DAS-4672 Product Specification

Hardware Specification

Hardware specification of the DAS-4672 IP-DSLAM lists the system general specification and each card module specification independently.

Table 1 DAS-4672 System General Specification

Specification	Description
Dimensions	Height: 22.75 inches (13U) Width: 17.3 inches, exclude ear bracket; 19 inches or 23 inches, include ear bracket Depth: 26.6 inches
Weight	Empty: 20 Kg Full loaded: 60 Kg
Network uplink interface	2 x mini-GBIC SFP (Small Form Pluggable) slots
ADSL interface	G.992.5 – From 64 kbps upto 28 Mbps downstream and 64 kbps upto 2.8 Mbps upstream in 32 kbps multiples G.DMT – From 64 kbps upto 8.192 Mbps downstream and 64 kbps upto 1024 kbps upstream in 32 kbps multiples G.lite –From 64 kbps upto 1.536 Mbps downstream and 64 kbps upto 512 kbps upstream in 32 kbps multiples
POTS Splitter	Support embedded CO POTS Splitter for ADSL interface
Console interface Management access	• RS-232 Female • RJ-45 10/100 Base-T Ethernet • Gigabit Ethernet Trunk in-band management
External alarm relay	• 4 of alarm input contacts (-48 VDC) • 1 of alarm output receptacle
Power requirements	DC Input: -36 VDC to -72 VDC
Backplane Switching Throughput	Total switch fabric: 24 Gbps bi-directional Network interface ↔ Network interface: 1 Gbps per port Network interface ↔ ADSL Subscriber interface: minimum 1.5 Mbps per port
Slot Structure	2 x NC Slot 14 x LC Slot 14 x SC Slot 1 x MOF Slot

Table 1 DAS-4672 System General Specification (Continued)

Specification	Description
CO operating requirements	Temperature: 32º to 131ºF (0º to 55ºC) – Operating 32º to 140ºF (0º to 60ºC) – Short-term Operating 5º to 149ºF (-15º to 65ºC) – Storage Humidity: 5 to 95% (non condensing) Altitude: 0 to 10,000 ft (0 to 3048 m) Operating shock: 5 to 500 Hz, 0.5 gravity (0.1octave per minutes) Non-operating shock: 5 to 100 Hz, 1 gravity (0.1 octave per minute); 100 to 500 Hz, 1.5 gravities (0.2 octave per minute); 500 to 1000 Hz, 1.5 gravities (0.2 octave per minute)
Safety Certifications	Comply with class A of 22 of the CISPR (International Special Committee on Radio Interference of the International Electrotechnical Commission)

Table 2 DAS-4672-10 Network Control Card

Specification	Description
Dimensions (Upright)	Height: 400 mm Width: 24.1 mm Depth: 255.1 mm
Weight	0.85 kg
Power consumption	15.2 W
Network Interface	2 x mini-GBIC SFP (Small Form Pluggable) slots available for: • 1000 Base-LX Long Distance with LC Type Single mode • 1000 Base-SX Short Distance LC Type Multi mode • 1000 Base-LHX Long Distance LC Type Single mode • 1000 Base-ZX Long Distance LC Type Single mode
External Interface	• 1x RJ-45 Ethernet (IEEE 802.3u 10/100 Base-T) for Management • 1x RS-232 local console for CIT (Craft Interface Terminal)
Packet Forwarding Rate	80,000 packets per second in 1518 bytes of MTU size for both upstream and downstream

Table 3 DAS-4672-20 Subscriber Line Card

Specification	Description
Dimensions (Upright)	Height: 400 mm Width: 24.1 mm Depth: 255.1 mm
Weight	0.95 kg
Port Density	48 ports ATU-C Subscriber line
Power consumption	49 W (1.02 W per port)
Standards support	• ANSI T1.413 • ITU-T G.992.1, (G.dmt) Annex A • ITU-T G.992.2, (G.lite) Annex A • ITU-T G.994.1 (G.hs) handshake protocol • ITU-T G.992.3 (ADSL2) • ITU-T G.992.3 Annex M • ITU-T G.992.3 Annex L (Reach Extended xDSL) • ITU-T G.992.5 (ADSL2+) • Support ATM Transmission Convergence ATM-TC defined in ITU-T G.992.5 Annex K • Support PSD mask defined in ITU-T G.992.5 Annex A • Support EOC and Overhead Channel Access defined in ITU-T G.992.5 and G.997.1 • Support latency path function and manual configure of payload transfer delay of latency path defined in ITU-T G.992.5 • Support selectable pilot sub-carrier for downstream direction defined in ITU-T G.992.5 • Support power management capability and ADSL link states defined in ITU-T G.992.5 • Support loop diagnostic function defined in ITU-T G.992.5 and G.992.3 • Support configuration for non-overlapped spectrum operation defined in G.992.5 • Support Loss of Power (LPR) defect generated by ATU-R • Support auto-handshake and operate well with the ATU-R specified in ITU-T G.992.1 and G.992.3
Data rate (per port)	Upstream: 32 kbps multiples from 64 kbps to 2800 kbps (Annex M) Downstream: 32 kbps multiples from 64 kbps to 28000 kbps (Annex A)
ATM Protocol	• RFC 2684 (Multiple Protocol over AAL5)
External interfaces	48 ports (RJ-21 connectors on backplane)

