Portwell

Complete Your Networld

www.portwell.com

- 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. 29C

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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 an associate member of the Intel® Embedded and Communication 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

E225800

REFERENCE TABLE

< x86 Architecture >

MODEL	PMG-7095	NAR-7100		NAR-7090				NAR-5650
Sub-Model	-1206	-1414	-1014	-1412	-1413	-1417	-1418	-0830
Chipset	Intel® 5000P	Intel® 5520		Intel® 5000P				Intel® 3210
CPU (Max.)	Dual-Core Xeon® up to 3.0GHz Quad-Core Xeon® up to 2.66GHz	Quad-Core Xeon® up to 2.53GHz E55XX		Dual-Core Xeon® up to 3.0GHz Quad-Core Xeon® up to 2.66GHz				Dual-Core/Quad-Core Xeon® 3000 series
RAM (Max.)	32GB	80GB		32GB				8GB
Ethernet								
Fiber	0	0	4	0	8	4	0	0
Copper GbE	6	14	6	8	0	4	8	8
10/100 FE	0	0	0	0	0	0	0	0
Bypass Seg.	0	0	0	4	0	0	2	3
Expansion Slot	2 expansion slots PCI-X, PCI-E	PCI-X, PCI-E option		3 expansion slots for variable PCI-X, PCI-E & PCI-E x8				One PCI-E x8 slot, one mini-PCI socket
Storage Device								
HDD	12 Removable 3.5" SATA HDDs	Two removable 3.5" SATA HDDs		Two removable/linner 3.5" SATA HDDs				One 3.5" SATA HDD
CF	Optional	Optional		Optional				Optional
DOM	Optional	N/A		Optional				Optional
DOC	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 front panel
LCD module	EZIO-300 or EZIO-G400	EZIO-300 or EZIO-G400		EZIO-300 or EZIO-G400				EZIO-300 or EZIO-G400
LEDs	Power, Data-access, LAN status & Speed, Bypass	Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass				Power, Data-access, LAN status & Speed, Bypass
SATA	4 SATA-II connectors	4 SATA-II connectors		4 SATA-II connectors				2 SATA-II connectors
IDE	CF socket & 40-pin IDE connector	CF socket		CF socket & 40-pin IDE connector				CF-socket & 40-pin connector
USB	Two USB 2.0 on front panel	Two USB 2.0 on front panel		Two USB 2.0 on front panel				Two USB 2.0 on front panel
VGA	N/A	Yes		N/A				N/A
Power	700W redundant PSU	500W redundant PSU		400W redundant PSU				300W full-range ATX
Height (U)	4	2		2				1
Dimension (WxDxH)	484 x 576.5 x 176mm 19.1" x 22.7" x 16.9"	431.8 x 580 x 88mm 17" x 22.8" x 3.5"		454 x 510 x 88 mm 16.97" x 20.2" x 3.46"				443 x 457.2 x 44 mm 17.4" x 18" x 1.73"
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MODEL	NAR-5630		NAR-5530			NAR-5520				NAR-5522	
Sub-Model	-0610	-0611	-926	-920	-624	-412	-612	-812	-1012	-412	-612
Chipset	Intel® 945G		Intel® Q965			Intel® 945G				Intel® 945GC	
CPU (Max.)	Core™ 2 Duo		Core™ 2 Duo Core™ 2 Quad			Core™ 2 Duo				Core™ 2 Duo	
RAM (Max.)	4GB		4GB			4GB				4GB	
Ethernet											
Fiber	0	2	0	0	0	0	0	0	0	0	0
Copper GbE	6	4	9	9	6	4	6	8	10	4	6
10/100 FE	0	0	0	0	0	0	0	0	0	0	0
Bypass Seg.	2	2	3	0	2	2	2	2	2	2	2
Expansion Slot	One PCI (internal, proprietary)		One internal PCI-slot			Two PCI-slots on rear panel, optional				One PCI-slots on rear panel, optional	
Storage Device											
HDD	One 3.5" SATA HDD, up to two		One 3.5" SATA HDD, up to two			One 3.5" SATA HDD, up to two				One 3.5" SATA HDD, up to two	
CF	Optional		Optional			Optional				Optional	
DOM	Optional		Optional			Optional				Optional	
DOC	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 rear panel	
LCD module	EZIO-300 or EZIO-G400		EZIO-300 or EZIO-G400			EZIO-300 or EZIO-G400				N/A	
LEDs	Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass			Power, Data-access, LAN status & Speed, Bypass				Power, Data-access, LAN status & Speed, Bypass	
SATA	2 SATA-II connectors		2 SATA-II connectors			2 SATA-II connectors				2 SATA-II connectors	
IDE	CF-socket & 40-pin connector		CF-socket & 40-pin connector			CF-socket & 40-pin connector				CF-socket & 40-pin connector	
USB	Two USB 2.0 on front panel		Two USB 2.0 on front panel			Two USB 2.0 on front panel				Two USB 2.0 on rear panel	
VGA	Internal pin-header		Internal pin-header			Internal pin-header				Internal pin-header	
Power	220W full-range ATX		220W full-range ATX			220W full-range ATX				180W full-range ATX	
Height (U)	1		1			1				1	
Dimension (WxDxH)	443 x 406 x 44 mm 17.4" x 16.0" x 1.73"		443 x 406 x 44mm 17.4" x 16.0" x 1.73"			431.8 x 355.2 x 44 mm 17.0" x 14.0" x 1.73"				431.8 x 355.2 x 44 mm 17.0" x 14.0" x 1.73"	
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MODEL	CAR-3000	NAR-4060		CATO-3000		CATO-2000	
Sub-Model	-3620	-600	-610	-0736	-3436	-0442	-0446
Chipset	Intel® G41	Intel® 945GC		Intel® EP80579 with QuickAssist Technology		Intel® EP80579 with QuickAssist Technology	
CPU (Max.)	Core™ 2 Duo Core™ 2 Quad	Intel® Conroe-L 400 series					
RAM (Max.)	4GB	4GB		2GB		4GB	
Ethernet							
Fiber	0	0	0	0	3	0	0
Copper GbE	6	6	6	7	4	4	4
10/100 FE	0	0	0	0	0	0	0
Bypass Seg.	2	0	1	1	1	2	2
Expansion Slot	One PCI-E x8 slot	N/A		One PCI-E x4 slot on the front panel		One PCI-E x4 slot on the front panel	
Storage Device							
HDD	One 3.5" SATA HDD or one 2.5"HDD	One 3.5" IDE/SATA HDD		One 3.5" or 2.5" SATA HDD		One 3.5" or 2.5" SATA HDD	
CF	Optional	Optional		Optional		Optional	
DOM	N/A	Optional		Optional		Optional	
DOC	N/A	N/A		N/A		N/A	
Serial Port							
Console	RJ45 on front panel	RJ45 on front panel		RJ45 on the front panel		RJ45 on the front panel	
LCD module	EZIO-300 or EZIO-G400	Optional		EZIO-300 or EZIO-G400		Optional	
LEDs	Power, Data-access, LAN status & Speed, Bypass	Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass	
SATA	2 SATA-II connectors	1 SATA-II connectors		1 SATA-II connectors		1 SATA-II connectors	
IDE	CF-socket	CF-socket & 40-pin connector		CF slot		CF slot	
USB	Two USB 2.0 on front panel	Two USB 2.0 on front panel		Two USB 2.0 on the front panel		Two USB 2.0 on the front panel	
VGA	Internal pin-header	Internal pin-header		N/A		N/A	
Power	100W or 200W full-range ATX	90W full-range ATX		150W full-range ATX		150W full-range ATX	
Height (U)	1	1		1		1	
Dimension (WxDxH)	443 x 292.1 x 44 mm 17.45" x 11.5" x 1.73"	428 x 255 x 44 mm 16.85" x 10.04" x 1.73"		443 x 279 x 44 mm 17.45" x 11" x 1.75"		443 x 279 x 44 mm 17.45" x 11" x 1.75"	
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MODEL	NAR-2200		CAR-2000		NAR-2290		NAR-2090	NAR-2091
Sub-Model	-601	-621	-3621	-3601	-420	-460	-557	-557
Chipset	Intel® 915GME	Intel® 910GMLE	Intel® 945GC		Intel® 910GMLE		VIA® CN700	
CPU (Max.)	Intel® Pentium® M, Celeron® M	Intel® Celeron® M 600MHz	Atom™ N330 1.6GHz		Intel® Celeron® M 600MHz	Intel® Pentium® M, Celeron® M	VIA® C7 1.5GHz	
RAM (Max.)	2GB		4GB		2GB		1GB	
Ethernet								
Fiber	0	0	0		0	0	0	0
Copper GbE	6	4	6		4	4	0	0
10/100 FE	0	2	0		0	0	5	5
Bypass Seg.	1	1	2	0	0	0	1	1
Expansion Slot	One PCI slot		One PCI-E x8 slot, one mini-PCI slot		One MiniPCI slot		One PCI slot	Two PCI slots
Storage Device								
HDD	Optional 2.5"/3.5" IDE/SATA HDD		Optional 2.5"/3.5" SATA HDD		Optional 2.5"/3.5" IDE/SATA HDD		Optional 2.5"/3.5", IDE/SATA 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 front panel		RJ45 on front panel		RJ45 on front panel		DB9 on front panel	
LCD module	Optional		Optional		Optional		EZIO-100	
LEDs	Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass	
SATA	2 SATA-I connectors		2 SATA-II connectors		2 SATA-I connectors		2 SATA-I connectors	
IDE	CF-socket & 40-pin connector		CF-socket		CF-socket & 40-pin connector		CF-socket & 40-pin connector	
USB	Two USB 2.0 on front panel		Two USB 2.0 on front panel		Two USB 2.0 on front panel		Two USB 2.0 on front panel	
VGA	Internal pin-header		Internal pin-header		Internal pin-header		Internal pin-header	
Power	80W full-range AT		100W full-range ATX		100W full-range ATX		65W full-range AT	
Height (U)	1		1		1		1	
Dimension (WxDxH)	428 x 255 x 44mm 16.85" x 10.04" x 1.73"		443 x 292 x 44 mm 17.4" x 11.5" x 1.73"		428 x 255 x 44 mm 16.85" x 10.04" x 1.73"		428 x 255 x 44 mm 16.85" x 10.04" x 1.73"	
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MODEL	CATO-2010		NAD-2100L		NAD-2074	NAD-2073	NAD-2075
Sub-Model	-0442	-0446	-601	-421	-557	-557	-414
Chipset	Intel® EP80579 with QuickAssist Technology		Intel® 910GMLE		VIA® CN700		VIA® CN700
CPU (Max.)			Intel® Pentium® M, Celeron® M	Intel® ULV Celeron® M 600MHz	VIA® C7 1.5GHz		VIA® ULV Eden 500MHz
RAM (Max.)	4GB		2GB		1GB + 256MB on board		1GB + 256MB on board
Ethernet							
Fiber	0	0	0	0	0	0	0
Copper GbE	4	4	6	4	0	0	0
10/100 FE	0	0	0	0	5	5	4
Bypass Seg.	2	2	1	1	1	1	0
Expansion Slot	N/A		One PCI slot		One PCI slot	N/A	N/A
Storage Device							
HDD	N/A		One 3.5" or 2.5" SATA HDD		One 2.5" IDE/SATA HDD	One 2.5"/3.5" IDE/SATA HDD	2.5" SATA HDD
CF	Optional		Optional		Optional		256MB
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		DB9 on rear panel		DB9 on rear panel
LCD module	N/A		N/A		N/A		N/A
LEDs	Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass		Power, Data-access, LAN status & Speed, Bypass
SATA	1 SATA-II connector		1 SATA-II connector		2 SATA-I connectors	2 SATA-I connectors	1 SATA-I connector
IDE	CF slot		CF slot		CF-socket & 40-pin connector		CF-socket
USB	Two USB 2.0 on the rear panel		Two USB 2.0 on the rear panel		Two USB 2.0 on rear panel		Two USB 2.0 on rear panel
VGA	N/A		Internal pin-header		Internal pin-header		Internal pin-header
Power	60W power adapter		84W power adapter	60W power adapter	60W power adapter		60W power adapter
Height (U)	1		1.25		1.15		1
Dimension (WxDxH)	230 x 197.2 x 42mm 9.06" x 7.76" x 1.65"		250 x 213 x 55mm 9.84" x 8.39" x 2.17"		225 x 205 x 50 mm 8.86" x 8.07" x 1.97"		220 x 230 x 44 mm 8.66" x 9.06" x 1.73"
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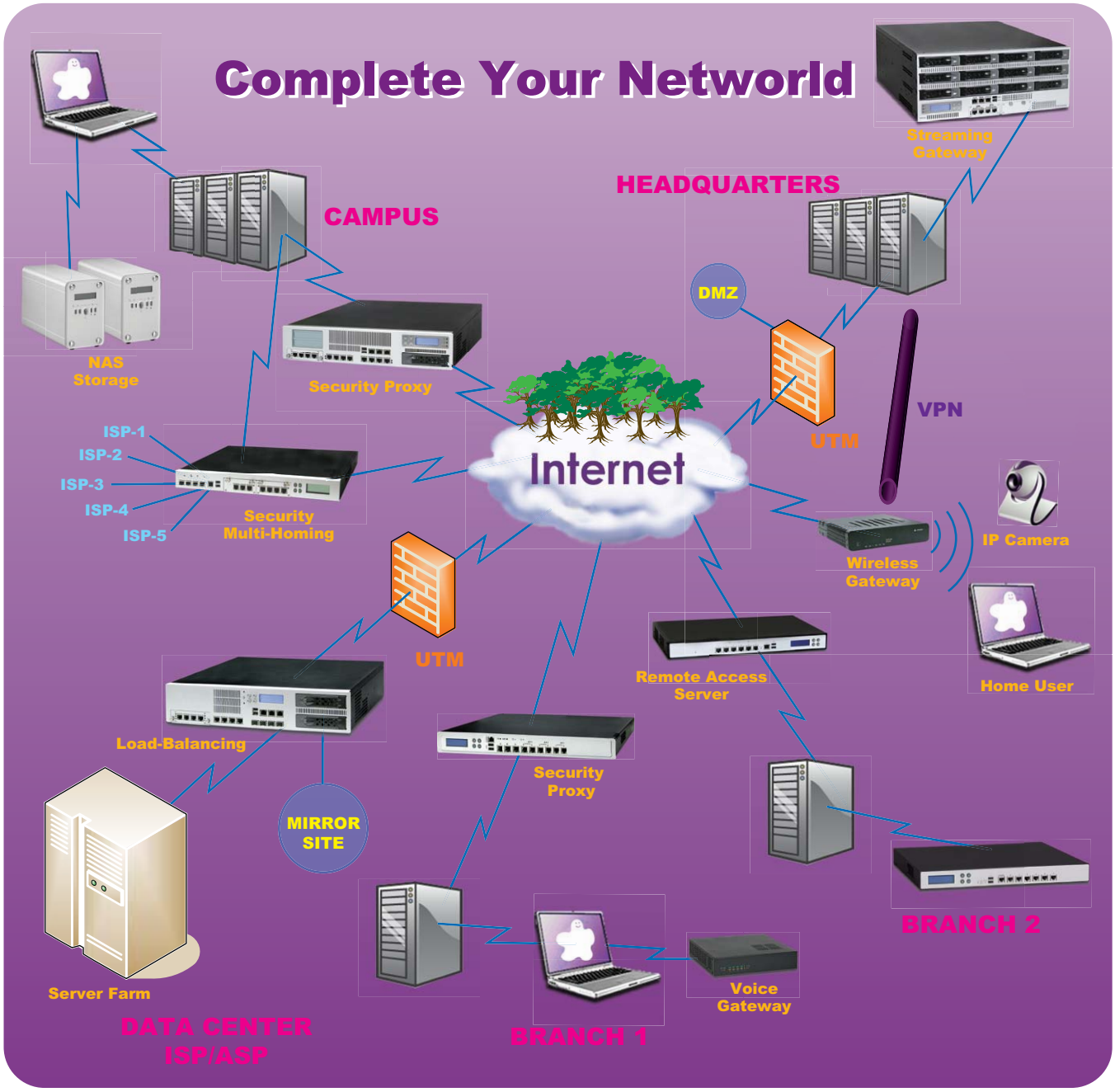
CA Application Diagram



