

Firmware Release Note

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| Product Name: | IES-1248-51 |
| Product Model: | 3.53(ABQ.1)C0 |
| Release Date: | 2009/10/2 |

Introduction

Release 3.53(ABQ.1)C0 for IES-1248-51

Support Platforms:

IES-1248-51 3.53(ABQ.1)C0 supports model: IES-1248-51/IES-1248-51A, NetAtlas Access EMS V2.10

Version Information:

ZyNOS version: V3.53(ABQ.1) | 10/02/2009

BootBase Version: V1.02 | 10/02/2009

DSP Version: 6.05.17

API Version: 6.05

SELT Version: 6.05.15

Changes:

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| WAS: | 3.53(ABQ.0)C0 |
| IS: | 3.53(ABQ.1)C0 |

| Item | Category | Description |
|------|----------|---|
| 1. | [Change] | Modify F/W to be compatible with new hardware monitor component |

Features:

| Item | Contents |
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| 1. ADSL | |
| | 1.1 Standard Compliant for IES-1248-51/51A/ 53 |
| | 1.1.1 ADSL: G.992.1 Annex A, G.992.2 G.Lite, T1.413 issue 2 for IES-1248-51/ IES-1248-51A |
| | 1.1.2 ADSL: G.992.1 Annex B for IES-1248-53 |
| | 1.1.3 ADSL2: G.992.3 Annex A, Annex L, Annex M for IES-1248-51/ IES-1248-51A |
| | 1.1.4 ADSL2: G.992.3 Annex B for IES-1248-53 |
| | 1.1.5 ADSL2+: G.992.5 Annex A, Annex M for IES-1248-51/ IES-1248-51A |
| | 1.1.6 ADSL2+: G.992.5 Annex B for IES-1248-53 |
| | 1.1.7 G.994.1 G.hs |

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| | 1.1.8 G.992.3, G.992.5, G.997.1 Spectral Mask and Physical Layer Parameter Management |
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| | 1.2 Standard Compliant for IES-1248-71/71 AC/ 73 |
| | 1.2.1 ADSL: G.992.1 Annex A, G.992.2 G.Lite, T1.413 issue 2 for IES-1248-71 IES-1248-71 AC |
| | 1.2.2 ADSL: G.992.1 Annex B for IES-1248-73 |
| | 1.2.3 ADSL2: G.992.3 Annex A, Annex L for IES-1248-71/ IES-1248-71 AC |
| | 1.2.4 ADSL2: G.992.3 Annex B for IES-1248-73 |
| | 1.2.5 ADSL2+: G.992.5 Annex A for IES-1248-71/ IES-1248-71 AC |
| | 1.2.6 ADSL2+: G.992.5 Annex B for IES-1248-73 |
| | 1.2.7 G.994.1 G.hs |
| | 1.2.8 G.992.3, G.992.5, G.997.1 Spectral Mask and Physical Layer Parameter Management |
| | 1.3. Support Protocols |
| | 1.3.1 Multiple Protocols over AAL5 |
| | 1.3.2 Multiple Protocols over AAL5 (RFC 2684,Routed mode) |
| | 1.3.3 PPPoA and PPPoE conversion |
| | 1.3.4 Support LLC and VC multiplexing modes. |
| | 1.4 Monitor of ADSL lines quality |
| | 1.5 Multiple PVC support |
| | 1.5.1 8 PVCs per port and each PVC is configurable |
| | 1.5.2 PVC to VLAN mapping, 802.1p priority mapping |
| | 1.5.3 PVC default VLAN ID and 802.1p default priority |
| | 1.5.4 PVC with ATM Forum TM 4.0 QoS traffic class (UBR, CBR, nrt-VBR, rt-VBR) |
| | 1.5.5 Traffic downstream shaping/upstream policing |
| | 1.5.6 Full range VPI and VCI |
| | 1.5.7 RFC 2684 Routing Mode support(RPVC, Routed mode PVC) |
| | 1.5.8 PPVC support(single VLAN, multiple PVC), eight priority level |
| | 1.5.9 single PVC, multiple queue(eight priority) support |
| | 1.6 ATM F5 OAM cells for end-to-end loop back test (ITU-T Rec. I610) |
| | 1.7 Support EOC and Overhead Channel Access |
| | 1.8 Support the latency path function |
| | 1.9 Support loop diagnostic Management function |
| | 1. DELT (dual end loop test) |
| | 2. SELT (Single end loop test) for IES-1248-51/51A/53 |
| | 3. Tone diagnostic at link up |
| | 1.10 Support the power Management capability, including the L2 parameters |
| | 1.11 Support Seamless Rate Adaptation (SRA) |
| | 1.12 US/DS Bin Mask supported |
| | 1.13 DS/US Nominal PSD function supported |
| | 1.14 ADSL profile Management |
| | 1.15 Alarm profile Management with Threshold Crossing Alarm Management |
| | 1.16 ATM profile management |
| | 1.17 Ingress ATM Rate limiting per xDSL VC |
| | 1.18 Per port, per PVC counter support |
| | 1.19 15-minute ADSL PM counter support, at most 96 records(24 hour) |
| | 1.20 24-hour ADSL PM counter support, include previous day and current day |
| | |
| 2. Ethernet | |
| | 2.1 Two 100/1000Base-TX or two mini GBIC for uplink and subtending |
| | 2.2 1000Base-TX/mini GBIC auto selectable |

