2U	1U	1U	1U		1U	
Dimension (WxDxH)	431 x 394 x 88 mm 16.97" x 15.5" x 3.46"	431 x 394 x 44 mm 16.97" x 15.5" x 1.73"	431 x 394 x 44 mm 16.97" x 15.5" x 1.73"	428 x 255 x 44 mm 16.8" x 10.1" x 1.73"		225 x 205 x 50 mm 8.86" x 8.07" x 1.97"	
PAGE	26	27	28	29		30	

KiLIN-6030

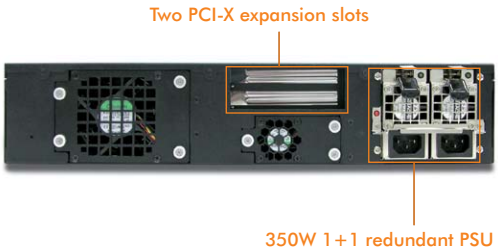
2U rack-mount network server with Cavium Octeon processor and redundant PSU

FEATURE

- MIPS64 Cavium Octeon processor with 16 cores and up to 600MHz
- Security, Regular expression and Decom/ compression functions inside
- Optional COM-Express module supported
- Up to Sixteen Gigabit Ethernet ports with five bypass segments
- SPI4.2 interface for possible 10G solution or fiber bypass function
- Four DDR400/DDRII memory slots and 256MB RLDRM on-board
- Up to two PCI-X expansion slots
- Redundant 350W ATX PSU

SPECIFICATION

CPU Board	- Cavium Octeon CN3860 series with security function inside - 16 cores with 400/500/600MHz CPU frequency
System Memory	- Four ECC registered DDR400/DDRII memory slots up to 8GB, in 533/66MHz - 256MB RLDRAM on-board
Ethernet Port	- Two 64bit/66MHz Gigabit Ethernet ports for management - Four Gigabit Ethernet ports on-board in two bypass segments - Ten Gigabit Ethernet ports from SPI4.2 interface in three bypass segments, with other options such as 10G interface or fiber bypass
Expansion Slot	- Up to two PCI-X expansion slots - COM-Express interface alternative with one PCI-X slot
Storage Device	- Two swappable 3.5" SATA HDD, alternative from Octeon carrier board or COM-Express module - CompactFlash socket on-board
Serial Port	- Both of RJ45 connectors from carrier board and COM-Express respectively - One 2x5 pin-connector from carrier board
LCD Panel	2x16 characters LCD module with 4-buttons, option for 6-buttons
LEDs	LED indicators for power status and storage access
IDE	Two SATA connectors from Cavium and two from COM-Express module
USB	Option
VGA	N/A
Power	Full-range 350W 1+1 redundant PSU
Dimension	431(W) x 394(D) x 88(H) mm 16.97"(W) x 15.5"(D) x 3.46"(H)
Packing Dimension	25.98"(W) x 21.93"(D) x 10.23"(H)
Weight	Gross: 18kg (39.65 lbs); Net: 12.5kg (27.53 lbs)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	Cavium Processor	Ethernet	EZIO	COM-Express
KiLIN-6030-4300	Octeon CN3860-500NSP	14 Copper GbE + 2 management port	Yes	Option

KiLIN-6020

1U rack-mount network server with Cavium Octeon processor and up to eight Gigabit Ethernet ports

FEATURE

- MIPS64 Cavium Octeon processor with 8 cores and up to 600MHz
- Security, Regular expression and Decom/ compression functions inside
- Up to Eight Gigabit Ethernet ports in four bypass segments
- SPI4.2 interface for possible 10G solution or fiber bypass function
- Four DDR400/DDRII memory slots and 64MB RLDRM on-board
- One PCI-X expansion slot supports