Complete Network Applications

- **Network Security:** Firewall, VPN, IDS/IPS, UTM, Security Router
- **Network Management:** Load Balancing, QoS, Multi-Homing
- **Network Gateway:** Wireless gateway
- **Network Voice:** SIP, VoIP
- **Network Storage:** Media Streaming, NAS, Storage back-up

PMG-7095

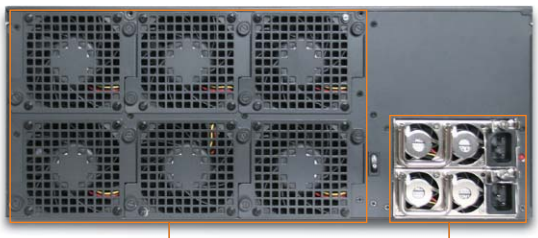
Portwell Media Giant Enterprise Virtual Array in 4U rack-mount

FEATURE

- With 12 SATA hot-swap bays
- Dual Intel® 51XX/54XX series CPU with 4M L2 cache/ 1333MHz FSB
- Flaxible removable Ethernet modules
- Up to 10 Gigabit Ethernet ports
- Eight DDR667/533 FBDIMM memory slots
- Flexible PCI-X/PCI-E expansion slots
- Redundant ATX PSU
- Cable-less for user-friendly maintenance
- Supported PCI-X/PCI-E RAID card

SPECIFICATION

CPU Board	- Supports Intel® Quad Core™ E54XX/L54XX series - Support Intel® Dual Core™ E52XX/L52XX/LV51XX/51XX series
System Memory	- Eight FB-DIMM DDR2 667/533 sockets - Supports up to 32GB ECC/registered memory
Ethernet Port	- Two PCI32 management ports - Up to 8 PCI-E copper Ethernet ports - Up to 8 PCI-E SFP Ethernet ports - Flexible Ethernet modules
Expansion Slot	- Up to Two PCI-X expansion slots or - One low profile PCI-X and one PCI-E
Storage Device	- Up to 12 SATA HDD 3.5" with hot-swap bays - One compact flash socket for type-I CF card - Compact Flash
Serial Port	- One RJ45 connector for system consol - One 2x5 pin-connector
LCD Panel	2x16 characters and 128x32 graphical LCD module with 4 buttons
LEDs	LED indicator for power status and storage access
USB	Two USB 2.0 ports
VGA	N/A
Power	Full-range 1+1 redundant PSU
Dimension	484 (W) x 576.5 (D) x 176 (H) mm 19.1" (W) x 22.7" (D) x 6.9" (H)
Operating Environment	- Temperature: 5 to 35°C (41 to 95°F) - Humidity: 20%~90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity: 5%~95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	PCI32 x1 GbE	PCI-E x4 GbE	Bays	EZIO
PMG-7095-1206	2 RJ45	4 RJ45	12	Yes

PMG-7095

Portwell Media Giant Enterprise Virtual Array in 4U rack-mount

NETWORK SECURITY

Firewall, Anti-Virus, UTM, IDS, IPS, VPN, Content Filtering / Spam, Load-Balancing, RAS, Bandwidth Management, QoS

STORAGE

12 bays with RAID

Computing

Boosting quad-core or dual-core performance for multi-threaded applications and heavy multi-tasked scenarios witin constrained thermal profile, incorporating low power 45nm process in efficient memory controller hub for L2 cache and front-side bus speed, and configuring up to 32GB FBDIMM memory provide compelling performance-per-watt advantages to wide range of applications. The 64-bit OS is also available for your critical missions.

CPU Support List
Quad-Code Xeon
- E54XX - E53XX - L54XX - L53XX
Dual-Code Xeon
- E52XX - L52XX - LV51XX - 51XX

Networking

The leading edge Gigabit Ethernet adopts a PCI Express standard with balanced performance and energy-efficient design that meets the throughput and latency requirements of storage demanding applications. The wide internal data path, advanced interrupt-handling, and large on-chip packet buffer eliminate performance bottlenecks by efficiently handling large address and data words. The I/O optimization secures the full utilization of computing capability without compromise.

Three PCI-E x8 Modules designed You can choose any configuration you want
ABN-454 = 4 GbE copper ports ABN-458 = 8 GbE copper ports ABN-462 = 2 GbE Fiber ports ABN-464 = 4 GbE Fiber ports ABN-482 = 2 GbE Fiber ports with Bypass ABN-484 = 4 GbE ports with Bypass ABN-522 = 2 10G Fiber ports ABN-668 = 8 GbE Fiber ports

Storage

Adopting RAID level 0, 1, 10, and 5 provides protection, fault tolerance, and performance. The RAID 0, called "striping", is a performance-oriented data mapping technique, which enables high I/O performance at a low cost. The RAID 1, called "mirroring", is a data redundancy technique, which provides full protection against data loss in the event of the failure of either of the disks. The RAID 5 stripes both data and parity information across three or more drives. Fault tolerance is maintained by a distributed parity algorithm. The RAID 10, called "striped mirrors", is a combination of RAID 0 and RAID 1, which provides excellent overall performance by combining the speed of RAID 0 with the redundancy of RAID 1.

Support PCI-X and PCI-E x8 interface You can choose any RAID card you want
RAID 0, 1, 5, 10 or more

NAR-7100

PCI-Express Gen2

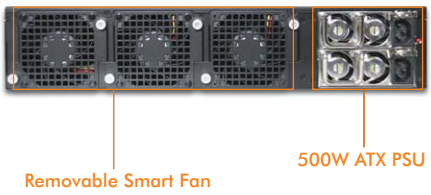
2U communication appliance rack-mount server with Dual Quad-core processors for high-performance application

FEATURE

- Dual Quad-core Xeon® E55XX w/ 8M cache
- Flexible removable Ethernet/HDD modules w/ PCI-E Gen.2
- Up to twenty-six Gigabit Ethernet ports
- One PCI-E x16, two PCI-E x8, two PCI-X expansion slots (Optional)
- Redundant 500W ATX PSU
- Front access for user-friendly maintenance
- 2x16, 128x32, 128x64 LCD/Keypad for friendly installation and operation interface
- LOM Function

SPECIFICATION

CPU Board	- Support Dual Intel® Nehalem-EP E55XX/L55XX processor w/ 8M Cacheseries - Intel® 5520 chipset with Intel® QPI up to 6.4GT/s
System Memory	- Ten DDR3 800/1066/1333 DIMM socket - Supports up to 80GB RDIMM
Ethernet Port	- Two PCI-E GbE ports (Intel® 82574L) for management - Three flexible Ethernet modules up to 24GbE Ethernet ports
Expansion Slot	- One PCI-E x16 connector on board or - One PCI-E x4 (could transfer to two PCI-X) or Two PCI-E x8 expansion slots
Storage Device	- Up to two 3.5" SATA HDD - CompactFlash socket on-board
Serial Port	- One RJ45 (for system console) - Two 2x5 pin-connector
LCD Panel	2x16 characters or 128x32 with 4-buttons, 128x64 graphical LCD module with 7-buttons
LEDs	LED indicator for power status and storage access
IDE	- PCI transfer to IDE (CF socket and 40pin) - 4 SATA connectors
USB	Two USB 2.0 ports
VGA	YES (Pin header on board)
Power	Full range 500W 1+1 redundant PSU
Dimension	431.8(W) x 580(D) x 88(H) mm 17"(W) x 22.8"(D) x 3.5"(H)
Packing Dimension	24.9"(W) x 26.9"(D) x 8.4"(H)
Operating Environment	- Temperature: 5 to 35°C (41 to 95°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	Ethernet Interface	EZIO	Expansion
NAR-7100-1414-000	2 Copper GbE ports & 4 Copper/Fiber GbE ports	EZIO-300 EZIO-G400 EZIO-G500	Option
NAR-7100-1014-000	2 Copper GbE ports & 8 Copper/Fiber GbE ports	EZIO-300 EZIO-G400 EZIO-G500	Option

NAR-7100

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

ABA-153
2 mgmt ports / 1 console / 2 USB

ABN-464
4 port SFP w/ Intel® 82571EB

ABN-458
8 port copper w/ 82571EB

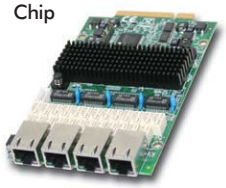
ABN-484
4 port copper w/ Intel® 82571EB
2 programmable bypass segments

ABN-522
2 port SFP+10G card w/ Intel® 82598EB

ABN-454
4 port copper w/ Intel® 82571EB

ABN-454L
PCI-E x8 GbE module with 4 RJ45 interfaces, based on Intel® 82574L Chip

ABN-484L
PCI-E x8 GbE module with 4 RJ45 interfaces and 2 Gen-2 Bypass segments, based on Intel® 82574L Chip



ABN-668
PCI-E x8 GbE module with 8 SFP interfaces, based on Intel® 82575EB

NIP-53020
PCI-Express Gen2

2 port PCIe Gen.2 10G SFP+ w/ Intel® 82599ES

NIP-54020
PCI-Express Gen2

2 port PCIe Gen.2 10G BASE-T w/ Intel® 82599EB

ABN-482
2 port SFP GbE Bypass card w/ 82571EB

NOTE: Fiber Bypass is optional for project base

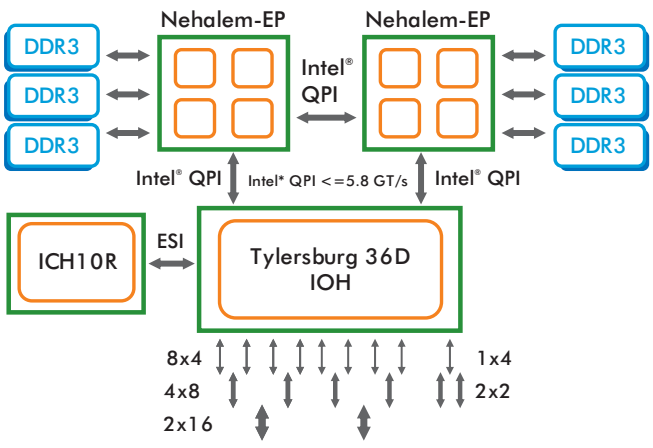
CPU	Clock	Core/Thread	QPI	Cache	Memory	TDP	Turbo	Socket
E5540	2.53	4/8	5.86	8MB	1066	80W	YES	LGA1366
E5504	2.00	4/4	4.8	4MB	800	80W	NO	LGA1366
L5518	2.13	4/8	5.86	8MB	1066	60W	YES	LGA1366
L5508	2.00	2/4	5.86	8MB	1066	38W	YES	LGA1366

Processor Core

- Nehalem (45nm) [Next Intel® TOCK]
- Integrated Memory Controller
- Turbo Technology
- Intel® QuickPath intercennect
- Intel® Hyper-Threading Technology
- Lead and halogen free platform kit[2]

Block Diagram

Quad Core 2S configuration shown



NAR-7090

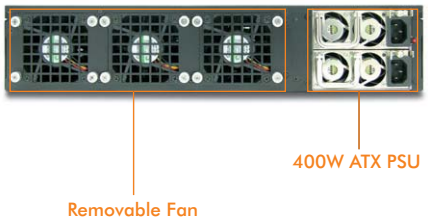
2U communication appliance rack-mount server with Quad-core dual processors for high-performance application