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| | 2.3 4 queues with packet priority scheduling (SPQ) for each ENET port |
| | 2.4 Per port counter support |
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| 3. Bridging | |
| | 3.1 IEEE 802.1Q VLAN aware bridging |
| | 3.1.1 Accept tagged and untagged packets from ADSL ports |
| | 3.1.2 Accept tagged and untagged packets from uplink port |
| | 3.2 VLAN membership definition |
| | 3.2.1 802.1Q Tag-Based VLAN |
| | 3.2.2 GVRP |
| | 3.3 Port isolation in bridging |
| | 3.3.1 CPE-CPE bridging is selectable within a VLAN, system-wise configurable |
| | 3.4 1024 static VLAN entries (full-range VLAN ID 1~4094) |
| | 3.5 14K (2 Etherport x 4K/Etherport + 48 DSLport x 128/DSLport) MAC address entries per system |
| | 3.6 128 MAC per DSL port |
| | 3.7 VLAN bridge function (multiple PVCs to one VLAN) |
| | 3.8 VLAN cross connect (PVC to VLAN one to one mapping) |
| | 3.9 VLAN trunking (super PVC join multiple VLAN) |
| | 3.10 IEEE802.1ad VLAN STACKING (Double Tagging ,Q in Q) support |
| | 3.11 IEEE 802.1w RSTP (Rapid Spanning Tree Protocol) |
| 4. Multicast support | |
| | 4.1 Static multicast membership configuration/forwarding |
| | 4.2 IGMP v1 & v 2 snooping/proxy support |
| | 4.3 512 multicast groups and each group can contain 50 members |
| | 4.4 IGMP MVLAN(Multicast VLAN) support |
| | 4.5 IGMP group count limiting per DSL port |
| | 4.6 IGMP filtering profile per DSL port |
| | 4.7 IGMP Bandwidth limit per DSL port |
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| 5. Packet filtering | |
| | 5.1 ARP filtering (pass through/block) |
| | 5.2 IGMP filtering (pass through/block) |
| | 5.3 DHCP filtering (pass through/block) |
| | 5.4 NetBios filtering (pass through/block) |
| | 5.5 PPPoE filtering (pass through/block) |
| | 5.6 EAPoL filtering (pass through/block) |
| | 5.7 IP filtering (pass through/block) |
| | 5.8 ACL features are supported (which can specify more filter) |
| 6. MAC filtering | |
| | 6.1 MAC count limiting: the number of MAC addresses per-bridge port is configurable. (1~128, default disabled) |
| | 6.2 Source MAC accept/deny is supported, 10 MAC address per ADSL port can be specified |
| | 6.3 MAC anti-spoofing is supported |
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| 7. Downstream Broadcast control | |
| | 7.1 Downstream Broadcast control is supported PER adsl port PER VLAN |