SPECIFICATION

CPU Board	- Cavium Octeon CN3840 series with security function inside - 8 cores with 400/500/600MHz CPU frequency
System Memory	- Four ECC registered DDR400/DDRII memory slots up to 8GB, in 533/667MHz - 64MB RLDRAM on-board
Ethernet Port	- One 64bit/66MHz Gigabit Ethernet port for management - Four Gigabit Ethernet ports on-board in two bypass segments - Four optional Gigabit Ethernet ports from SPI4.2 interface in two bypass segments, with other options such as 10G interface
Expansion Slot	One PCI-X expansion slot supports
Storage Device	- Two 2.5" SATA HDD - CompactFlash socket on-board
Serial Port	- One RJ45 connector for system console - One 2x5 pin-connector for LCD or other option
LCD Panel	2x16 characters LCD module with 4-buttons, option for 6-buttons
LEDs	LED indicators for power status and storage access
IDE/SATA	Two SATA connectors
USB	Option
VGA	N/A
Power	Full-range 200W ATX PSU
Dimension	431 (W) x 394 (D) x 44 (H) mm; 16.97" (W) x 15.5" (D) x 1.73" (H)
Weight	Gross: 12kg(26.43 lbs); Net: 7kg(15.42 lbs)
Operating Environment	- Temperature: 5~40°C (67~130°F) - Humidity 20%~90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL

ORDERING GUIDE

Part No.	Cavium Processor	Ethernet	EZIO	COM-Express
KiLIN-6020-0351	Octeon CN3860-500 NSP	4 Copper GbE + 1 management port	Yes	N/A
KiLIN-6020-0350	Octeon CN3840-500 NSP	4 Copper GbE + 1 management port	Yes	N/A

KiLIN-6010

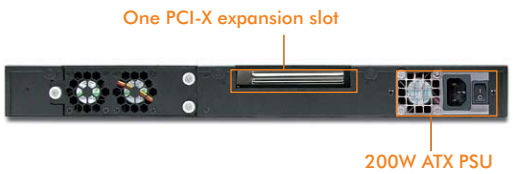
1U rack-mount network server with Cavium Octeon processor and up to four Gigabit Ethernet ports

FEATURE

- MIPS64 Cavium Octeon processor with 4 cores and up to 600MHz
- Security, Regular expression and Decom/ compression functions inside
- Up to Four Gigabit Ethernet ports in two bypass segments
- Four DDR400/DDRII memory slots on-board
- One PCI-X expansion slot supports

SPECIFICATION

CPU Board	- Cavium Octeon CN3830 series with security function inside - 4 cores with 400/500/600MHz CPU frequency
System Memory	- Four ECC registered DDR400/DDRII memory slots up to 8GB, in 533/667MHz - Optional RLDRAM for project-base
Ethernet Port	- One 64bit/66MHz Gigabit Ethernet port for management - Four Gigabit Ethernet ports on-board in two bypass segments
Expansion Slot	One PCI-X expansion slot supports
Storage Device	- Two 2.5" SATA HDD - CompactFlash socket on-board
Serial Port	- One RJ45 connector for system console - One 2x5 pin-connector for LCD or other option
LCD Panel	2x16 characters LCD module with 4-buttons, option for 6-buttons
LEDs	LED indicators for power status and storage access
IDE/SATA	Two SATA connectors
USB	Option
VGA	N/A
Power	Full-range 200W ATX PSU
Dimension	431(W) x 394(D) x 44(H) mm 16.97"(W) x 15.5"(D) x 1.73"(H)
Weight	Gross: 12kg(26.43 lbs); Net: 7kg (15.42 lbs)
Operating Environment	- Temperature: 5 to 40°C (67 to 130°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	Cavium Processor	Ethernet	EZIO	COM-Express
KiLIN-6010-0351	Octeon CN3860-500 NSP	4 Copper GbE + 1 management port	Yes	N/A
KiLIN-6010-0350	Octeon CN3830-500 NSP	4 Copper GbE + 1 management port	Yes	N/A

KiLIN-6005

1U network appliance with Cavium Octeon 31XX series CPU

FEATURE

- MIPS64 Cavium Octeon processor with 2 cores and up to 500MHz
- Security, Regular expression and compression/de-compression functions inside
- Up to Six Gigabit Ethernet ports with one bypass segments
- Two DDRII 533/667 memory slots and option up to 256MB DFA RAM on-board
- Up to one 32bit 3.3V PCI expansion slots
- 65W PSU