FEATURE

- Dual Intel® 54XX series CPU with 12M L2 cache/1333MHz FSB
- Flexible removable Ethernet/HDD modules
- Up to 26 Gigabit Ethernet ports
- Up to three PCI-X expansion slots
- Redundant 400W ATX PSU
- Front access for user-friendly maintenance

SPECIFICATION

CPU Board	- Support Intel® Quad Core™ E54XX/X53XX/E53XX/L53XX series processors w/ 12MB*2 L2 cache - Intel® Dual Core™ 51XX series processors w/ 4MB L2 cache
System Memory	- Eight FB-DIMM DDR2 667/533 sockets - Supports up to 32GB ECC/registered memory
Ethernet Port	- Two PCI-Express Gigabit Ethernet ports (Intel® 82563) - 24 PCI-Express Gigabit Ethernet ports (Intel® 82571EB) - Up to two flexible Ethernet modules
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 or 128x32 graphical LCD module with 4-buttons
LEDs	LED indicator for power status and storage access
IDE	One CF-socket & one 40-pin connector
USB	Two USB 2.0 ports
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 35°C (41 to 95°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	Ethernet Interface	EZIO	PCI-X Expansion
NAR-7090-1412	14 Copper GbE ports	EZIO-300 EZIO-G400	3
NAR-7090-1413	6 Copper + 8 Fiber GbE ports	EZIO-300 EZIO-G400	3
NAR-7090-1417	10 Copper + 4 fiber GbE ports	EZIO-300 EZIO-G400	3

NAR-7090

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

ABN-454
4 port copper w/ Intel® 82571EB

ABN-464
4 port SFP w/ Intel® 82571EB

ABN-458
8 port copper w/ 82571EB

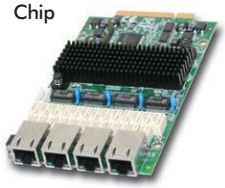
ABN-484
4 port copper w/ Intel® 82571EB
2 programmable bypass segments

ABN-522
2 port SFP+10G card w/ Intel® 82598EB

ABA-140
2 mgmt port/1 Console/2USB

ABN-454L
PCI-E x8 GbE module with 4 RJ45 interfaces, based on Intel® 82574L Chip

ABN-484L
PCI-E x8 GbE module with 4 RJ45 interfaces and 2 Gen-2 Bypass segments, based on Intel® 82574L Chip



ABN-668
PCI-E x8 GbE module with 8 SFP interfaces, based on Intel® 82575EB

NIP-53020
PCI-Express Gen2

2 port PCIe Gen.2 10G SFP+ w/ Intel® 82599ES

NIP-54020
PCI-Express Gen2

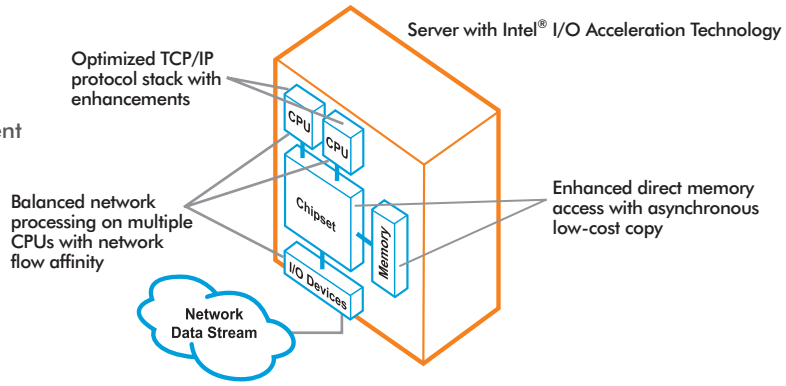
2 port PCIe Gen.2 10G BASE-T w/ Intel® 82599EB

ABN-482
2 port SFP GbE Bypass card w/ 82571EB

NOTE: Fiber Bypass is optional for project base

Processor No	Clock GHz	FSB MHz	L2 Cache	Core Thread	Socket	TDP	Generation
Quad Core	ECPD: E5335 / E5345 / 8M E5440 / E5410 / L5408 / L5410						
X/E/L53XX	1.6~3.0	1333/1066	4M*2	4/4	LGA8	120W 80W 50W	Clovertown Clovertown LV
X/E/L54XX	2.83	1333	8M	4/4	LGA8		Harpertown
Dual Core	ECPD: 5130 / 5140 / LV5138 / LV5148						
51XX	106~3.0	1333/1066	4M	2/2	LGA6	115W/65W	Woodcrest WC LV 65nm

Intel® I/O Acceleration Technology (Intel® I/OAT): Accelerates TCP/IP processing, delivers data-movement Efficiencies across the entire server platform, and minimizes system overhead.



NAR-5650

1U High End Single Xeon® Server with up to 8 F/O and 8 RJ45 GbE Interfaces

FEATURE

- Built with Intel® server chipset 3210, supports 1333MHz and Dual Channel DDR2 800/667
- Supports the latest 45nm Dual/Quad Core™ Xeon® 3000 series and Core™ 2 Quad/Duo CPUs
- 8 GbE ports on board with three bypass segments
- Up to 8GbE ports expandable with SFP or RJ45 interface
- Ready for 10G solution

SPECIFICATION

CPU Board	- Built with Intel® server grade 3210 Chipset, supports 1333/1066MHz FSB - Supports the latest 45 amd 65nm Dual Core™/Quad Core™ Xeon® 3000 series and Core™ 2 Duo/Core™ 2 Quad processors in LGA775 package
System Memory	- Dual channel DDR2 with four 240-pin DIMM sockets - Supports DDR2 800/667, ECC un-buffered memory up to 8GB
Ethernet Port	- Onboard Max. 6 PCI-E x1 and two PCI32 GbE ports - Up to 8 GbE ports with RJ45 or SFP expandable - Support dual 10G ports through expansion module
Bypass feature	Up to 3 Gen.-2.0* bypass segments available
Expansion Slot	- One proprietary PCI-E x8 slot for Ethernet expansion with up to 8 RJ45/SFP GbE or dual 10G ports - One PCI-E x8 golden finger for expansion through backplane - One MiniPCI socket
Storage Device	- Support one 3.5" SATA HDD - One onboard Compact Flash socket for Type-I CF
Serial Port	- One front-access RJ45 connector for system console - One internal 2x5 pin-header for connection with EZIO or preferred device
LCD Panel	2x16 characters or 128x32, 128x64 graphical LCD module with 4 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	MiniPCI module for option
Power	Full-range 300W PSU
Dimension	443 (W) x 457.2 (D) x 44 (H) mm; 17.4" (W) x 18" (D) x 1.73" (H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity: 20%~90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity: 5%~95% RH
Certification	CE/FCC/UL/cUL

300W ATX PSU

ORDERING GUIDE

Part No.	Ethernet	Bypass	EZIO	MiniPCI socket	Add-on-card	PCI-E Expansion
NAR-5650-0830	8 Copper GbE ports	3	Yes	Yes	No	2
NAR-5650-1631	16 Copper GbE ports	3	Yes	Yes	ABN-458	1

NAR-5650

1U High End Single Xeon® Server with up to 8 F/O and 8 RJ45 GbE Interfaces

ABN-522

PCI-E x8 Dual-10G module with SFP+interfaces, based on Intel® 82598EB chip

ABN-668

PCI-E x8 GbE module with 8 SFP interfaces, based on Intel® 82575EB

ABN-664

PCI-E x8 GbE module with 4 SFP interfaces, based on Intel® 82575EB

ABN-458

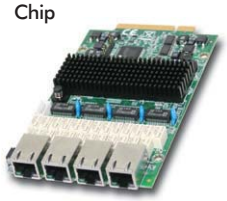
PCI-E x8 GbE module with 8 RJ45 interfaces, based on Intel® 82573L Chip

ABN-454L

PCI-E x8 GbE module with 4 RJ45 interfaces, based on Intel® 82574L Chip

ABN-484L

PCI-E x8 GbE module with 4 RJ45 interfaces and 2 Gen-2 Bypass segments, based on Intel® 82574L Chip



NIP-53020

PCI-Express Gen2

2 port PCIe Gen.2 10G SFP+ w/ Intel® 82599ES

NIP-54020

PCI-Express Gen2

2 port PCIe Gen.2 10G BASE-T w/ Intel® 82599EB

ABN-482

2 port SFP GbE Bypass card w/ 82571EB

NOTE: Fiber Bypass is optional for project base

	ABN-454L	ABN-484L	ABN-458	ABN-482	ABN-664	ABN-668	ABN-522	NIP-53020	NIP-84020
Module Interface	PCI-E x8								
Ethernet Controller	82574L	82574L	82571EB	82571EB	82575EB	82575EB	82598EB	82599ES	82599EB
Ethernet Type	GbE	GbE	GbE	GbE	GbE	GbE	10G	10G	10G
Interface	4 RJ45	4 RJ45	8 RJ45	2 SFP	4 SFP	8 SFP	2 SFP+	2 SFP+	2 RJ45+
Bypass Segment	N//A	2	N//A	1	N//A	N//A	N/A	N/A	N/A

NAR-5630

1U rack-mount dual-core communication appliance with up to 10 GbE ports and 4 bypass segments

FEATURE

- Cost effective Intel® Core™ 2 Duo platform with high performance Fiber GbE ports
- Dual-channel DDR2 533/667 up to 4GB with 2 slots
- Up to 10 GbE ports
- Up to 4 2nd generation by pass segments
- 4 Convenient Dual-Personality ports for Fiber or Cooper GbE connectivity
- Highly integrated system in compact chassis, supports dual 3.5" HDD installation and/or one removable HDD (project base)

SPECIFICATION

CPU Board	- Supports Intel® Core™ 2 Duo, Pentium® 4, Celeron® and Celeron® D processor - Intel® 945G chipset with 1066/800/533 MHz FSB
System Memory	Dual channel DDR2 with 2 slots, un-buffered, none ECC up to 4GB
Ethernet Port	- 4 Gigabit PCI-E Intel® 82571EB Ethernet ports - 2 Gigabit PCI-E Intel® 82573L Ethernet ports - One flexible Ethernet module with up to 4GbE ports
Bypass feature	Up to 4 2nd generation bypass segments
Expansion Slot	- 1 propriety internal PCI32 slot - 1 propriety internal PCI-E slot
Storage Device	- 2 optional 3.5" SATA HDD - 1 compact flash socket for type-I CF card, DMA mode supported - 1 40-pin IDE connector supports DOM (Disk on Module) - Removable 3.5" HDD design available for project based request
Serial Port	- One front accessible RJ45 connector for system console - One internal 2x5 pin-header for connecting to EZIO or preferred device
LCD Panel	2x16 characters or 128x32 graphical LCD module with 4 buttons
LEDs	Power status, data access, Ethernet status (link/Activity/speed) and bypass status
USB	2 USB 2.0 ports, front accessible
VGA	Build-in on-board 2x5 pin-header
Power	Full-range 220W ATX PSU
Dimension	443 (W) x 406 (D) x 44.5 (H) mm; 17.4" (W) x 16" (D) x 1.73" (H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity: 20%~90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity: 5%~95% RH
Certification	CE/FCC/UL

220W ATX PSU

ORDERING GUIDE

Part No.	Ethernet	Bypass	EZIO	PCI Slot	PCI-E Slot
NAR-5630-0610	6 Copper GbE ports	2	Yes	1	1
NAR-5630-0611	4 Copper GbE ports 2 Fiber GbE ports	2	Yes	1	1
NAR-5630-1011	6 Copper GbE ports 4 Fiber GbE ports	2	Yes	1	1
NAR-5630-1012	4 Copper GbE ports 6 Fiber GbE ports	2	Yes	1	1

NAR-5530

1U communication appliance rack-mount server with quad-core CPU support, up to 9 GbE and 3 bypass segments

FEATURE

- Most cost-effective multi-core system with high performance GbE ports
- Up to Nine Gigabit Ethernet ports available
- Up to three Gen.-2.0* bypass segments
- Supports Intel® Core™ 2 Quad/Core™ 2 Duo, 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 Quad, 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 sockets - Supports DDR2 800/667/533, un-buffered, 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 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 or 128x32 graphical LCD module with blue backlight and 4-buttons
LEDs	Power status, data access, Ethernet status/speed and bypass status
USB	Two 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 (41 to 104°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity: 5% to 95% RH
Certification	CE/FCC/UL

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-5520

1U server with up to ten Gigabit Ethernet ports and two PCI expansion slots

FEATURE

- Support Intel® Core™ 2 Duo/Pentium® 4/Celeron® D processor
- Up to Ten Gigabit Ethernet ports with two bypass segments
- Two 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® Core™ 2 Duo/Pentium® 4/Celeron® D processor - Intel® 945G chipset with 1066/800/533 MHz FSB
System Memory	- Up to 4GB DDR2 667/533/400 on two DIMM sockets
Ethernet Port	Six PCI-E x1 GbE ports, up to ten ports
Bypass Feature	Up to two Gen.-2.0* bypass segments available
Expansion Slot	Up to two PCI expansion slots, optional
Storage Device	- One 3.5" SATA HDD as default, up to two installable - One compact flash socket for type-I CF card, supports DMA mode - One 40-pin IDE connector supports DOM (Disk on Module) - 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 or 128x32 graphical LCD module with 4 buttons
LEDs	Power status, data access, Ethernet status/speed and bypass status
USB	Two USB 2.0 ports, front accessible
VGA	Build-in on-board 2x5 pin-header
Power	Full-range 220W ATX PSU
Dimension	431.8(W) x 355.2(D) x 44(H) mm 17"(W) x 14"(D) x 1.73"(H)
Packing Dimension	22.4"(W) x 24.4"(D) x 8.7"(H)
Weight	Gross: 11kg (24.23 lbs); Net: 6.4kg (14.1 lbs)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity: 20%~90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity: 5%~95% RH
Certification	CE/FCC/UL