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| 8. QoS | |
| | 8.1 4 queues with packet priority scheduling (SPQ) per Ethernet port based on 802.1p |
| | 8.2 8 queues with packet priority scheduling (SPQ) for each DSL port based on 802.1p |
| | 8.3 Mapping of PVC to 802.1p priority |
| | 8.4 Priority queuing based on physical port, VLAN ID, VLAN priority, MAC address source/destination, IP address source/destination and ToS & DSCP value as well as UDP/TCP source/destination port number. |
| | 8.5 Mapping of 802.1p priority to a queue by a configurable table |
| | 8.6 ACL features support |
| 9. Alarm Severity Assignment Table(ASAT) | |
| | 9.1 alarm severity assignment and setting |
| | 9.2 Current alarm list support |
| | 9.3 History alarm list support |
| | 9.4 Manually alarm cleaning support |
| 10. Broadband Access Service (BAS) support | |
| | 10.1 DHCP relay agent option 82, sub option1(Circuit ID), sub Option2(Remote ID) |
| | 10.2 IEEE 802.1x port-based authentication (local profile or remote Radius support) |
| | 10.3 DHCP Relay per VLAN |
| | 10.4 DHCP IP anti-spoofing support |
| 11. RSTP/GVRP support | |
| | 11.1 On Ethernet interfaces |
| 12. RFC 2684 routed mode support | |
| | 12.1 IPoA to IpoE conversion: support CPE using RFC 2684 routed mode |
| 13. PPPoA to PPPoE support | |
| | 13.1 PPPoA to PPPoE conversion, support CPE using PPPoA mode |
| 14. Broadcast storm control | |
| | 14.1 System will limit Unknown unicast/broadcast traffic rate to save system resource |
| | 14.2 System will limit the rate on Host terminated traffics(IGMP, DHCP, RSTP, GVRP, EAPoL) |
| 15. Security | |
| | 15.1 DHCP IP anti-spoofing |
| | 15.2 MAC anti-spoofing |
| 16. | |

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| Management support | |
| | 16.1 CLI-based Management from console/Ethernet port |
| | 16.2 SNMP v1/v2c and telnet through Inband Ethernet interface. |
| | 16.3 4 SNMP TRAP destination hosts can be configured |
| | 16.4 Web-based Management through Inband Ethernet interface including status and even report. |
| | 16.5 Secured Host |
| | 12.4.1 Configure up to sixteen ranges of remote host IP addresses for Management |
| | 16.6 System Error Logging |
| | 16.6.1 The system error logs may be viewed again after a warm restart. |
| | 16.7 F/W upgrade, configuration backup & restore via FTP and WEB |
| | 16.8 Subscriber info support – through ADSL port name and telephone number |
| | 16.9 Text system configuration file support |
| | 16.10 multiple telnet(5 sessions) and multi-level (High/Middle/Low) login support |
| | 16.11 CI timeout support |
| | 16.12 EMS Management support (NetAtlas Access V2.10 and above) |
| | 16.13 remote reset |
| 17. Alarm input point support | |
| | 17.1 support 3 external alarm input points, user-editable alarm name |
| 18. Supported MIBs | |
| | 18.1 RFC1213 SNMP MIB II |
| | 18.2 RFC1493 Bridge MIB |
| | 18.3 RFC1643 Ethernet MIB |
| | 18.4 RFC2674 Q MIB |
| | 18.5 RFC2662 ADSL line MIB |
| | 18.6 RFC3440 ADSL Extension line MIB |
| | 18.7 RFC1757 RMON MIB, group 1,2,3,9 |
| | 18.8 ZyXEL proprietary MIB |

CLI Command Table:

| Class | CLI/W EB | Command | Parameters | Description | Remark |
|-------|----------|----------------|--|---|--------|
| sys | | | | | |
| | 1/1 | client disable | <index> | Turns off a secure client. | |
| | 1/1 | client enable | <index> | Turns on a secure client. | |
| | 1/1 | client set | <index> <start ip> <end ip> [[telnet] [ftp] [web] [icmp] [snmp]] | Sets a secured client set: a range of IP addresses from which you can manage the device and the protocols that can be used. | |
| | 2/3 | client show | | Displays the device's secured client settings. | |
| | 1/1 | date set | <yyyy mm dd> | Sets the system's date. | |
| | 3/3 | date show | | Displays the system's current date. | |
| | 2/1 | info contact | <contact> | Sets contact person information. | |
| | 2/1 | info | <hostname> | Sets the system name. | |

