

2U DUAL-SOCKET OPENPOWER PLATFORM

TN76-BP016

BP016T76V12HR-LE / BP016T76V12HR
BP016T76V4HR-HE / BP016T76V12HR-SL



 **OpenPOWER™**



DDR3L

■ Front View



- (12) hot-swap 3.5" SAS 12G/SATA 6G HDDs
- *Need a discrete HBA/RAID adapter to enable

■ Back View



- Pre-install TYAN MP016T76-L16-2F & MP016T76-R16-2F Riser Cards (for -SL/-LE/V12HR SKUs)
- (2) Full-Height + (1) Half-Height, Single-Width PCI-E Gen.3 x16 slots
- (2) Full-Height, Single-Width PCI-E Gen.3 x8 slots
- Pre-install TYAN MP016T76-L16-1F & MP016T76-R16-1F Riser Cards (for -HE SKU)
- (2) Full-Height/ Double-Width PCI-E Gen.3 x16 slots
- (1) Half-Height/ Single-Width PCI-E Gen.3 x16 slot
- (1+1) 1,600W RPSU, 80 plus Platinum

2U OpenPOWER Platform for High-Performance Computing

- Dual POWER8 CPU (Turismo SCM)
- (1) PLX PEX8725 PCI-E Gen.3 switch
- (2) IBM Centaur MBC (Memory Buffer Chip), each w/ 16MB cache integrated (-SL/-LE SKUs);
- (4) IBM Centaur MBC (Memory Buffer Chip), each w/ 16MB cache integrated (V12HR/-HE SKUs)
- (16) DDR3L DIMM slots up to 512GB (-SL/-LE SKUs);
- (16) + (16) DDR3L DIMM slots up to 1,024GB (Pre-installed memory expansion board) (V12HR/-HE SKUs)
- For -SL/-LE/V12HR SKUs:
 - (2) Full-Height + (1) Half-Height, Single-Width PCI-E Gen.3 x16 slots
 - (2) Full-Height, Single-Width PCI-E Gen.3 x8 slots
- For -HE SKU:
 - (2) Full-Height, Double-Width PCI-E Gen.3 x16 slots
 - (1) Half-Height, Single-Width PCI-E Gen.3 x16 slot
- (1) 4-port SATA 6Gb/s IOC mezzanine pre-installed (-SL/-HE SKUs)
- (1) 12-port SATA 6Gb/s IOC HBA pre-installed (-LE/V12HR SKUs)
- (4) hot-swap 3.5" drives (-HE SKU); (12) hot-swap 3.5" drives (-SL/-LE/V12HR SKUs)
- *Need a discrete HBA/RAID adapter to enable the 12x drives (-SL SKU only)
- (2) GbE ports + (1) IPMI port (via Broadcom BCM5720 + Realtek RTL8211EL)
- Onboard BMC w/ iKVM support
- (1+1) 1,600W RPSU, 80-plus Platinum Certified

TN76-BP016

BP016T76V12HR-LE / BP016T76V12HR
BP016T76V4HR-HE / BP016T76V12HR-SL

TYAN
Specifications

Top View

M1714T71-USB
Front USB Module

(12) hot-swap 3.5" SAS
12G/SATA 6G HDD/SSD
*Need a discrete
HBA/RAID adapter to enable

System FANs
(11+1) 6cm fans

M1715T71-FPB
Front Panel Module

Pre-install TYAN Storage Mezzanine

(1) MP012-9235-4I supports
(4) SATA 6Gb/s HDD/SSD

Pre-install TYAN MP016T76-L16-2F & MP016T76-R16-2F
Riser Cards (for -SL/-LE/-12HR SKUs)

(2) Full-Height, (1) Half-Height,
Single-Width PCI-E Gen.3 x16 slots
(2) Full-Height, Single-Width PCI-E Gen.3 x8 slots
Pre-install TYAN MP016T76-L16-1F & MP016T76-R16-1F
Riser Cards (for -HE SKU)
(2) Full-Height/ Double-Width PCI-E Gen.3 x16 slots
(1) Half-Height/ Single-Width PCI-E Gen.3 x16 slot

SP016GM2N

(2) POWER8 Turismo SCM socket
(16) R-DDR3L 1333 DIMM slots, Max.512GB
(2)GB ports + (1) IPMI port