ORDERING GUIDE

Part No.	PCI-E GbE	EZIO	PCI Expansion
NAR-5520-412	4 Copper GbE ports	Yes	Optional
NAR-5520-612	6 Copper GbE ports	Yes	Optional
NAR-5520-812	8 Copper GbE ports	Yes	0
NAR-5520-1012	10 Copper GbE ports	Yes	0

NAR-5522

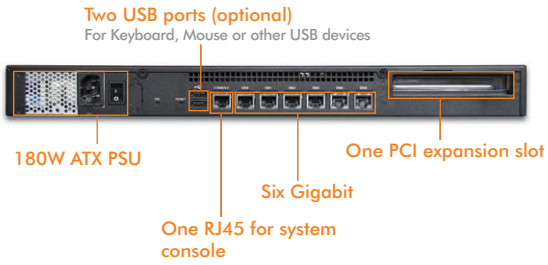
1U server with up to six Gigabit Ethernet ports and one PCI expansion slot

FEATURE

- Support Intel® Core™ 2 Duo/Pentium® 4/Celeron® D processor
- Six Gigabit Ethernet ports with two optional bypass segments
- One PCI expansion slot
- Non-volatile memory on-board
- Support Compact Flash and Disk on Module (DOM)
- Load factory-Default mechanism
- Optional crypto solution

SPECIFICATION

CPU Board	- Support Intel® Core™ 2 Duo/Pentium® 4/Celeron® D processor - Intel® 945GC chipset with 1066/800/533 MHz FSB
System Memory	- Up to 4GB DDR2 667/533/400 on two DIMM sockets
Ethernet Port	Six PCI-E x1 GbE ports
Bypass Feature	Optional
Expansion Slot	One optional PCI expansion slot
Storage Device	- One 3.5" SATA HDD as default, up to two installable - One compact flash socket for type-I CF card, supports DMA mode - One 40-pin IDE connector supports DOM (Disk on Module)
Serial Port	One rear accessible RJ45 connector for system console
LCD Panel	N/A
LEDs	Power status, data access, Ethernet status/speed
USB	Two USB 2.0 ports, rear accessible
VGA	Build-in on-board 2x5 pin-header
Power	Full-range 180W ATX PSU
Dimension	443(W) x 406.4(D) x 44(H) mm 17.4"(W) x 16"(D) x 1.73"(H)
Packing Dimension	22.1"(W) x 24"(D) x 8.26"(H)
Weight	Gross: 11kg (24.23 lbs); Net: 6.4kg (14.1 lbs)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity: 20%~90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity: 5%~95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	PCI-E GbE	EZIO	PCI Expansion
NAR-5522-400	4 Copper GbE ports	No	Optional
NAR-5522-600	6 Copper GbE ports	No	Optional

CAR-3000

1U rack-mount network server supporting Core™ 2 Quad CPU with up to 6 RJ45 GbE & 8 SFP GbE interfaces

FEATURE

- Cost effective Intel® Core™ 2 Quad platform
- Dual-channel DDR3 1333/1066 up to 4GB with 2 slots
- One 3.5" or 2.5" SATA HDD
- 6 GbE RJ45 ports on board with 2 bypass segments
- Expandable with 8 GbE SFP or 4 GbE RJ45 interface
- Ready for 10G solution

SPECIFICATION

CPU Board	- Support Intel® Core 2 Quad, Core 2 Duo in LGA775 socket - Intel® G41 chipset with ICH7R with 1333/1066/ 800 MHz FSB
System Memory	- Dual channel DDR3 with two 240-pin DIMM sockets - Supports DDR3 1333/1066 up to 4GB
Ethernet Port	- On board 6 PCI-E x1 GbE ports - Flexible Ethernet module options: 4 GbE RJ45 ports, 2 GbE SFP ports, 4 GbE SFP ports or 8 GbE SFP ports
Bypass Feature	Up to 2 Gen.-2.0 bypass segments available
Expansion Slot	One proprietary PCI-E x8 golden finger for Ethernet module options or one PCI-E x8 expansion slot available, rear access
Storage Device	- Support one 3.5" or 2.5" SATA HDD - CF socket on-board
Serial Port	- One front-access RJ45 connector for system console - One 2x5 pin-header for EZIO
LCD Panel	Optional 2x16 characters or 128x32 graphic LCD module with 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	Built-in on-board 2x5 pin-header
Power	100W or 200W full-range ATX
Dimension	443(W) x 292.1(D) x 44(H) mm 17.45"(W) x 11.5"(D) x 1.73"(H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL

Full-range
200W ATX PSU

Optional NIC

LAN module	Chipset	Ethernet	Bypass
ABN-454L	82574L	4Gb Copper	0
ABN-484L	82574L	4Gb Copper	2
ABN-462N	82571EB	2Gb Fiber	0
ABN-482	82571EB	2Gb Fiber	1
ABN-664	82575EB	4Gb Fiber	0
ABN-668	82575EB	8Gb Fiber	0
ABN-522	82598EB	2 10Gb Fiber	0
NIP-53020	82599ES	2 10Gb Fiber	0
NIP-53120	82599ES	2 10Gb Fiber	1
NIP-54020	82599EB	2 10Gb Copper	0

ORDERING GUIDE

Part No.	Ethernet	Bypass	EZIO	PCI-E Expansion
CAR-3000-3620	6 Copper GbE ports	2	Yes	1

NAR-4060

1U communication appliance rack-mount server with 6 PCI Express Gigabit Ethernet Ports

FEATURE

- Intel® 945GC chipset supports FSB 800/533 MHz
- Supports Intel® Conroe-L 400 series processor
- Dual-channel DDR2 667/533/400 DIMM, up to 2GB
- One 3.5" IDE or SATA HDD
- 6 PCI-E Gigabit Ethernet ports
- Supports Compact Flash and Disk on module (DOM)

SPECIFICATION

CPU Board	- Support Intel® Conroe Lite 400 series - Intel® 82945GC chipset with 800/533MHz FSB
System Memory	- Dual-channel DDR2 with two 240-pin DIMM socket - Supports DDR2 667/533/400, un-buffered, none ECC up to 2GB
Ethernet Port	6 10/100/1000 Mbps PCI-E Gigabit ports
Bypass Feature	One optional Gen.2 bypass segment
Storage Device	- One SATA or IDE 3.5" HDD - One onboard compact flash socket for type-I CF card, supports DMA mode
Serial Port	- One front accessible RJ45 connector for system console - One internal 2x5 pin connector for connecting with EZIO or other device
LCD Panel	Optional a 16x2 characters or 128x32 graphical LCD module with 4 buttons
LEDs	LED indicators for power status, storage access, Ethernet status/speed and bypass status
USB	Dual USB 2.0 ports
VGA	Built-in on-board 2x5 pin-header
Power	90 Watt Auto-range ATX PSU
Dimension	429(W) x 255(D) x 44(H) mm 16.9"(W) x 10.04"(D) x 1.73"(H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL

ORDERING GUIDE

Part No.	PCI-E x1 GbE	Bypass	EZIO
NAR-4060-600	6 Copper GbE RJ45	Option 1 Seg	Option

CATO-3000

The powerful single chip platform with Intel® EP80579 integrated processor with QuickAssist Technology for networking security and IP telephony

FEATURE

- Single chip simplicity, low power consumption and familiar IA-32 architecture for software programming
- Support DDR2 800/667 ECC memory up to 2GB
- 3 Gigabit Ethernet interfaces via RGMII with hardware security acceleration
- Software programmable Bypass features built-in
- 3 Fiber Optical GbE interfaces (RGMII) available
- 4 Gigabit Ethernet interfaces via PCI-E for extended networking application
- One PCI-E x4 slot for required expansion
- Security services and bulk crypto for IPSec, VPN, Firewall, SSL, IP Forwarding & TCP Proxy

SPECIFICATION

CPU Board	- Built with Intel® EP80579 integrated Processor with QuickAssist Technology - Support 1.2G/1.0G/600MHz CPU speed
System Memory	Support DDR2 800/533, ECC-unbuffered memory up to 2GB
Ethernet Port	- 3 RGMII GbE ports w/ RJ45 or SFP - 4 PCI-E x1 GbE ports w/ RJ45 connector
Bypass Feature	One 2nd generation bypass segment on RGMII RJ45 interfaces available
Security Service	- Available with EP80579 Integrated Processor with QuickAssist Technology - Support IPSec, VPN, Firewall, SSL, IP Forwarding & TCP Proxy
TDM Features	- Available with EP80579 Integrated Processor with QuickAssist Technology - Reserved interface (Pin-header) for future connection with proprietary E1/T1 board
Expansion Slot	- One front-access PCI-E x4 slot for flexible add-on expansion - Support half-size, full-height add-on cards
Storage Device	- Support one 3.5"/2.5" SATA HDD installation - Supports SATA DOM and CF installation
Serial Port	2 UART: 1 RJ45 console, 1 pin-header for connection with LCM
LCD Panel	16x2 character or 128x32 graphical LCD module with 4 buttons
LEDs	Power status, data access, Ethernet status, Ethernet speed (10/100/1000) and bypass
USB	Dual USB 2.0 ports, front accessible
Power	150 FlexATX PSU w/ Active PFC, 100~240VAC auto range
Dimension	443(W) x 279(D) x 44(H)mm 17.45"(W) x 11"(D) x 1.75"(H)
Packing Dimension	22.4"(W) x 24.4"(D) x 8.7"(H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity 20% to 90%RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95%RH
Certification	CE/FCC/UL/cUL (to be applied)

150W FlexATX PSU

ORDERING GUIDE

Part No.	With Intel® QuickAssist Technology	Frequency	RGMII GbE, SFP	RGMII GbE, RJ45	PCI-E x1 GbE, RJ45	Bypass Segment	EZIO
CATO-3000-0722	Yes	1.2GHz	N/A	3	4	1	Yes
CATO-3000-3422	Yes	1.2GHz	3	N/A	4	1	Yes

CATO-2000

Intel® EP80579 SOC based 1U rack-mount communication appliance with QuickAssist Technology for network security

FEATURE

- Intel® EP80579 integrated processor
- DDR2 800/533 MHz ECC
- Up to 8 GbE LAN ports
- Up to 4 bypass segments
- One PCI Express x4 expansion slot
- Security service and bulk crypto for IPSec, VPN, Firewall, SSL, IP Forwarding & TCP Proxy

SPECIFICATION

CPU Board	- Built with Intel® EP80579 integrated Processor with QuickAssist Technology - Support 1.2G/1.0G/600MHz CPU
System Memory	Support DDR2 800/533MHz ECC, up to 4GB
Ethernet Port	- Three RGMII Copper GbE ports w/ RJ45 - One PCI-E Copper GbE port - Four Fiber/Copper PCI-E GbE ports via properietary PCI-E x4 expansion module
Bypass Feature	2 Gen-1.5 bypass segment on board, up to 4 bypass segments
Security Service	- Available with EP80579 Integrated Processor with QuickAssist Technology - Support IPSec, VPN, Firewall, SSL, IP Forwarding & TCP Proxy
Expansion Slot	- One front-access PCI-E x4 slot for flexible add-on expansion - Support half-size, full-height add-on cards
Storage Device	- Support one 3.5"/2.5" SATA HDD installation - Supports SATA DOM and CompactFlash installation
Serial Port	2 UART: one for RJ45 console, the other is built-in one board 2x5 pin-header
LCD Panel	Optional a 16x2 character or 128x32 graphical LCD module with 4 buttons
LEDs	Power status, storage access, Ethernet status/speed and bypass status
USB	Dual USB.2.0 ports, front accessible
Power	150W FlexATX PSU w/ Active PFC, 100~240VAC auto range
Dimension	443(W) x 279(D) x 44(H)mm 17.45"(W) x 11"(D) x 1.75"(H)
Packing Dimension	22.4"(W) x 24.4"(D) x 8.7"(H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity 20% to 90%RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95%RH
Certification	CE/FCC/UL

150W FlexATX PSU

ORDERING GUIDE

Part No.	With Intel® QuickAssist Technology	Frequency	RGMII GbE, RJ45	PCI-E x1 GbE, RJ45	Bypass Segment
CATO-2000-0442	Yes	600MHz	3	1	N/A
CATO-2000-0446	Yes	1.2GHz	3	1	2

NAR-2200

1U server with PCI-Express Gigabit Ethernet, Gen.-2 Bypass and dual channel DDR2 Memory

FEATURE

- Up to Six GbE, 4x PCI-Express x1 with 2x 82541PI(GbE)
- Cost effective system with 2.5/3.5"HDD and Fan-less solution
- High computing performance with low power consumption
- Fulfill most Entry level Rack-mount platform requirement
- Supports Compact Flash and Disk on Module (DOM)
- Generation-2 Bypass function supported (Software control)
- Supports dual channel DDR2 533 up to 2GB

SPECIFICATION

CPU Board	- Support Intel® Celeron® M/Pentium M processors up to 2GHz - Intel® 915GME/910GMLE chipset with 533/400MHz FSB
System Memory	Dual channel 200-pin SODIMM sockets support DDR2 400/533MHz up to 2GB
Ethernet Port	- 4 PCI-E x1 GbE ports - 2 PCI FE or GbE ports
PCI Expansion	Optional
Storage Device	- CompactFlash - Disk on Module (DOM) - One SATA/IDE 2.5/3.5" HDD
Serial Port	- One RJ45 for system console - One 2x5 pin-connector
LCD Panel	Optional, 2x16 characters or 128x32 graphical LCD module with 4 buttons
LEDs	Power status, data access, Ethernet status (LNK/ACT), Ethernet speed (10/100/1000) and bypass
IDE	- One 40-pin IDE connector - Two SATA connectors
USB	Two USB 2.0 ports, front accessible
VGA	Built-in on-board 2x5 pin-header
Power	80W full-range AT
Dimension	428(W) x 255(D) x 44(H)mm 16.83"(W) x 10.04"(D) x 1.73"(H)
Packing Dimension	22.4"(W) x 24.4"(D) x 8.7"(H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity 20% to 90%RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95%RH
Certification	CE/FCC/UL