SPECIFICATION

CPU Board	- Cavium Octeon CN31XX series with various function inside via different CPU type - 1 or 2 cores with 300/400/500MHz CPU frequency
System Memory	- Two DDRII 533/667 memory slots up to 2GB, - Optional 256MB DFA RAM on-board
Ethernet Port	- One 32bit/33MHz Gigabit Ethernet ports for management - Three Gigabit Ethernet ports on-board in one bypass segments - Optional four Gigabit Ethernet ports from switch interface
Expansion Slot	Up to one PCI expansion slots
Storage Device	- Optional one SATA 3.5" HDD, - Compact Flash socket on-board
Serial Port	- One RJ45 connectors for console management - One 2x5 pin-connector on board
LCD Panel	2x16 characters LCD module with 4-buttons, option for 6-buttons
LEDs	LED indicators for power status and storage access
IDE	One SATA connectors from M/B
USB	One USB connector support 2.0
VGA	N/A
Power	Full-range 65W
Dimension	428 (W) x 255 (D) x 44 (H) mm; 16.85" (W) x 10.04" (D) x 1.73" (H)
Packing Dimension	22.2" (W) x 16.1" (D) x 15.6" (H) (2 in 1 packing)
Weight	Gross: 8.2kg(18.06 lbs) (2in 1 packing) Net: 3kg(6.61 lbs)
Operating Environment	- Temperature: 5~40°C (67~130°F) - Humidity 20%~90% RH
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL

System Switch

ORDERING GUIDE

Part No.	Ethernet Interface	EZIO	CF	PCI
KiLIN-6005-1270	- 3 copper Gigabit Ethernet - 1 10/100M Fast Ethernet	Yes	1	1
KiLIN-6005-3270	- 6 copper Gigabit Ethernet - 1 10/100M Fast Ethernet	Yes	1	1

KiLIN-6000

1U network appliance with Cavium Octeon 31XX series CPU

by Project Based

FEATURE

- MIPS64 Cavium Octeon processor with 2 cores and up to 500MHz
- Security, Regular expression and compression/de-compression functions inside
- Up to Six Gigabit Ethernet ports with one bypass segments
- Two DDRII 533/667 memory slots and option up to 256MB DFA RAM on-board
- Up to one 32bit 3.3V PCI expansion slots
- 65W PSU

SPECIFICATION

CPU Board	- Cavium Octeon CN31XX series with various function inside via different CPU type - 1 or 2 cores with 300/400/500MHz CPU frequency
System Memory	- Two DDRII 533/667 memory slots up to 2GB, - Optional 256MB DFA RAM on-board
Ethernet Port	- One 32bit/33MHz Gigabit Ethernet ports for management - Three Gigabit Ethernet ports on-board in one bypass segments - Optional four Gigabit Ethernet ports from switch interface
Expansion Slot	Up to one PCI expansion slots
Storage Device	- Optional one SATA 3.5" HDD, - Compact Flash socket on-board
Serial Port	- One RJ45 connectors for console management - One 2x5 pin-connector on board
LCD Panel	2x16 characters LCD module with 4-buttons, option for 6-buttons
LEDs	LED indicators for power status and storage access
IDE	One SATA connectors from M/B
USB	One USB connector support 2.0
VGA	N/A
Power	Full-range 65W
Dimension	428 (W) x 255 (D) x 44 (H) mm; 16.85" (W) x 10.04" (D) x 1.73" (H)
Packing Dimension	22.2" (W) x 16.1" (D) x 15.6" (H) (2 in 1 packing)
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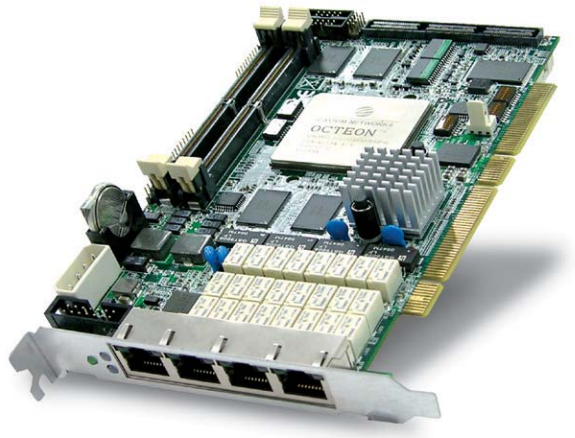
Storage Environment	- Temperature: 0 to 70°C (58 to 184°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL

Power adapter Inlet

RF-330

Advanced Packet Optimizing card to enhance your x86 server with MIPS multi-core power



FEATURE

- Tremendous packet processing power with up to 16 MIPS64 processor cores
- Rich built-in security features: compression-decompression, encryption-decryption, regular expression, pattern matching, TCP-offload, SSL, IPS, Antivirus and Qos
- Supports both Host Mode for stand-alone system board and Target Mode as a PCI-X add-on card
- Four Copper GbE ports with two Gen.-2[(1)] bypass segments
- Flexible SPI 4.2 interface for variable application expansion
- Optional onboard RLDRAM for high performance pattern matching
- Two Mini-DIMM sockets support ECC registered DDR2 up to 8GB
- Onboard CF-socket for Type-I/II CF card

SPECIFICATION

Processor	Cavium Octeon™ CN38XX series Multi-core MIPS64® SoCs
Form Factor	PCI-X board in proprietary length
System Memory	- Two 244pin Mini-DIMM sockets, support DDR2/667 up to 8GB - Onboard RLDRAM up to 288MB for pattern matching
Ethernet Port	Four RJ45 Gigabit Ethernet ports
Bypass Segment	Two Gen-2 bypass segemtns onboard
Expansion	- One vertical SPI 4.2 interface for connection with 10G/1G modules - Golden finger of 64bit/133MHz PCI-X interface for installation as a PCI-X add-on card
Operating Environment	- Temperature: 5 to 40°C - Humidity 5% to 95%RH
Storage Environment	- Temperature: -20 to 70°C - Humidity 5% to 95% RH

ORDERING GUIDE

Part No.	Cavium Processor	MIPS64 Cores	Ethernet Port	Bypass Segment	RLDRAM
RF-330	CN3860-500	16	4	1	288MB

[(1)]Gen.-2.0 bypass: The latest bypass generation with software programmable Open/Bypass mode by power failure and Next Boot Mode

ABOUT TANC

TANC®

High performance mode card with PMC/XMC interfaces for ATCA system

AdvancedTCA™ (ATCA)

AdvancedTCA™ stands for Advanced Telecom Computing Architecture and was specified by PICMG (PCI Industrial Computer Manufacturers Group) as PICMG 3.x in December, 2002 and then amended by ECN001 in January 2004. It's a blade-based architecture based on high performance switched fabrics, with features designed to support 99.999%+ levels of availability to enable next generation platforms with terabit switching capacity within a single chassis. It is intent of PICMG 3.x family to accommodate a wide variety of switch fabrics in a layered set of specifications that evolves over time along side the evolution of fabric technologies. The specification defines new generation architecture for building high-end "CARRIER GRADE" equipment and includes following subsidiary:

- PICMG 3.0: The base spec covers mechanical, power-, cooling-, interconnect- and RASM properties of AdvancedTCA family of specs.
- PICMG 3.1: Ethernet and Fiber Channel Transport
- PICMG 3.2: InfiniBand Transport
- PICMG 3.3: StarFabric Transport
- PICMG 3.4: PCI-Express Transport
- PICMG 3.5: Advanced Fabric Interconnect / Serial Rapid IO

AdvancedTCA™ achieved a set of standards for building Industrial Standard Based Platforms by choosing to buy hardware as Commercial Off The Shelf or to design, manufacture and support selected elements in house. Through this the development expense, lifecycle costs and time to market risks can be reduced.