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| | hostname | | | |
| 2/1 | info location | <location> | Sets location information. | |
| 3/3 | info show | | Displays general system information. | |
| 1/1 | log clear | | Clears the device's logs. | |
| 2/3 | log show | | Displays the device's logs. | |
| 1/1 | monitor disable | | Turns the hardware monitor off. | |
| 1/1 | monitor enable | | Turns the hardware monitor on. | |
| 1/1 | monitor extalm | <idx> <name> | Set external alarm name. | For IES-1248 series only |
| 1/1 | monitor flimit | <idx> <high> <low> | Sets the maximum (<high>) or minimum (<low>) fan revs per minute (RPM) at the specified fan (<idx>). Idx: 1=Fan 1, 2=Fan 2, 3=Fan 3. | For IES-1248 series only |
| 1/1 | monitor ftrapmode | [normal two] | Displays or sets the Fan trap mode. | For IES-1248 series only |
| 3/3 | monitor show | | Displays the hardware monitor's statistics. | |
| 1/1 | monitor tlimit | <idx> <high> <low> | Sets the maximum (<high>) or minimum (<low>) temperature at the specified temperature sensor. You can specify a temperature with up to three digits after a decimal point (-50.025 for example). Temperature sensor locations: Idx: 1=DSL, 2=CPU, 3=HW monitor | |
| 1/1 | monitor vlimit | <idx> <high> <low> | Sets the maximum (<high>) or minimum (<low>) voltage at the specified voltage sensor. You can specify a voltage with up to three digits after a decimal point (0.941 for example). Normal voltage at each sensor: Idx: 1=1.0v, 2=1.8v, 3=3.3v, 4=24v | For IES-1248-71/71 AC/73 only |
| 1/1 | monitor vlimit | <idx> <high> <low> | Sets the maximum (<high>) or minimum (<low>) voltage at the specified voltage sensor. You can specify a voltage with up to three digits after a decimal point (0.941 for example). Normal voltage at each sensor: Idx: 1=1.2v, 2=1.8v, 3=3.3v, 4=24v | For IES-1248-51/51A/53 only |
| 1/1 | monitor vlimit | <idx> <high> <low> | Sets the maximum (<high>) or minimum (<low>) voltage at the specified voltage sensor. You can specify a voltage with up to three digits after a decimal point (0.941 for example). Normal voltage at each sensor: Idx: 1=1.2v, 2=1.8v, 3=3.3v, 4=18v | For AAM1212-51/53 only |
| 1/1 | reboot | [show sec cancel] | Sets the reboot timer or displays the timer and remaining time for reboot. If a reboot has been scheduled, use this command to | |

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| | | | prevent a reboot. | |
| 1/1 | server disable | <telnet ftp web icmp> | Turns off a service. | |
| 1/1 | server enable | <telnet ftp web icmp> | Turns on a service. | |
| 1/1 | server port | <telnet ftp web> <port> | Sets a port for a service. | |
| 2/3 | server show | | Displays the device's service status and port numbers. | |
| 1/1 | snmp getcommunity | <community> | Sets the SNMP GetRequest community. | |
| 1/1 | snmp setcommunity | <community> | Sets the SNMP SetRequest community. | |
| 1/1 | snmp show | | Displays SNMP settings. | |
| 1/1 | snmp trapcommunity | <community> | Sets the SNMP Trap community. | |
| 1/1 | snmp trapdst del | <index> | Deletes the SNMP trap server | |
| 1/1 | snmp trapdst set | <index> <ip> [<port>] | Sets the SNMP trap server and listening port. Set 0.0.0.0 to not send any SNMP traps. | |
| 1/1 | snmp trusthost | <ip> | Sets the SNMP trusted host. Set 0.0.0.0 to trust all hosts. | |
| 1/~ | stdio set | <minute 0:no timeout> | Sets Current Stdio Timeout. | |
| 3/~ | stdio show | | Displays Current Stdio Timeout. | |
| 1/1 | syslog disable | | Turns off the syslog logging. | |
| 1/1 | syslog enable | | Turns on the syslog logging. | |
| 1/1 | syslog server | <ip> | Sets the IP address of the syslog server. | |
| 2/3 | syslog show | | Displays the syslog settings. | |
| 1/1 | time set | <hh> [<mm> [ss]] | Sets the system's time. | |
| 3/3 | time show | | Displays the system's current time. | |
| 1/1 | timeserver set | <daytime> <ip> [nosync] | Sets the time service protocol, time server's IP address and the device's time zone. | |
| 1/1 | timeserver set | <none> | Sets the system to not use a time server. | |
| 1/1 | timeserver set | <time ntp> <ip> <utc[<+ ->0100~1200]> [nosync] | Sets the time service protocol, time server's IP address and the device's time zone. | |
| 2/3 | timeserver show | | Displays the system's time server. | |
| 1/1 | timeserver sync | | Retrieves the date and time from the time server. | |
| 1/1 | user auth | <local radius landr> | Set authentication method. | |
| 1/1 | user delete | <name> | Removes the specified user name of multi-login. | |
| 1/1 | user disable | <name> | Turns off the specified user name of multi-login. | |
| 1/1 | user enable | <name> | Turns on the specified user name of | |