ORDERING GUIDE

Part No.	CPU	Chipset	Ethernet	Bypass	EZIO	PCI Exp.
NAR-2200-621	Intel® ULV Celeron® M 600MHz	910GMLE	4 GbE+2 FE	One bypass seg.	N/A	N/A
NAR-2200-601	Intel® Celeron® M / Pentium® M	915GME	6 GbE	One bypass seg.	N/A	N/A

CAR-2000

1U rack-mount communication appliance with Atom™ N330 CPU with PCI Express Gigabit Ethernet, Gen.-2 Bypass and Mini-PCI slot

FEATURE

- Cost effective rack-mounted system with low power consumption
- Intel® Atom™ N330 1.6GHz processor
- Dual-channel DDR2 DIMM, up to 4GB
- 6 PCI-E GbE ports on board with 2 bypass segments
- Up to 8 Fiber or 4 Copper GbE ports expandable
- 2 more bypass segments expandable
- Support SATA HDD, CF, PCI-E x8 and Mini-PCI slot

SPECIFICATION

CPU Board	- Intel® Atom™ N330 1.6GHz - Intel® 945GC chipset with 533 FSB
System Memory	- Dual-channel DDR2 with two 240-pin DIMM socket - Supports DDR2 533/400, un-buffered, none ECC up to 4GB
Ethernet Port	- 6x Gigabit Ethernet ports via Realtek 8111C - Up to 8 Fiber or 4 Copper GbE ports expandable
Bypass Function	- Two optional Gen.2 bypass segments - 2 more bypass segments expandable
Storage Device	- One Mini-PCI slot - One optional PCI-E x8 expansion slot, rear access
Serial Port	- One SATA 3.5"/2.5" HDD - CompactFlash socket on-board
LCD Panel	- Optional 2x16 characters or 128x32 graphic LCD module with 4 buttons - 128x64 graphic LCD module for project based request
LEDs	Power status, Data access, Ethernet status/speed and Bypass status
USB	Two USB 2.0 ports, front access
VGA	Built-in on-board 2x5 pin-header
Power	Full-range 100W ATX PSU
Dimension	443(W) x 292(D) x 44(H)mm 17.4"(W) x 11.5"(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

Optional NIC

LAN module	Chipset	Ethernet	Bypass
ABN-454L	82574L	4Gb Copper	0
ABN-484L	82574L	4Gb Copper	2
ABN-462N	82571EB	2Gb Fiber	0
ABN-482	82571EB	2Gb Fiber	1
ABN-664	82575EB	4Gb Fiber	0
ABN-668	82575EB	8Gb Fiber	0
ABN-522	82598EB	2 10Gb Fiber	0
NIP-53020	82599ES	2 10Gb Fiber	0
NIP-53120	82599ES	2 10Gb Fiber	1
NIP-54020	82599EB	2 10Gb Copper	0

ORDERING GUIDE

Part No.	PCI-E GbE	Bypass	EZIO	PCI-E x8 slot
CAR-2000-3601	6	0	Option	Option
CAR-2000-3621	6	2	Option	Option

NAR-2290

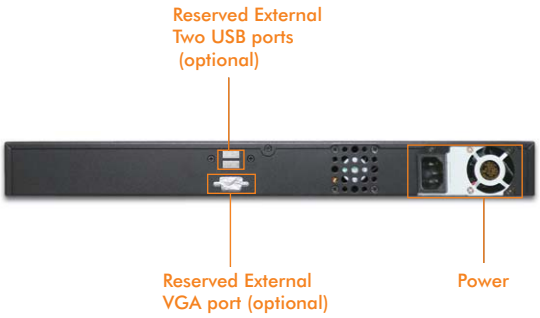
1U rack-mount communication appliance with up to 4 PCI-E GbE ports and 1 Mini-PCI slot

FEATURE

- Cost effective solution, supports Intel® Pentium® M or Celeron® M processor
- Dual-channel low-profile DDR2 DIMM, up to 2GB
- Four PCI-E Gigabit Ethernet
- One Mini-PCI expansion
- Supports 3.5" IDE/SATA HDD, Compact Flash and Disk on module (DOM
- Programmable LCD module with 4 buttons (Optional)

SPECIFICATION

CPU Board	- Support Intel® Celeron® M ULV/Intel® Celeron® M/Intel® Pentium® M - Intel® 910GMLE chipset with FSB 400MHz
System Memory	2 x 240-pin Low-Profile DDR2 400
Ethernet Port	Four Realtek RTL8111 series PCI-E x1 Gigabit Ethernet
Bypass Function	N/A
Storage Device	- Support 3.5" SATA or IDE HDD x1 - CF x1, share the same channel with IDE and support UDMA
Serial Port	- One front-access RJ45 port for system console - One internal 2x5 pin connector for connecting with EZIO or other device
LCD Panel	Optional, 2x16 characters or 128x32 graphical LCD module with 4 buttons
LEDs	LEDs indicators for power status, storage access and Ethernet status/speed
USB	Dual USB 2.0 ports
VGA	Built-in on-board 2x5 pin-header
Power	100W Auto-range ATX PSU
Dimension	429(W) x 255(D) x 44(H)mm 16.9"(W) x 10.04"(D) x 1.73"(H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity 20% to 90%RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95%RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	CPU	PCI-E GbE	EZIO	PCI Expansion
NAR-2290-420	Intel® ULV Celeron® M 600MHz	4 Copper GbE ports	Option	Mini-PCI x1
NAR-2290-460	Intel® Celeron® M 1.5GHz	4 Copper GbE ports	Option	Mini-PCI x1

NAR-2090/2091

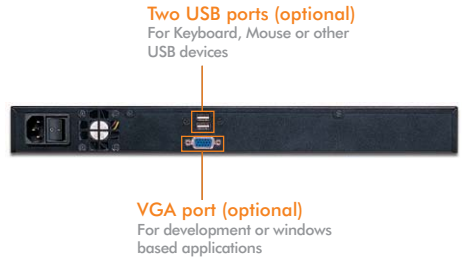
1U communication appliance rack-mount server with up to five Ethernet ports and two PCI expansion slots

FEATURE

- Cost-effective rack-mount solution
- Up to VIA C7 1.5GHz CPU performance
- 256MB memory and SODIMM socket on board
- Two PCI expansion slots supported
- Supports 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

SPECIFICATION

CPU Board	- Support VIA C7/Eden series processor - VIA CN700 chipset with 400FSB
System Memory	- 256MB memory on board - One DDR2 SODIMM socket, supports up to 1GB
Ethernet Port	- 5x RealTek RTL8100C Fast Ethernet ports - One bypass segment for project base application
PCI Expansion	Two PCI slots (NAR-2091 only)
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 2x16 characters or 128x32 graphic LCD module with 4 buttons
LEDs	Power status, data access, Ethernet status (LNK/ACT), Ethernet speed (10/100/1000) and bypass
IDE/SATA	- One 40-pin IDE connector - Two SATA connectors
USB	Two USB 2.0 ports, rear accessible
VGA	Built-in on-board 2x5 pin-header
Power	Full-range AT 65W PSU
Dimension	-(NAR-2090) 428(W) x 255(D) x 44(H) mm 16.85"(W) x 10.04"(D) x 1.73"(H) -(NAR-2091) 428(W) x 344(D) x 44(H) mm 16.85"(W) x 13.54"(D) x 1.73"(H)
Packing Dimension	22.05"(W) x 18.31"(D) x 14.37"(H) (2 in 1 packing)
Weight	-(NAR-2090) NarGross: 8.2kg (18.06 lbs) (2 in 1 packing) Net: 3kg (6.61 lbs) -(NAR-2091) NarGross: 10.8kg (23.79 lbs) (2 in 1 packing) Net: 4.5kg (9.91 lbs)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity: 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity: 5% to 95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	CPU	Ethernet	Bypass	EZIO	PCI Exp.
NAR-2090-547	VIA C7 1.5GHz	5 FE	One segment	N/A	N/A
NAR-2090-557	VIA C7 1.5GHz	5 FE	One segment	Yes	N/A
NAR-2091-547	VIA C7 1.5GHz	5 FE	One segment	N/A	2
NAR-2091-557	VIA C7 1.5GHz	5 FE	One segment	Yes	2

CATO-2010

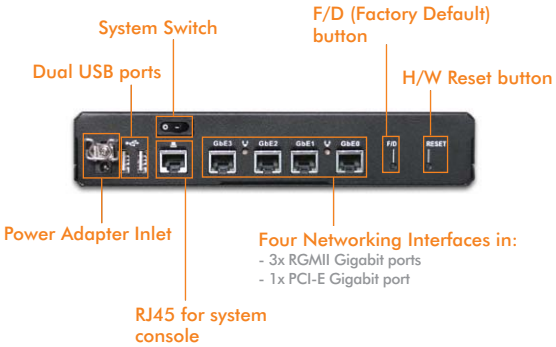
Intel® EP80579 SOC based desktop with QuickAssist Technology for network security

FEATURE

- Intel® EP80579 integrated processor
- 4 Gigabit Ethernet ports
- 2 Gen.1.5 bypass segments
- DDR2 800/533 MHz ECC, up to 2GB
- Security service and bulk crypto for IPSec, VPN, Firewall, SSL, IP Forwarding & TCP Proxy

SPECIFICATION

CPU Board	- Built with Intel® EP80579 integrated processor with QuickAssist Technology - Support 1.2G/1.0G/600MHz CPU
System Memory	Supports DDR2 800/533MHz ECC, up to 4GB
Ethernet Port	- Three RGMII Gigabit ports via Intel® EP80579 - One PCI-E Gigabit port via Intel® 82574L
Bypass feature	2 Gen.1.5 bypass segments
Storage Device	Support SATA DOM and CompactFlash installation
Serial Port	2UART: one for RJ45 console, the other is built-in on board 2x5 pin-header
LCD Panel	N/A
LEDs	Power status, storage access, Ethernet status/speed and bypass status
USB	Dual USB 2.0 ports, rear accessible
VGA	N/A
Power	60W power adaptor
Dimension	230(W) x 197.2(D) x 42(H) mm 9.06"(W) x 7.76"(D) x 1.65"(H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity: 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity: 5% to 95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	With Intel® QuickAssist Technology	Frequency	RGMII GbE, RJ45	PCI-E x1 GbE, RJ45	Bypass Segment
CATO-2010-0442	Yes	600MHz	3	1	2
CATO-2010-0446	Yes	1.2GHz	3	1	2

NAD-2100L

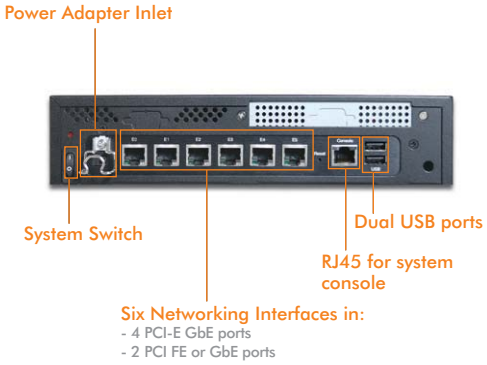
Intel® Pentium® M / Celeron® M based desktop platform with 6 Intel® GbE ports and 1 PCI expansion slot

FEATURE

- Support Intel® Celeron® M ULV/Intel® Celeron® M/Intel® Pentium® M
- High computing performance with low power consumption and low noise
- Up to six Intel® GbE ports and one Gen.-2 bypass segment
- Supports flexible storage
- One PCI slot for expansion
- Fanless at Intel® Celeron® ULV version
- Can be either wall-mounted or placed on a desktop

SPECIFICATION

CPU Board	- Support Intel® Celeron® M ULV/Intel® Celeron® M/Intel® Pentium® M - Intel® 910GMLE chipset
System Memory	Dual channel DDR2 400, up to 2G with 2 slots
Ethernet Port	- 4 Intel® PCI-E x1 GbE ports - 2 Intel® PCI FE or GbE ports
PCI Expansion	One Gen.2.0 bypass segment
Storage Device	- 2.5"/3.5" SATA HDD within 22mm in height - CompactFlash - SATA DOM
Serial Port	- One RJ45 system console on the rear - One on-board 2x5 pin-header
LEDs	LED indicators for power and storage access, and LNK/ACT on each LAN port
USB	Dual USB 2.0 ports on the rear
VGA	Built-in on-board 2x5 pin-header
Power	84W power adapter/60W power adapter
Dimension	250(W) x 213(D) x 55(H) mm 9.84"(W) x 8.39"(D) x 2.17"(H)
Packing Dimension	335(W) x 320(D) x 325(H) mm 13.19"(W) x 12.6"(D) x 12.8"(H)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity: 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity: 5% to 95% RH
Certification	CE/FCC/UL



ORDERING GUIDE

Part No.	CPU	Chipset	GbE Port	Bypass Segment	PCI Exp.
NAD-2100L-601	Intel® Celeron® M Intel® Pentium® M	910GMLE	6	1	Yes
NAD-2100L-421	Intel® UVL Celeron® M 600MHz	910GMLE	4	1	Yes

NAD-2073/74/75

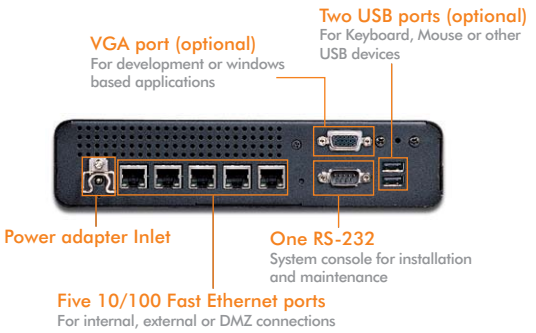
Desktop server with up to five Ethernet ports and one PCI expansion slot