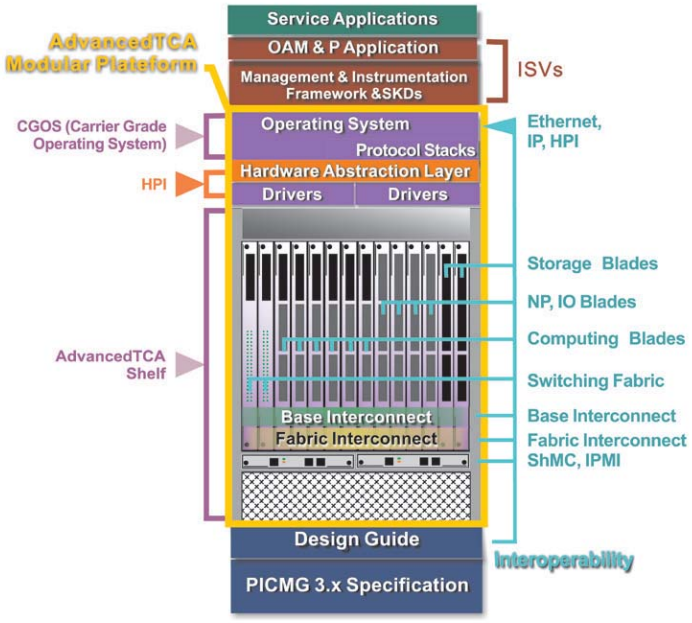
Target Market

The PICMG 3.x specifications are designed to provide an open, multi-vender architecture that is originally aimed at Central Office telecom applications, but its high bandwidth communications capability, unprecedented processor density and extremely robust mechanical and electrical definitions are also attractive for many other market segments such as military communication equipment. In summary, the applications which can take advantage of IP data transportations, like wireless access, Voice/Video over IP as well as high-end Firewall and security application, are typical key target applications for AdvancedTCA™.

Platform Architecture

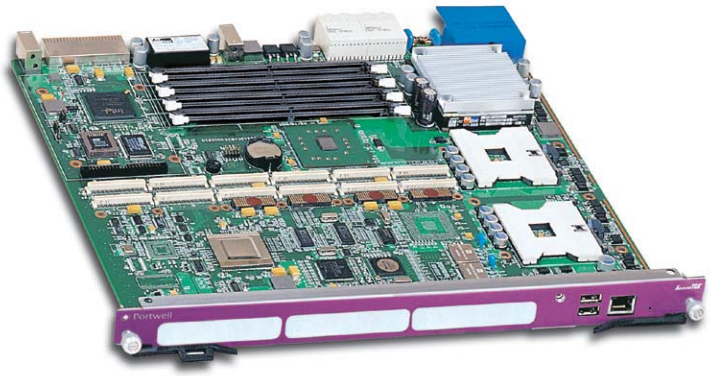
AdvancedTCA™ system consists from standard based modular building blocks with interoperability and includes the following components:

1. AdvancedTCA Shelf - The shelf is built with backplane with preferred star or mesh topology.
2. Front Board - There are two key categories:
   a. Node Card: Storage blades, NP/IO blades and computing blades.
   b. Switching Board: Switching blade supports base and fabric interface.
3 Shelf Manager - Manage/Track the FRU population and common infrastructure of a shelf, especially the power, cooling and interconnect. It enables the System Manager to join in that management/tracking through the System Manager Interface (IPMI).
4. RTM, Rear Transition Module - RTMs are optional for system service. It simplifies servicing of front boards by putting I/O cable assemblies on the RTM. I/O signals from the front board are routed to Zone3 where a user-defined connector mates with the RTM and takes the signals outside the rear of the shelf.



TANC-5320

High performance node card with PMC/XMC interfaces for ATCA system



FEATURE

- High computing power of dual Intel® LV Nocona procewsor with 800MHz FSB
- Intel® E7520 chipset
- Three 64bit/133MHz PMC interfaces
- Two optional PCI-Express XMC interfaces (alternative with PMC interfaces)
- Intelligent Platform Management Controller (IPMC) performs via dual Intelligent Platform Management Bus (IPMB) to enhance system reliability
- Support most major OS