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| | | | multi-login. | |
| 2/~ | user online | | Displays online user info. | |
| 1/1 | user server | <ip> <port> <secret> [high middle low deny] | Set remote authentication server IP address and secret | |
| 1/1 | user set | <username> <password> <high middle low> | Creates or edits the password and privilege level of the specified user name. | |
| 2/3 | user show | | Displays the authentication mode, RADIUS server settings and user info. | |
| 1/~ | wdog set | <msec 0:disable> | Sets the watchdog count. 0 turns the watchdog off. | |
| 1/~ | wdog show | | Displays the current watchdog firmware protection feature status and timer. | |
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| 1/1 | alarmprofile delete | <profile> | Removes an alarm profile. | |
| 1/1 | alarmprofile map | <portlist> <profile> | Maps specified ADSL ports to an alarm profile. | |
| 1/1 | alarmprofile set | <profile> [<atuc lofs> <atur lofs> <atuc loss> <atur loss> <atuc olls> <atur lprs> <atur lprs> <atuc ess> <atur ess> <atuc fast rateup> <atur fast rateup> <atuc interleave rateup> <atur interleave rateup> <atuc fast ratedown> <atur fast ratedown> <atuc interleave ratedown> <atur interleave ratedown> <init fail enable> <atuc fail fast> <atuc ses> <atur ses> <atuc uas> <atur uas>] | Configures an alarm profile. | |
| 3/3 | alarmprofile show | [profile] | Displays alarm profiles and their settings. | |
| 3/3 | alarmprofile showmap | [port number] | Displays alarm profile to ADSL port mapping. | |
| 3/~ | alarmprofile showport | <port number> | Displays which alarm profile parameters are mapped to an ADSL port. | |
| 1/1 | annexl disable | <portlist> | Turns off the Annex L feature on the specified port(s). | For IES-1248-51/51A/71/71 AC, AAM1212-51 only |
| 1/1 | annexl | <portlist> | Turns on the Annex L feature on the | For |

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| | enable | | specified port(s). | IES-1248-51/ 51A/71/71 AC, AAM1212-51 only |
| 2/3 | annexl show | <portlist> | Displays the Annex L feature setting for the specified port(s). | For IES-1248-51/ 51A/71/71 AC, AAM1212-51 only |
| 1/1 | annexm disable | <portlist> | Turns off the Annex M feature on the specified port(s). | For IES-1248-51/ 51A, AAM1212-51 only |
| 1/1 | annexm enable | <portlist> | Turns on the Annex M feature on the specified port(s). | For IES-1248-51/ 51A, AAM1212-51 only |
| 2/3 | annexm show | <portlist> | Displays the Annex M feature setting for the specified port(s). | For IES-1248-51/ 51A, AAM1212-51 only |
| 2/1 | disable | <portlist> | Turns off the specified ADSL ports. | |
| 2/1 | dsbcast disable | <portlist> <vlanlist> | Disable downstream broadcast on xDSL port | |
| 2/1 | dsbcast enable | <portlist> <vlanlist> | Enable downstream broadcast on xDSL port | |
| 3/3 | dsbcast show | <portlist> | Show downstream broadcast on xDSL port | |
| 1/1 | dscarrier0 | <port> [<m1> <m2> <m3> <m4> <m5> <m6> <m7>] | Display or set DS carrier mask from tone 32 to 255 | For IES-1248-51/ 51A/53/71/71 AC, AAM1212-51/ 53 only |
| 1/1 | dscarrier0 | <port> [<m2> <m3> <m4> <m5> <m6> <m7>] | Display or set DS carrier mask from tone 64 to 255 | For IES-1248-73 only |
| 2/1 | enable | <portlist> | Turns on the specified ADSL ports. | |
| 1/1 | gbond delete | <bond_name> | Remove gbond group setting | Available in 3.53 Not available In IES-1248-71 / IES-1247-73 |
| 1/1 | gbond set | <bond_name> <portlist> | Set gbond name and its members. | Available in 3.53 Not available |