FEATURE

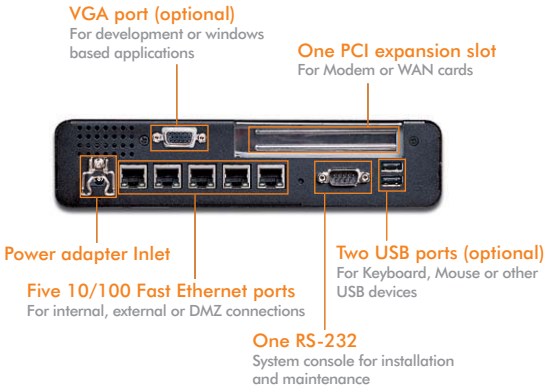
- Cost-effective solution
- Upgradeable to VIA C7 1.5GHz CPU performance
- 256MB memory and SODIMM socket on board
- Support Compact Flash, DOM and 2.5″/3.5″ HDD
- One PCI slot for extended usage (NAD-2074)
- Optional bypass function
- OS: support most updated Linux
- Power adapter solution

SPECIFICATION

CPU Board	- Support VIA V4 Eden/C7 series processor - VIA CN700 chipset with 400FSB
System Memory	- 256MB memory on board - One DDR2 SODIMM socket, supports up to 1GB
Ethernet Port	- 5 x RealTek RTL8100C Fast Ethernet ports (RTL8110S 32-bit GbE for option) - One bypass segment for project base application
PCI Expansion	One PCI slot (NAD-2074 only)
Storage Device	- CompactFlash - Disk on Module (DOM) - One IDE/SATA 3.5″ HDD (NAD-2073 only) / One 2.5″ HDD
Serial Port	- One DB9 for system console - One 2x5 pin-connector
LCD Panel	N/A
LEDs	Power status, data access, Ethernet status (LNK/ACT), Ethernet speed (10/100/1000) and bypass
IDE	- One 40-pin IDE connector - Two SATA connectors
USB	Two USB 2.0 ports, rear acessible
VGA	Built-in on-board 2x5 pin-header
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: 4.8kg(10.6 lbs) (2 in 1 packing); Net: 1.2kg(2.6 lbs)
Operating Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity 20% to 90%RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95%RH
Certification	CE/FCC class B/UL



NAD-2073



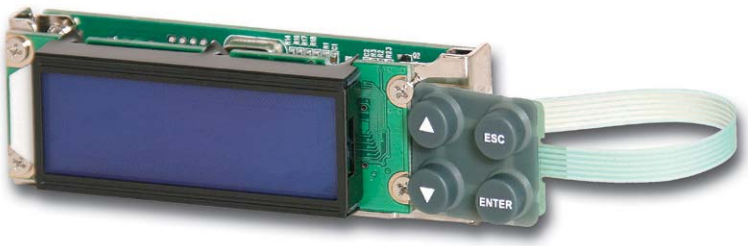
NAD-2074

ORDERING GUIDE

Part No.	CPU	Ethernet	Bypass	EZIO	PCI Exp.
NAD-2073-555	VIA C7 1.5GHz	5 FE	N/A	N/A	N/A
NAD-2073-557	VIA C7 1.5GHz	5 FE	One segment	N/A	N/A
NAD-2074-557	VIA C7 1.5GHz	5 FE	One segment	N/A	1
NAD-2075-414	VIA Eden 1.5GHz	4 FE	N/A	N/A	N/A

EZIO-300

16x2 characters LCD Module



FEATURE

- Communication protocol RS-232
- 4 buttons
- Blue background and white character
- Dimension: 87(W) x 30(H) x 31.85(T)mm

EZIO-G400

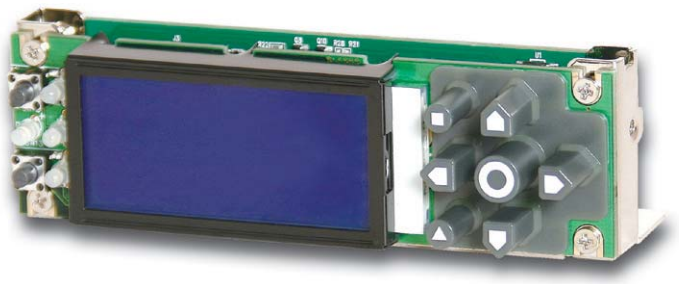
128x32 graphical LCD Module

FEATURE

- Communication protocol RS-232
- 4 buttons
- Blue background and white graph
- Dimension: 87(W) x 30(H) x 31.85(T)mm

EZIO-G500

128x64 graphical LCD and RS-232 control board w/ 7 buttons



FEATURE

- Communication protocol RS-232. (USB Project base)
- 7 buttons
- 3 bi-color programmable LEDs
- Power on/off and Reset switch on board
- Blue background and white graph
- Dimension: 108.5(W) x 33.5(H) x 42.8(T)mm

Model Selection Guide

X86 Platform

MODEL	LAN ports*(1)					Max. Bypass		Expansion				EZIO		
	On board	NIC	Total	Fiber	10G	Gen.1.5	Gen.2	Mini PCI	PCI	PCI-X	PCI-E	16x2	128x32	128x64*(2)
NAR-7100	2	24	26	V	V		6			V	V	V	V	V
NAR-7090	2	24	26	V	V		6			V	V	V	V	V
NAR-5650	8	8	16	V	V		5	V			V	V	V	V
NAR-5630	6	4	10	V			4		V		V	V	V	
NAR-5530	9	4	13	V			3		V		V	V	V	
NAR-5520	6	4	10				2		V		V	V	V	
NAR-5522	6		6				2		V		V			
CAR-3000	6	8	14	V	V		4				V	V	V	V
NAR-4060	6		6				1					V	V	
CATO-3000	7	4	11	V			3				V	V	V	
CATO-2000	4	4	8	V		2	2				V	V	V	
NAR-2200	6	4	10	V			3		V		V	V	V	
CAR-2000	6	8	14	V	V		4	V			V	V	V	V
NAR-2290	4		4					V				V	V	
NAR-2091	5		5			1			V			V		
CATO-2010	4		4			2								
NAD-2100L	6		6				1		V		V			
NAD-207X	5		5			1			V					

MIPS Platform

MODEL	LAN ports*(1)					Max. Bypass		Expansion				EZIO		
	On board	NIC	Total	Fiber	10G	Gen.1.5	Gen.2	Mini PCI	PCI	PCI-X	PCI-E	16x2	128x32	128x64*(2)
KiLIN-6030	5	10	15	V	V	5				V		V	V	
KiLIN-6020	5	4	9	V	V	2				V		V	V	
KiLIN-6005	7		7				1		V			V	V	
CAM-0100	6		6			1		V						

* 1. The number of LAN ports on board or NIC means the maximum ports which model can support
* 2. 128x64 graphical LCM for project based request

Network Interface Card

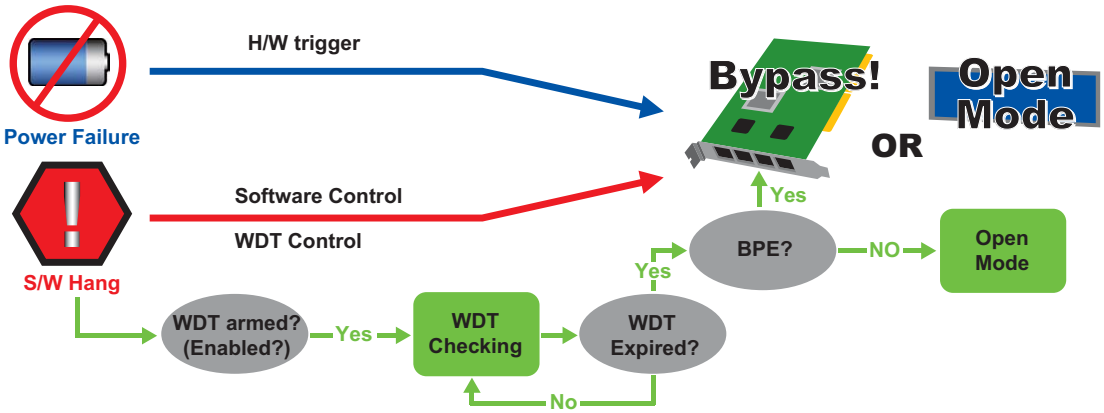
Caswell Module

LAN MODEL	Specification			Model supported										
	Chipset	Ethernet	Bypass	NAR-7100	NAR-7090	NAR-5650	NAR-5630	NAR-5530	NAR-5520	CAR-3000	NAR-2200	CAR-2000	CATO-3000	CATO-2000
ABN-668	Intel® 82575EB	8 Gb Fiber	0	V	V	V				V		V		
ABN-664	Intel® 82575EB	4 Gb Fiber	0	V	V	V				V		V		
ABN-522	Intel® 82598EB	2 10 G Fiber	0	V	V	V				V		V		
ABN-484	Intel® 82571EB	4 Gb Copper	2	V	V									
ABN-484L	Intel® 82574L	4 Gb Copper	2	V	V	V				V		V		
ABN-482	Intel® 82571EB	2 Gb Fiber	1	V	V	V				V		V		
ABN-464	Intel® 82571EB	4 Gb Fiber	0	V	V									
ABN-462	Intel® 82571EB	2 Gb Fiber	0	V	V									
ABN-462N	Intel® 82571EB	2 Gb Fiber	0	V	V					V		V		
ABN-458	Intel® 82571EB	8 Gb Copper	0	V	V	V								
ABN-454	Intel® 82571EB	4 Gb Copper	0	V	V									
ABN-454L	Intel® 82574L	4 Gb Copper	0	V	V	V				V		V		
ABN-428	Intel® 82571EB	4 Gb Fiber	0								V		V	V
ABN-426	Intel® 82574L	4 Gb Copper	2								V		V	V
ABN-423	Intel® 82571EB	4 Gb Fiber	0				V							
ABN-254	Intel® 82546GB	4 Gb Fiber	0					V						
ABN-253	Intel® 82546GB	2 Gb Fiber	0					V						
ABN-222	Intel® 82541PI	2 Gb Copper	0						V					
ABN-134	Intel® 82541PI	4 Gb Copper	0						V					
NIP-53020	Intel® 82599ES	2 10G Fiber	0	V	V	V				V		V		
NIP-53120	Intel® 82599ES	2 10G Fiber	1	V	V	V				V		V		
NIP-54020	Intel® 82599EB	2 10G Fiber	0	V	V	V				V		V		

Standard NIC

LAN MODEL	Specification			Model supported										
	Chipset	Ethernet	Bypass	NAR-7100	NAR-7090	NAR-5650	NAR-5630	NAR-5530	NAR-5520	CAR-3000	NAR-2200	CAR-2000	CATO-3000	CATO-2000
NIC-53120	Intel® 82599ES	2 10G Fiber	1	V	V	V				V		V		
NIC-54120	Intel® 82599EB	2 10G Copper	1	V	V	V				V		V		
ABN-262	Intel® 82574L	2 Gb Copper	1	V	V					V	V	V	V	V
NIC-32120	Intel® 82546GB	2 Gb Fiber	1	V	V	V	V	V	V					
ABN-194	Intel® 82546GB	4 Gb Copper	2	V	V	V	V	V	V					
ABN-192	Intel® 82546GB	2 Gb Copper	1	V	V	V	V	V	V					
ABN-112	Intel® 82551QM	2 FE Copper	1				V	V	V		V			

Portwell Gen2 Bypass



* WDT arming (enabling), Expire-time setting and BPE (Bypass Enable) setting are programmable by software

Portwell Gen2 programmable bypass module, in practice, the programmable bypass mode allows network packets to flow in and out unattended when the appliance is shutting down. The programmable next boot-up status means that the Bypass or Open mode can be determined in advance before a system shut down. This means that the system can be predetermined to reboot to the preferred status and is immediately ready to serve. Bypass mode status can be changed instantly by software commands. Each Bypass segment has its own WatchDog Timer (WDT), therefore, Bypass behavior can be operate independently.