SPECIFICATION

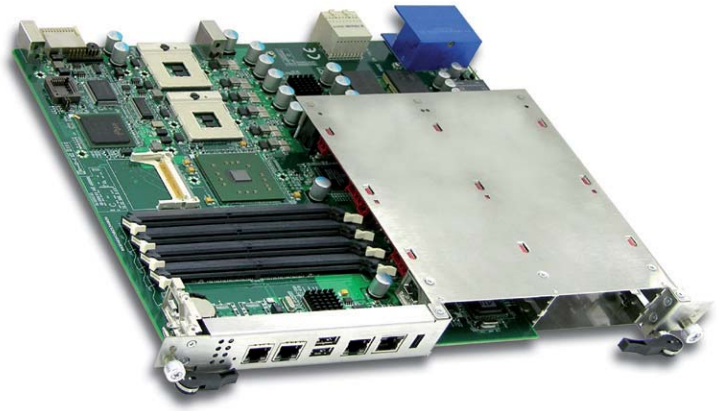
CPU Board	Dual Intel® LV Nocona processor
Chipset	Intel® E7520 chipset with 800MHz FSB
System Memory	Up to 16GB DDR400/DDRII registered memory with ECC support
BIOS	Award BIOS
Ethernet Port	Flexible from three PMC/XMC modules
Storage Devices	- Support one 2.5" HDD at UMDA33/66/100 - One on-board Compact Flash socket - One optional SATA 2.5" HDD from PMC interface
I/O	- One RJ-45 system console - One dual-USB connector - Zone 3 connector for RTM connection
Expansion Interface	- Three 64bit/133MHz PMC interfaces - Two optional PCI-Express XMC interfaces (alternative with two PMC interfaces)
LEDs	Power status, System health, HDD activity
Hardware Monitoring	- Build-in IPMC - Dual IPM Bus (IPMB) provide improved system reliability
Power	- Supports voltage: -48VDC for board - Redundant DC-feed
Dimension	280 (W) x 322.5 (L) mm 11.02" (W) x 12.70" (L)
Operating Environment	- Operating Temperature: 5 to 45°C - Storage Temperature: -20 to 70°C - Relative Humidity: 5% to 90%, non-condensing
Compliance	- Advanced TCA core specification, PICMG 3.0 - IPMI v1.5 - Design for NEBS GR-63-Core Level 3
Certification	- Design for CE/FCC, UL/cUL

ORDERING GUIDE

Part No.	Ethernet Interface	PMC Interface
TANC-5320	- 2 SFP - 4 Copper GbE	1

TANC-5340

ATCA control board with Dual Sossaman CPU



FEATURE

- High performance of dual Intel® Xeon® LV (Sossaman) with 667MHz FSB
- ATCA control node
- 4 Gigabit Ethernet, Two for front connection and two for base channel
- Front access console port and 10/100M management port
- Support major OS

SPECIFICATION

CPU Board	Dual Intel® Xeon LV Sossaman processor
Chipset	Intel® E7520 chipset with 667MHz FSB
System Memory	Up to 16GB DDR400/DDRII registered memory with ECC support
BIOS	Award BIOS
Ethernet Port	Default with 2 Gigabit Ethernet and Flexible from two AMC modules
Storage Devices	- Support one 2.5" HDD at SATA 1.5Gbs - One on-board Compact Flash sock
I/O	- One RJ-45 system console - One dual-USB connector - Zone 3 connector for RTM connection
Expansion Interface	- Two AMC interfaces
LEDs	Power status, System health, HDD activity
Hardware Monitoring	- Build-in IPMC - Dual IPM Bus (IPMB) provide improved system reliability
Power	- Supports voltage: -48VDC for board - Redundant DC-feed
Dimension	280 (W) x 322.5 (L) mm 11.02" (W) x 12.70" (L)
Operating Environment	- Operating Temperature: 5 to 45°C - Storage Temperature: -20 to 70°C - Relative Humidity: 5% to 90%, non-condensing
Compliance	- Advanced TCA core specification, PICMG 3.0 - IPMI v1.5 - Design for NEBS GR-63-Core Level 3
Certification	- Design for CE/FCC, UL/cUL

ORDERING GUIDE

Part No.	Ethernet Interface	AMC Interface
TANC-5340	2 Copper GbE	2

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