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| | | | | In IES-1248-71 / IES-1247-73 |
| 3/3 | gbond show | [<bond_name>] | Display gbond setting. | Available in 3.53 Not available In IES-1248-71 / IES-1247-73 |
| 1/1 | inp | <portlist> [<usINP> [,<dsINP>]] | Display or set US/DS Impulse Noise Protection(INP) | |
| 1/1 | ipbpvc arpxy agingtime set | <sec> | Sets the valid time interval of a learned MAC address. 10..10000 seconds | Available in 3.53, For IES-1248 series only |
| 2/3 | ipbpvc arpxy agingtime show | | Display the current time interval of a learned MAC address | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc arpxy flush | all edgerouter [<ip> <vid>] interface [<ip>/<mask> <vid>] | Flush the learned MAC addresses manually | Available in 3.53, For IES-1248 series only |
| 2/3 | ipbpvc arpxy show | [domain <domain> [edgerouter [<ip> <vid>]] [interface [<ip/mask> <vid>]]] | Displays learnt MAC table for a domain Displays learnt MAC table for all/an edge router Displays learnt MAC table for all/an interface | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc delete | <portlist> <vpi> <vci> | Remove IP Bridge PVC. | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc domain delete | <domain name> | Delete a domain. Any domain which contains VLANs can not be deleted, it must remove VLAN first. | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc domain dhcpvlan disable | <domain name> | Disable DHCP Vlan in a domain | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc domain dhcpvlan enable | <domain name> <vid> | Enable DHCP Vlan in a domain | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc domain set | <domain name> | Create domain, maximum 8 domains in the system. | Available in 3.53, For IES-1248 series only |
| 2/3 | ipbpvc domain show | [<domain name>] | Display domain setting | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc | <domain name> | Set vlan to join or leave specified domain, | Available in |

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| | domain vlan | <vlan list> <registration> | maximum 8 vlans in one domain. | 3.53, For IES-1248 series only |
| 1/1 | ipbpvc edgerouter delete | <ip> <vid> | Delete specified edge router setting | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc edgerouter set | <ip>/<mask> <vid> | Sets the edge router | Available in 3.53, For IES-1248 series only |
| 2/3 | ipbpvc edgerouter show | [<vid>] | Displays the edge router setting. | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc interface delete | <ip>/<mask> <vid> | Delete an IP interface. | Available in 3.53, For IES-1248 series only |
| 2/3 | ipbpvc interface runtime | [<ip>/<mask> <vid> <ip>/<mask> <vid>] | Display runtime interfaces by optional <ip>/<mask> and vlan id parameter | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc interface set | <ip>/<mask> <vid> [<port> <vpi> <vci>] | Sets the interface. | Available in 3.53, For IES-1248 series only |
| 2/3 | ipbpvc interface show | [<ip>/<mask> <vid> <ip>/<mask> <vid>] | Displays the interface setting by optional <ip>/<mask> and vlan id parameter | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc route delete | <domain name> <ip>/<mask> <nexthop> | Deletes route entry from specified domain | Available in 3.53, For IES-1248 series only |
| 2/3 | ipbpvc route runtime | [<domain name> <ip>/<mask> <domain> <ip>/<mask>] | Displays the runtime route information | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc route set | <domain name> <ip>/<mask> <nexthop> <metric> [<priority>] | Sets a new route to specified edgerouter for a given domain. Maximum 16 routes in a domain | Available in 3.53, For IES-1248 series only |
| 2/3 | ipbpvc route show | [<domain name> <ip>/<mask> <domain> <ip>/<mask>] | Displays current routing table for specific domain. | Available in 3.53, For IES-1248 series only |
| 1/1 | ipbpvc set | <portlist> <vpi> <vci> <DS vcprofile[,US vcprofile]> <super vid = 1..4094 | Sets IP Bridge PVC. | Available in 3.53, For IES-1248 series only |