FEATURE

- Bypass/Open Mode selectable by power failure
- System is monitored by WDT and bypass can be triggered by s/w hang while WDT in armed
- Software programmable modes: Normal, Bypass and Open (non-bypass)
- Bypass-mode configurable by s/w for Next Boot

NIC-54120

PCI-Express x8 Gen2 with dual 10G BASE-T bypass port from Intel® 82599EB

SPECIFICATION

Ethernet Port	Intel® 82599EB dual 10Gigabit BASE-T ports
Bus Type	PCI-Express Gen2 x8 CEM Rev 2.0 Specification
Compliance	IEEE 802.3an 10GBASE-T
Connector	RJ-45
Watchdog Timer	Built-in watchdog timer switch to bypass or open mode by power failure and software hang
S/W programmable	- Selection of normal, Bypass and open mode - WDT time-out setting
LED Display	- One on-board LED to show Bypass status - Two LEDs adjacent to each RJ-45 port, indicate Active/ Link & 10/100/1000/10G Mbps
Dimension	235(W) x 110(L) mm; 9.25"(W) x 4.33"(L)

FEATURE

- Dual RJ-45 connector (Copper)
- Switch automatically, and programmable to bypass or open mode while power fails or SW hang
- PCI-Express generation II x8 lans
- Built-in LED for Ethernet and Bypass status

ORDERING GUIDE

Part No.	Description
NIC-54120	PCI-Express x8 Gen2 with dual 10G BASE-T bypass port from Intel® 82599EB

NIC-53120

PCI-Express x8 Gen2 with dual 10G SFP+bypass port from Intel® 82599ES

FEATURE

- Dual SFP+connector (Fiber)
- Switch automatically, and programmable to bypass or open mode while power fail or SW hang
- PCI-Express generation II x8 lans
- Built-in LED for Ethernet and Bypass status

SPECIFICATION

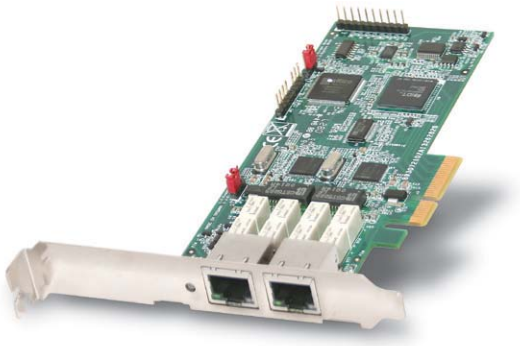
Ethernet Port	Intel® 82599ES dual 10Gigabit SFP+ports
Bus Type	PCI-Express Gen2 x8 CEM Rev 2.0 Specification
Compliance	- 10Gb/s Ethernet/802.3ae (XAUI) specification - 10Gb/s and 1Gb/s Ethernet/802.3ap (KX/KX4) specification - 1000BASE-BX specification
Connector	SFP+
Watchdog Timer	Built-in watchdog timer switch to bypass or open mode by power failure and software hang
S/W programmable	- Selection of normal, Bypass and open mode - WDT time-out setting
LED Display	Two on board LEDs to show LAN Bypass/Active/Link status
Dimension	235(W) x 110(L) mm; 9.25"(W) x 4.33"(L)

ORDERING GUIDE

Part No.	Description
NIC-53120	PCI-Express x8 Gen2 with dual 10G SFP+bypass port from Intel® 82599ES

ABN-262

PCI-E Dual Copper Gigabit Ethernet Adapter with Bypass Function



FEATURE

- Dual copper PCI-E Gigabit Ethernet ports based on Intel® 82574L controller
- Built-in Watchdog Timer (WDT) to bypass Ethernet ports on a host system hang or power failure
- Easy configuration of Normal/Bypass model and WDT timer
- Built with both onboard LED and LED pin-out for LAN status and bypass mode, provides variable LED location for system integration
- Low Profile form factor to fit in a wider variety of systems

SPECIFICATION

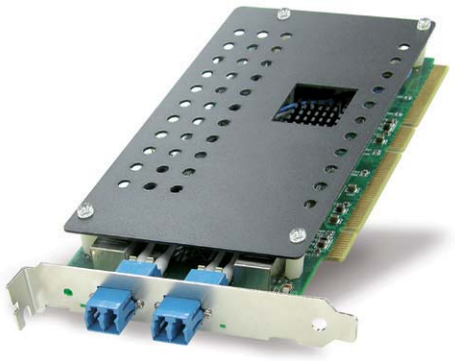
Ethernet Port	Intel® 82574L Gigabit controller with advanced performance features
Bus Type	PCI-Express x4
Compliance	- IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX, and 10BASE-T applications - IEEE 802.3x and 802.3z flow control supported
Watchdog Timer	Built-in watchdog timer to bypass model when power on
H/W Selection	Selection of normal or bypass model when power on
S/W Programmable	WDT time-out setting
LED Display	- Two LEDs adjacent to each RJ45 port, indicate Active/Link & 10/100/1000Mbps - One on-board LED to show bypass status for each bypass segment
Dimension	147.3(W) x 68.9(L) mm; 5.8"(W) x 2.71"(L)

ORDERING GUIDE

Part No.	Description
ABN-262	Dual port Gigabit Ethernet PCI-E x4 adapter with Bypass function

NIP-32120

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
NIP-32120	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® 82546GB 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

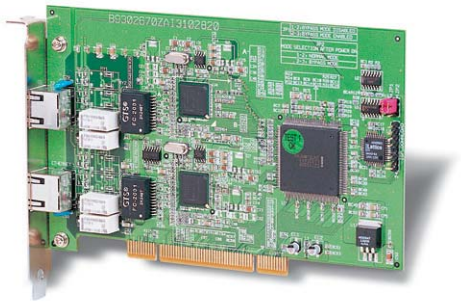
Ethernet Port	Intel® 82546GB high performance dual-port Gigabit Ethernet controller
Bus Type	64bit/133MHz PCI-X, backwards compatible with PCI-64/32
Compliance	- IEEE 802.3 auto-negotiation for 1000BASE-T, 100BASE-TX and 10BASE-T supported - IEEE 802.3x flow control supported
Watchdog Timer	Built in 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

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

ABOUT KiLIN

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-6005		CAM-0100	
Sub-Model	-4101	-2700	-2701	-0351	-1270	-3270	-7611	-7616
Processor	Cavium Octeon CN5860			Cavium Octeon CN3860	Cavium Octeon CN3120 series		CN5010	CN5020
CPU (Max.)	750MHz, 16 cores			500MHz, 8 cores	500MHz, 2 cores		500MHz, 1 core	500MHz, 2 cores
RAM (Max.)	8GB			8GB	4GB		1G	
Ethernet								
Fiber	0	0	4	0	0		0	
Copper GbE	4	8	4	4	3 or 6		6	
10/100 FE	1	1	1	1	1		0	
Expansion Slot	2	2	2	1	1		1	
Storage Device								
HDD	Two Removable 3.5" HDD			One 3.5" HDD	One 3.5" HDD		1 (2.5" SATA optional)	
CF	Optional			Optional	Optional		Optional	
DOM	N/A			N/A	N/A		N/A	
DOC	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 rear panel	
LCD module	EZIO-300 or EZIO-G400			EZIO-300 or EZIO-G400	EZIO-300 or EZIO-G400		N/A	
LEDs	Power, Storage			Power, Storage	Power, Storage		Power, Storage, Lan	
IDE	Two SATA connectors			Two SATA connectors	Two SATA connectors		One SATA connector	
USB	2			2	1		1	
VGA	N/A			N/A	N/A		N/A	
Power	350W 1+1 redundant PSU w/PFC			200W Full-range ATX	65W Full-range		12V DC 35W	
Height (U)	2U			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"	428 x 255 x 44 mm 16.8" x 10.1" x 1.73"		210 x 148 x 44 mm 8.27" x 5.85" x 1.73"	
PAGE	42			43	44		45	

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 750MHz
- Security, Regular expression and Decom/ compression functions inside
- Up to Sixteen Gigabit Ethernet ports with five bypass segments in KiLIN-6030
- SPI4.2 interface for possible 10G solution or additional extensions
- Four DDR2/400 memory slots and 256MB RLDRM on-board
- Up to two PCI-X expansion slots
- Redundant 350W ATX PSU

SPECIFICATION

CPU Board	- Cavium Octeon CN5860 series with security function inside - 16 cores with 750MHz CPU frequency
System Memory	- Four 240-pin DDR2 DIMM slots - Supports DDR2 667/533/400 up to 8GB - 256MB RLDRAM on-board
Ethernet Port	- One 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 in KiLIN-6030 (Optional)
Expansion Slot	Up to two PCI-X expansion slots
Storage Device	- Two swappable 3.5" SATA HDD - CompactFlash socket on-board
Serial Port	- One RJ-45 connector for console - One 2x5 pin-connector from carrier board
LCD Panel	2x16 characters or 128x32 graphical with 4-buttons
LEDs	Power status, data access, Ethernet status/speed and bypass status
IDE/SATA	Two SATA connectors from Cavium
USB	Two USB ports
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 (41 to 104°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°F) - Humidity 5% to 95% RH
Certification	CE/FCC/UL

Optional NIC

LAN module	Ethernet	Bypass
ABN-1000	2 10G Fiber	1
ABN-1004	4 Gb Fiber	2
ABN-1010	10 Gb Copper	2
ABN-1014	4 Gb Copper	0

ORDERING GUIDE

Part No.	Cavium Processor	Ethernet	EZIO	Bypass Segment	SPI 4.2
KiLIN-6030-4101	Octeon CN5860-750NSP	4 Copper GbE + 2 management port	Yes	2	Yes
KiLIN-6030-2700	Octeon CN5860-750NSP	8 Copper GbE + 2 management ports	Yes	4	N/A
KiLIN-6030-2701	Octeon CN5860-750NSP	4 Copper + 4 Fiber + 2 management ports	Yes	2	N/A

*EZIO supports EZIO-300 or EZIO-G400

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 500MHz
- Security, Regular expression and Decom/ compression functions inside
- SPI4.2 interface for possible 10G solution or fiber bypass function
- Four DDR2/400 memory slots and 64MB RLDRM on-board
- One PCI-X expansion slot supports

SPECIFICATION

CPU Board	- Cavium Octeon CN3840 and CN3600 series with security function inside - 8 cores with 500MHz CPU frequency
System Memory	- Four 240-pin DDR2 DIMM slots - Supports DDR2 667/533/400 up to 8GB - 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
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 or 128x32 graphical with 4-buttons, option for 6-buttons
LEDs	Power status, data access, Ethernet status/speed and bypass status
IDE/SATA	Two SATA connectors
USB	2
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 (41 to 104°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°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-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 DDR2 667/533 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 CN3120 series with various function inside via different CPU type - 2 cores with 500MHz CPU frequency
System Memory	- Two DDR2 667/533 memory slots up to 2GB, - Optional 256MB DFA RAM on-board
Ethernet Port	- One 32bit/33MHz Gigabit Ethernet port for management - Three Gigabit Ethernet ports on-board in one bypass segment - 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 connector for system console - One 2x5 pin-connector on board
LCD Panel	2x16 characters LCD module with 4-buttons
LEDs	Power status, data access, Ethernet status/speed and bypass status
IDE	One SATA connectors from M/B
USB	One USB 2.0 port on front panel
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 to 40°C (41 to 104°F) - Humidity 20% to 90% RH
Storage Environment	- Temperature: 0 to 70°C (32 to 158°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

CAM-0100

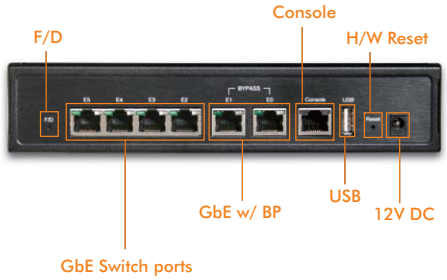
1U Desktop Fanless network appliance with Cavium Octeon processor CN5010/5020

FEATURE

- A5 Size Desktop platform for entry SMB & SOHO market
- Highest price-performance, best cost efficiency
- Built with Cavium architecture - simple, compact and powerful
- 2 RJ45 GbE ports and 4 RJ45 Gb switching ports for basic network requirement
- One MiniPCI socket for expansion with Wireless or other applications
- One CF socket and SATA interface
- Fanless system

SPECIFICATION

CPU Board	- Cavium Octeon CN50X0 series with security function inside - 1 or 2 cores with 500MHz CPU frequency
System Memory	DDR2 SODIMM 400/533/667, up to 1GB
Ethernet Port	- 2 RJ45 ports, RGMII w/ one bypass seg. - 4 switch RJ45 ports, RGMII
Expansion Slot	1 MiniPCI socket
Storage Device	1 SATA interface, 1 CF socket
Serial Port	1 RJ-45 connector
LCD Panel	N/A
LEDs	LED indicators for power, storage and Lan access
IDE/SATA	1 SATA connector
USB	1 USB connector
VGA	N/A
Power	DC 12V, 35W
Dimension	210 (W) x 148 (D) x 44 (H) mm; 8.27" (W) x 5.85" (D) x 1.73" (H)
Operating Environment	- Temperature: 5 to 35°C (41 to 95°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
CAM-0100-7611	CN5010-500scp	6GbE
CAM-0100-7616	CN5020-500scp	6GbE

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.

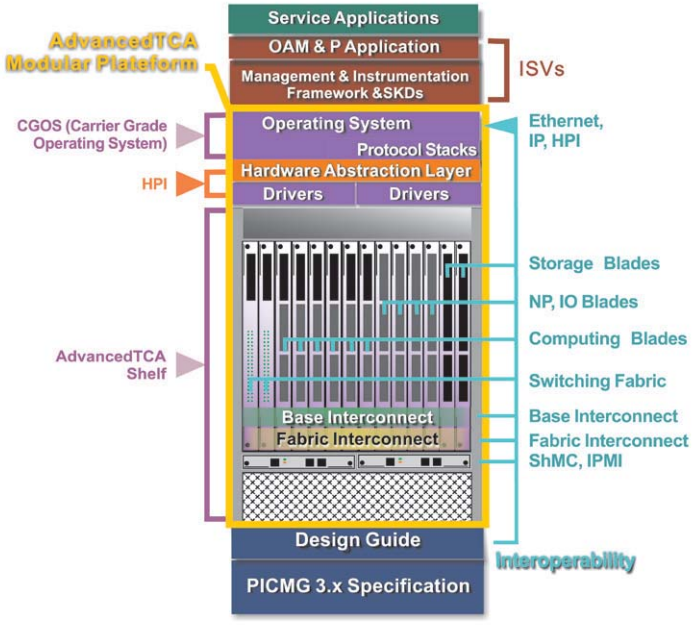
Target Market

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

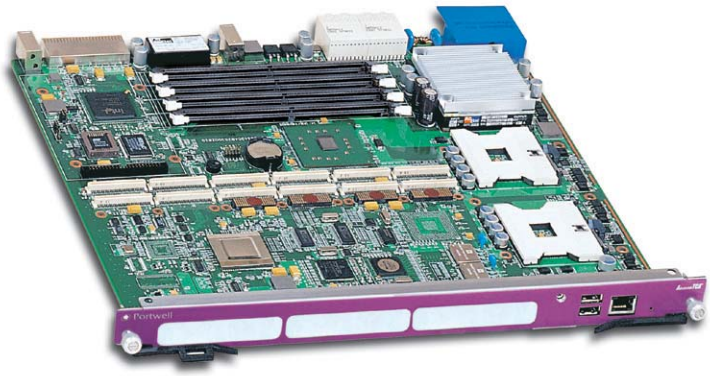
AdvancedTCA™ system consists from standard based modular building blocks with interoperability and includes the following components:

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 TANC®

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

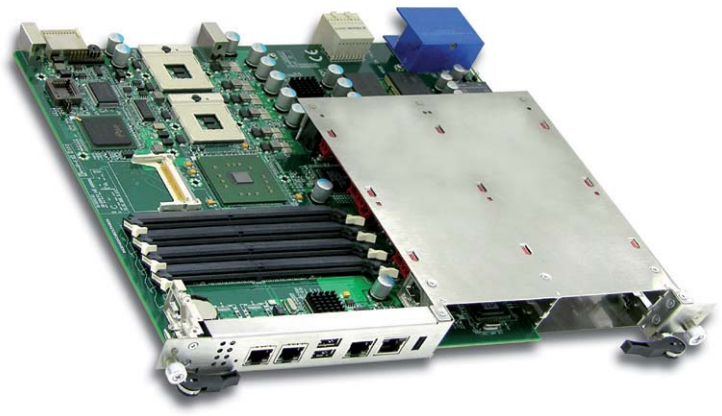
CPU Board	Dual Intel® LV Nocona processor
Chipset	Intel® E7520 chipset with 800MHz FSB
System Memory	Up to 16GB DDR400/DDRII registered memory with ECC support
BIOS	Award BIOS
Ethernet Port	Flexible from three PMC/XMC modules
Storage Devices	- Support one 2.5" HDD at UMDA33/66/100 - One on-board Compact 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

ABOUT Communication Platform

CVD-4200

Product Overview

Caswell Communication platform designed with Freescale MPC 8360E PowerQUICC II Pro processor is a highly integrated communications processor that addresses the needs of the networking, wireless infrastructure and telecommunications markets. Target applications include next generation DSLAMs, network interface cards for 3G Base stations (Node Bs), routers, media gateways and high-end IADs. The MPC 8360E PowerQUICC II Pro processor having faster interfaces and robust interworking between protocols while addressing the requirements related to time-to-market, price, power, and package size.