(1+1) 1,600W RPSU,
80 plus Platinum



System (Recommend Chassis)	Form Factor	2U Rackmount
	Chassis Name	TN76
	Dimension (H x W x D)	29.9" x 17.2" x 3.4" (760 x 438 x 87.6mm)
	Motherboard	SP016GM2N
Front Panel	Gross Weight	21KG
	Buttons	(1) PWR w/ LED / (1) UID
	LEDs	(1) ID / (1) Warning
	I/O Ports	(1) USB 3.0 port
External Drive Bay	Type / Q'ty	3.5" Hot-Swap / (12) *Need a discrete HBA/RAID adapter to enable all drives. (-SL SKU only) 3.5" Hot-Swap / (4) (-HE SKU)
	Supported HDD Interface	SAS 12Gb/s / SATA 6Gb/s
	Pre-install TYAN Storage Mezzanine	MP012-9235-4I (4-port SATA 6Gb/s IOC w/o RAID stack)
System Cooling Configuration	FAN	(11+1) 6cm fans
Power Supply	Type	RPSU
	Redundancy	1+1
	Input Range	Full-range AC(100-240V)
	Output Watts	1600 Watts
	Frequency	47 - 63 Hertz
Processor	Efficiency	80-plus Platinum
	Socket Type / Q'ty	IBM POWER8 Turismo SCM/ (2)
	Thermal Design Power (TDP) wattage	Up to 190W (Nominal) / 247W (Turbo)
Chipset	PCI-E Switch	(1) PLX PEX8725
	Memory Buffer Chip	(2) IBM Centaur MBC or (4) IBM Centaur MBC (-HE SKU only)
Memory	DIMM Type / Qty.	R-DDR3L / (16) R-DDR3L / (16)+(16) *Pre-installed (1) MP016T76-MEB (-12HR/HE SKU)
	Max. Capacity	Up to 512GB Up to 1,024GB (-12HR/HE SKU)
	Memory Voltage	1.35V
	Note	Pre-installed (1) MP016T76-MEB w/ (16) DIMM slots memory expansion board
Expansion Slots	PCI-E	(2) PCI-E Gen3 x8 slots / (3) PCI-E Gen3 x16 slots or (3) PCI-E Gen3 x16 slots (-HE SKU only)
	Pre-installed TYAN Riser Card	MP016T76-L16-2F / MP016T76-R16-2F
LAN	Port Q'ty	(2) GbE ports / (1) PHY
	Controller	Broadcom BCM5720
	PHY	Realtek RTL8211EL

Graphic	Connector type	D-Sub 15-pin
	Resolution	up to 1920 x 1200
	Chipset	Aspeed AST2400
I/O Ports	USB	(5) USB ports (1x USB3.0 @ front, 3x USB3.0 @ rear, 1x USB2.0 @ rear for BMC F/W update only)
	COM	(1) DB-9 COM port
	VGA	(1) D-Sub 15-pin port
	RJ-45	(2) GbE ports, (1) PHY dedicated for IPMI
System Monitoring	Chipset	Aspeed AST2400
	Voltage	Monitors voltage for CPU, memory, chipset & power supply
	Temperature	Monitors temperature for CPU & memory & system environment
	LED	Over temperature warning indicator / Fan & PSU fail LED indicator
System Management	Onboard Chipset	Onboard Aspeed AST2400
	AST2400 IPMI Feature	IPMI 2.0 compliant baseboard management controller (BMC)/ Supports storage over IP and remote platform-flash / USB2.0 virtual hub
	AST2400 iKVM Feature	24-bit high quality video compression / 10/100 Mb/s MAC interface
PNOR	Brand / ROM size	IBM / 64MB
	Feature	Boot from USB device / CD-ROM / Storage / PXE via LAN / IPMI Support / Device Tree / Console Redirection / OCC (Power Management) / Petitboot Bootloader (PPC64)
Regulation	FCC (DoC)	Class A
	CE (DoC)	Yes
Operating Environment	Operating Temp.	10° C ~ 35° C (50° F ~ 95° F)(*Nominal)/10° C ~ 30° C (50° F ~ 86° F)(*Turbo) (-LE/-SL SKU) 10° C ~ 35° C (50° F ~ 95° F)(*Nominal)/10° C ~ 28° C (50° F ~ 82° F)(*Turbo) (-12HR SKU) 10° C ~ 35° C (50° F ~ 95° F)(*Nominal)/10° C ~ 32° C (50° F ~ 97° F)(*Turbo) (-HE SKU)
	Non-operating Temp.	- 40° C ~ 70° C (-40° F ~ 158° F)
	In/Non-operating Humidity	90%, non-condensing at 35° C
RoHS	RoHS 6/6 Complaint	Yes

(Specifications are subject to change without notice. Items pictured may only be representative.)

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