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| | | <priority> <ipab_type> | | |
| 2/3 | ipbpvc show | [<portlist> [<vpi> <vci>]] | Displays IP Bridge PVC setting | Available in 3.53, For IES-1248 series only |
| 3/3 | linediag getld | <port number> | Displays the specified port line diagnostics. | |
| 3/3 | linediag getld992_3 | <port number> | Displays the specified port line diagnostics. | |
| 3/3 | linediag getselt | <port number> | Displays the specified port line SELT. | For IES-1248-51/51A/53, AAM1212-51/53 only |
| 1/1 | linediag setld | <port number> | Sets the specified port to line diagnostic mode. | |
| 1/1 | linediag setselt | <port number> | Sets the specified port to line SELT. | For IES-1248-51/51A/53, AAM1212-51/53 only |
| 3/3 | linediag toneDiag | <port number> | Displays the specified port line diagnostics. | |
| 1/1 | loopback | <portlist> <f5> <vpi> <vci> | Performs an OAMF5 loopback test. | |
| 2/1 | name | <portlist> <name> | Sets the name of a port(s). | |
| 3/3 | paepvc counter | <portlist> [<vpi> <vci>] | Display PPPoAoE PVC counter | |
| 2/1 | paepvc delete | <portlist> <vpi> <vci> | Delete a PPPoAoE PVC | |
| 3/3 | paepvc session | <portlist> [<vpi> <vci>] | Display PPPoAoE PVC session status | |
| 2/1 | paepvc set | <portlist> <vpi> <vci> <DS vcprofile[,US vcprofile]> <pvid> <priority> [acname <string32>] [srvcname <string32>] [hellotime <time>] | Create/modify a PPPoAoE PVC <acname>: access concentrator name <srvcname>: service name, <time>: 0~600 in unit of second Default: acname="", srvcname="", <time>=600 | |
| 3/3 | paepvc show | [<portlist> [<vpi> <vci>]] | Display PPPoAoE PVC setting by 'port' | |
| 1/1 | pmm disable | <portlist> | Turns off the Power Management feature on the specified port(s). | |
| 1/1 | pmm enable | <portlist> <L2 L3> | Turns on the Power Management feature on the specified port(s). | |
| 1/1 | pmm param | <portlist> [<l0time> <l2time> <l2atpr> <l2atprt>][<max_l2r ate> <min_l2rate> <l0tol2_rate>] | Displays or sets the Power Management parameter | |
| 1/1 | pmm set | <portlist> <L0 L2 L3> | Sets the Power Management mode | For IES-1248-71/ |

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| | | | | 71 AC/73 series only |
| 1/1 | pmm set | <portlist> <L0 L2> | Sets the Power Management mode | For IES-1248-51/51A/53,AAM1212-51/53 only |
| 2/3 | pmm show | <portlist> | Displays the Power Management feature setting for the specified port(s). | |
| 1/1 | ppvc delete | <portlist> <vpi> <vci> | Remove Priority PVC. | |
| 1/1 | ppvc member delete | <portlist> <vpi> <vci> <member vpi> <member vci> | Remove PPVC member. | |
| 1/1 | ppvc member set | <portlist> <vpi> <vci> <member vpi> <member vci> <DS vcprofile[,US vcprofile]> <level> | Set PPVC member. | |
| 2/3 | ppvc member show | [<portlist> [<vpi> <vci>]] | Display PPVC member settings. | |
| 1/1 | ppvc set | <portlist> <vpi> <vci> <encap> <pvid> <priority> | Set priority PVC. | |
| 2/3 | ppvc show | [<portlist> [<vpi> <vci>]] | Display priority PVC settings | |
| 1/1 | profile delete | <profile> | Removes an ADSL profile. | |
| 1/1 | profile map | <portlist> <profile> <glite gdm t1413 auto adsl2 adsl2+> | Assigns a specific profile to a port(s) and sets the port's ADSL mode). | For IES-1248-51/51A/71/71 AC, AAM1212-51 only |
| 1/1 | profile map | <portlist> <profile> <anxb etsi auto adsl2 adsl2+> | Assigns a specific profile to a port(s) and sets the port's ADSL mode). | For IES-1248-73 only |
| 1/1 | profile map | <portlist> <profile> <gdm etsi auto adsl2 adsl2+> | Assigns a specific profile to a port(s) and sets the port's ADSL mode). | For IES-1248-53, AAM1212-53 only |
| 1/1 | profile set | <profile> <fast interleave [=<up delay>,<down delay>]> <up max rate> <down max rate> [<up target margin> <up min margin> <up max margin> <up min rate> <down target margin> <down min margin> <down | Creates an adsl line profile. | |