Caswell CVD-4200 is a converged router platform design with Freescale MPC 8360E PowerQUICC II Pro processor and Infineon QuadFALC™ PEF 22554 four channels E1/T1 Framer which make it available in a range of network equipment including Radio network Controllers, Node B line cards, PBX, Digital Loop Carrier or SDH/SONET ADMs. The four independent E1/T1 long haul and short haul line interface units with software programmable ability make capacity easy to extend. The QuadFALC™ can be simply switched between E1/T1/J1 operation via software without any changes in the external circuitry. CVD-4200 is idea for VoIP PRI Access application.

Caswell CVD-4200 has up to 4 T1 WAN port or a single 10/100 Mbps Ethernet WAN port, optional 802.11 wireless access point. With optional 4/8 lines FXS/FXO line modules, the systems can be further connect to traditional POTS and make your voice communication connect to the out side world with single platform.

As your manufacturing partner, Caswell can base on your market requirements to customize the product to meet your desire.

CVD-4200

The Desktop T1 Link Converged Networking Platform

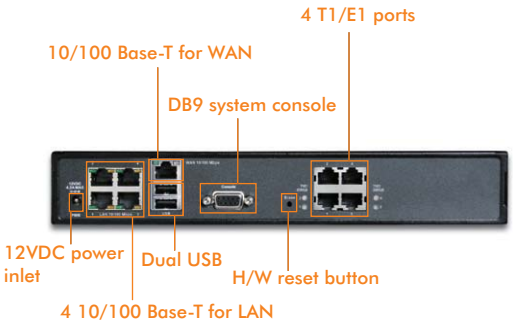
Voice Gateway/IP PBX

FEATURE

- Powered by FreeScale MPC 8360
- On board 128MB system memory, expandable up to 256MB
- Five 10/100 BASE-T interfaces for WAN/LAN connection
- 4 TDM/PCM channels for T1/E1 connection
- Compliant with 802.1 b/g for wireless application
- Optional PSTN Module for VoIP application

SPECIFICATION

CPU Board	Built with FreeScale MPC 8360 CPU
System Memory	- Onboard un-buffered, none-ECC DDR2 128MB - Up to 256MB expandable
Ethernet Port	- Four 10/100 Base-T Ethernet ports with RJ45 connectors for LAN - One 10/100 Base-T Ethernet port with RJ45/SFP connector for WAN
TDM Channel	- Four TDM channels to T1 Quad Framer - 2x2 T1/E1 ports build onboard
Expansion Slot	Mimi-PCI socket onboard
Serial Port	One DB9 connector for system console through RS232
LEDs	- Power, System Status, T1/E1 Status on front panel - Ethernet LNK/Speed, T1/E1 Status on rear panel
USB	Dual USB 2.0 ports on rear panel
Power	40W external power adaptor
Dimension	One SATA connectors from M/B
Operating Environment	280 (W) x 322.5 (L) mm 11.02" (W) x 12.70" (L)
Storage Environment	- Temperature: 5 to 40°C (41 to 104°F) - Humidity 20% to 90% RH
Certification	CE/FCC/UL/CB/Industry Canada



ORDERING GUIDE

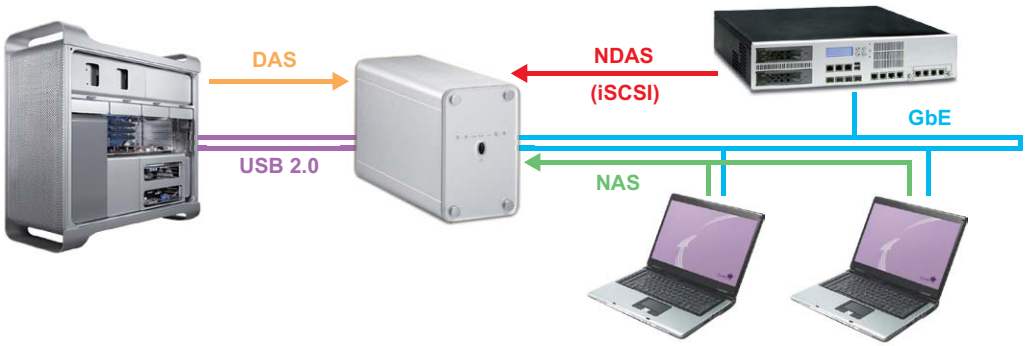
Part No.	CPU	T1/E1	WAN	LAN
CVD-4200-1200	MPC 8360	4	1	4

ABOUT NAS/NVR

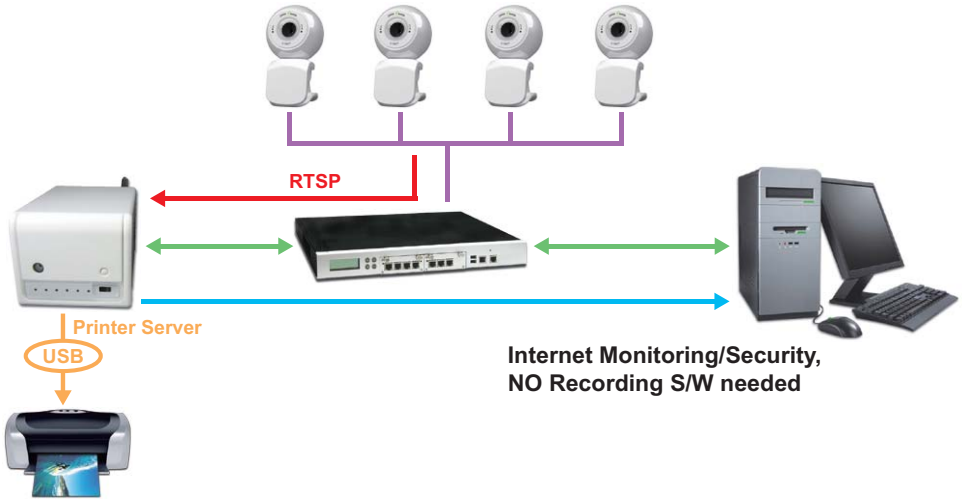
Product Overview

Caswell NAD-1002/1004 NAS series are the first products in the market which provide Multi-function allowing user to easily configure the product into USB 2.0 DAS, NAS or iSCSI NAS. For application as small office, the combination of the 3 can provide the maximum usage and the flexibility of the product.

NAD-1002/1004 designed with Linux 2.6 kernel on Marvell SOC platform, provide RAID 0, 1, 5 and JBOD (none RAID) with disk hot swappable, date auto rebuild, windows ADS, iTunes server and UPnP makes NAD-1002/1004 a reliable, high performance and cost-effective storage selection for Home/SOHO/SMB.



Caswell NVR 1100/1100W Network Video Recorder is a complete recording solution that connects directly to your network and is manageable remotely via a local area network or the Internet. It enables simultaneous recording and remote access to live views and playback of recorded images from up to four network cameras. Scheduled and triggered recordings can be performed. NVR 1100/1100W is easy to install, use and manage, is an idea solution for surveillance application.



NAD-1002/1004

High Performance DAS+NAS+iSCSI Storage Solution

FEATURE

- Unified storage solution, as
  - USB2.0 DAS
  - iSCSI block device
  - NAS file sharing server
- 4 bay Disk Hot-swappable
- RAID level 0,1,5, JBOD
- Online Data Auto re-build
- File Server, FTP server, UPnP media server, iTunes server, BT download
- USB2.0 Host mode for external backup device
- LCD Module for IP configuration, Beeper setup & System Monitoring
- Compact and Stylish External Outlook
- Robust Aluminum metal chassis

SPECIFICATION

	NAD-1002	NAD-1004
Processor	Marvell 88F5182 SOC	
Memory	128MB DDR Memory	
Host Interface	- One 10/100/1000 Ethernet Port - One USB 2.0 (Target Mode)	
Disk Interface	Two SATA-I/II Disk drive	Four SATA-I/II Disk drive
Other Interface	One USB 2.0 (Host Mode)	
System OS	Linux 2.6	
Network Transport Protocol	- TCP/IP - Apple Talk	
File Sharing Protocol	- Microsoft Network (CIFS/SMB3.0) - Apple Share (AFP3.1), FTP, NFS	
Other Network Protocol	NTP, UPnP Redirect to Web UI	
Network Client OS	- Microsoft Windows Vista/XP/2000/2003 - Unix/Linux (NFS) - Mac OS 8.X, 9.X, 10.X	
Network Security	- Microsoft ADS - User/Group Level Authorization	
Quota	User level quota	
IP Address Assignment	DHCP Client, Manually IP Set up	
RAID Level	0, 1, JBOD	0, 1, 5, JBOD
RAID Management	Hot Swap, Online Data Auto Rebuild under RAID 1/5	
Event Notification	SMTP, Beeper	SMTP, Beeper, LCD
LCD Panel	IP Configure, System Status Monitoring	
Management	Web based GUI	
Console Management	Through on board RS-232 port	
Applications	- File Server - FTP Server - UPnP Media Server - iTunes Server - BT Download	
AC Adapter	100~240V Auto sensing, 50~60Hz; +5V/3A, +12V/3A	100W internal power
Form Factor	Desktop Tower Type	
Dimension	86(W) x 214.5(D) x 130(H)mm	130(W) x 214.5(D) x 184(H)mm
Weight	2Kg (w/o drives)	5.5Kg (w/o drives)
Fan	1x5cm cooling fan	1x8cm cooling fan
Ambient Temperature	Operation: 0 to 40°C	
Relative Humidity	Non-operating: 95% @ 30°C non-condensing	

ORDERING GUIDE

Part No.	Chipset	RAID Level	Disk Interface
NAD-1002	Marvell 88F5182	0,1 and JBOD	Two SATA I/II Disk Drive
NAD-1004	Marvell 88F5182	0,1,5 and JBOD	Four SATA I/II Disk Drive

NVR-1000/1010

High Performance NAS+NVR Storage Solution

FEATURE

- Support max. 4 x IP Camera Schedule Recording
- Web-based Administration Program for easy configuration
- Support 2 x USB 2.0 Port for external back-up or printer
- 1 x Gigabit Ethernet port
- Support RAID Level 0,1 JBOD
- Provide FTP server
- Support UPnP for Windows XP
- Support UPnP Media/iTunes Server
- Support Printer Server
- Support Wireless 802.11b/g (NVR-1010)

SPECIFICATION

Processor	Storlink SL3516
Memory	128MB DDR Memory
Host Interface	1 x 10/100/1000 Ethernet Port
Disk Interface	2 x SATA-I/II 3.5" Disk drive
Other Interface	2 x USB2.0
System OS	Linux 2.6
Network Transport Protocol	- Microsoft Network (CIFS/SMB3.0) - FTP
Other Network Protocol	NTP, RTSP
Network Client OS	- Microsoft Windows Vista/XP/2000/2003 - Mac OS 9.X, 10.X
Network Security	User/Group Level Authorization
IP Address Assignment	DHCP, Manually IP Set up
RAID Level	0, 1, Single Disk
Event Notification	SMTP, LED
LCD Panel	IP Configure, System Status Monitoring
Management	Web based GUI
Applications	- FTP Server - UPnP Media Server - iTunes Server - Schedule Download (HTTP)
Wireless	- 802.11b/g - 64-WEP, 128-WEP, WPA-PSK/TKIP - 2.4 GHz to 2.497 GHz
Input Voltage	100~240V Auto sensing, 36W Output DC 12V/3A
Form Factor	Desktop Tower Type
Dimension	134(W) x 201D) x 105(H) mm
Weight	1.8Kg (w/o drives)
Ambient Temperature	Operation: 0 to 40°C
Relative Humidity	Non-operating: 85% @ 30°C non-condensing

ORDERING GUIDE

Part No.	Chipset	Media Support	802.11 b/g
NVR-1000	Storlink SL3516	UPnP/iTune	No
NVR-1010	Storlink SL3516	UPnP/iTune	Yes