Table 4 DAS-4672-40 POTS Subscriber Card

Specification	Description
Dimensions (Upright)	Height: 400 mm Width: 24.1 mm Depth: 255.1 mm
Weight	1.9 kg
Interface	2 x RJ-21 LINE 2 x RJ-21 POTS

Software Specification

Table 5 DAS-4672 IP-DSLAM Software and Management Specification

Specification	Description
System Control	**Alarm Status Surveillance** • Automatic alarm and status report • Alarm event history • LED indication for alarm and system status **Performance Monitoring** • Line rate • DSL/GE status monitoring • RFC 2662/RFC 3440 compliant xDSL line performance parameters gathering • Support ICMP ping test **Configuration** • Support add, delete, query, and modify functions for configuration • IGMP snooping setting • IGMP proxy setting • VLAN setting • xDSL access line management per profile setting • Support MIB community string, community access privilege, Trap IP setting • DHCP relay agent with option 82 • PPPoE intermediate agent per the TR-101 of DSL Forum • IPoA setting • SNTP setting • Static Link Aggregation setting. • Subtending port setting. **Maintenance** • System firmware upgrade and download through FTP **Security** • Support Subscriber traffic isolation among xDSL line ports • BRAS (Gateway) MAC anti-spoofing • Binding management traffic to a dedicated VLAN
ATM	• Support ATM OAM F5 fault diagnostic • Support RFC 2684 multi-protocol over AAL5

VLAN	• Bindings of ATM PVCs and IEEE 802.1Q VLAN
	  ◦ Multiple ATM PVCs to a singe VLAN
	  ◦ Multiple ATM PVCs to multiple VLANs
	• Support 4094 VLANs concurrently
	• Support VLAN tagging pass-through

Specification	Description
	• VLAN-transparent port • Non VLAN transparent port

Table 5 DAS-4672 IP-DSLAM Software and Management Specification (Continued)

Specification	Description

QoS	Support DiffServ
	• BA/PHB
	• SrTcm
	Support IEEE 802.1p, traffic classification, and rate limiting
	• Strict priority queue supporting
	  · Network Interface: Support 8 priority queues
	  · Subscriber Interface: Support 4 priority queues
	• VC-based traffic classification
	• VC level bi-directional rate limitation

Multicast	• Support 256 concurrent Multicast Groups (individual channel) forwarding and up to 672 copies for each Multicast Group
	• Admission control of IP Multicast (MC) groups (M-CAU)
	  · Based on the ADSL subscriber port matching
	  · Based on the MC Group address matching
	• Support IGMP Snooping and IGMP Proxy
	• Broadcast storm control

Bridging	• 16 K MAC addresses • IEEE 802.1d transparent bridge • IEEE 802.1w RSTP • Support RFC 2516 PPPoE packet forwarding • IEEE 802.3ad Link Aggregation Control Protocol (LACP)

Access Methods in the RFC2684 Bridged Encapsulation	• PPPoE connection method
	  · Only PPPoE traffic is allowed.
	• DHCP connection method
	  · Only IPoE traffic is allowed.
	  · End-user traffic blocking before a valid DHCP IP address assignment.
	  · End-user MAC/IP anti-spoofing
	• Static IP connection method
	  · Only IPoE traffic is allowed.
	  · End-user MAC/IP anti-spoofing

Access Control	• MAC address filtering (MAC access control) • xDSL subscriber MAC address number limiting • Network management services control

Table 5 DAS-4672 IP-DSLAM Software and Management Specification (Continued)

Specification	Description
Redundancy	Support 1:1 redundancy of the NC card. While the working unit fails, the standby unit shall automatically take over the functions without interrupting the service.
Network Management	• CLI through the RS-232 console and Telnet • SNMP manageable • Provide configuration, fault, performance, security management
Management MIB	• RFC 1157 SNMP v1 • SNMP v2c • RFC 1213 MIB-II • RFC 1493 Bridge MIB • RFC 2233 IF-MIB • RFC 2674 802.1Q MIB • RFC 2622 / RFC 3440 ADSL line MIB • Enterprise AM0031 MIB