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| | | max margin> <down min rate> <up down-shift margin> <up up-shift margin> <down down-shift margin> <down up-shift margin>] | | |
| 3/3 | profile show | [profile] | Displays profile contents. | |
| 1/1 | pvc delete | <portlist> <vpi> <vci> | Removes a PVC setting. | |
| 1/1 | pvc set | <portlist> <vpi> <vci> <super vid = 1..4094 <priority>> <DS vcprofile[,US vcprofile]> | Creates or modifies a PVC setting. | |
| 2/3 | pvc show | [<portlist> [<vpi> <vci>]] | Displays PVC settings. | |
| 1/1 | queuemap set | <priority> <queue level> | Set the xDSL priority level to physical queue mapping. | |
| 2/3 | queuemap show | | Displays the xDSL priority level to physical queue mapping. | |
| 1/1 | reset | <portlist> | Reset xDSL port | |
| 1/1 | rpvc arp agingtime set | <sec, 10..10000 0:disable d> | Set RPVC ARP proxy aging time | |
| 2/3 | rpvc arp agingtime show | | Display RPVC ARP proxy aging time | |
| 1/1 | rpvc arp flush | | Flush RPVC ARP proxy table | |
| 2/3 | rpvc arp show | | Show RPVC ARP proxy table | |
| 1/1 | rpvc delete | <portlist> <vpi> <vci> | Delete RPVC on a port | |
| 1/1 | rpvc gateway delete | <gateway ip> | Delete gateway for RPVC | |
| 1/1 | rpvc gateway set | <gateway ip> <vlan id> [<priority>] | Set gateway for RPVC | |
| 2/3 | rpvc gateway show | | Display gateway for RPVC | |
| 1/1 | rpvc route delete | <port number> <vpi> <vci> <ip>/<netmask> | Delete RPVC routing subnet on a port | |
| 1/1 | rpvc route set | <port number> <vpi> <vci> <ip>/<netmask> | Set RPVC routing subnet on a port | |
| 2/3 | rpvc route show | <portlist> | Display RPVC routing subnet on a port | |
| 1/1 | rpvc set | <portlist> <vpi> <vci> <DS vcprofile[,US vcprofile]> <ip>/<netmask> <gateway ip> | Set RPVC on a port | |
| 2/3 | rpvc show | <portlist> | Display RPVC on a port | |

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| alarm | 3/3 | show | [portlist] | Displays the ADSL settings. | |
| | 1/1 | sra disable | <portlist> | Turns off SRA ADSL2+ on the specified port(s). | |
| | 1/1 | sra enable | <portlist> | Turns on Seamless Rate Adaptation (SRA) ADSL2+ on the specified port(s). | |
| | 2/3 | sra show | <portlist> | Displays the SRA ADSL2+ setting for the specified port(s). | |
| | 2/1 | tel | <portlist> <tel> | Records an ADSL port(s) subscriber's telephone number. | |
| | 2/1 | tlspvc delete | <portlist> <vpi> <vci> | Delete a TLS PVC | |
| | 2/1 | tlspvc set | <portlist> <vpi> <vci> <DS vcprofile[,US vcprofile]> <pvid> <priority> | Create/modify a TLS PVC <vid>: s-tag VLAN id <priority>: priority for s-tag | |
| | 3/3 | tlspvc show | [<portlist> [<vpi> <vci>]] | Display TLS PVC setting by 'port' | |
| | 1/1 | uscarrier | <port number> [<m0>] | Display or set US carrier mask from tone 0 to 31 | For IES-1248-71/71 AC only |
| | 1/1 | uscarrier | <port number> [<m0> <m1>] | Display or set US carrier mask from tone 0 to 63 | For IES-1248-51/51A/53/73, AAM1212-51/53 only |
| | 1/1 | usnompsd | <portNo> [<max nominal psd>] | Display or set Maximum nominal transmit PSD in the US direction | |
| | 1/1 | uslimit disable | <portlist> <vpi> <vci> | Disable a upstream rate-limit setting | Available in 3.53 |
| | 1/1 | uslimit enable | <portlist> <vpi> <vci> | Enable a upstream rate-limit setting | Available in 3.53 |
| | 1/1 | uslimit set | <portlist> <vpi> <vci> <rate> | Sets a upstream rate limit to a PVC (PVC could be pvc, ppvc, ipbpvc and tlspvc) | Available in 3.53 |
| | 2/3 | uslimit show | [<portlist> [<vpi> <vci>]] | Displays current up rate-limit settings of PVCs | Available in 3.53 |
| | 1/1 | vcprofile delete | <vcprofile> | Removes a virtual channel profile. | |
| | 1/1 | vcprofile set | <vcprofile> <vc llc> <vbr(rt-vbr) nrt-vbr> <pcr> <cdvt> <scr mcr> <bt nrm> | Creates a VBR virtual channel profile (with encapsulation). | |
| | 1/1 | vcprofile set | <vcprofile> <vc llc> <ubr cbr> <pcr> <cdvt> | Creates a UBR or CBR virtual channel profile (with encapsulation). | |
| | 3/3 | vcprofile show | [vcprofile] | Shows a virtual channel profile's contents. | |
| | | | | | |
| | 2/1 | clear | | Clear current alarm | |
| | 2/~ | cutoff | | Alarm cutoff | |
| | 2/~ | history clear | <alarm> all <condition> all | Clear history alarm | |

switch

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| 2/~ | history clear | <severity> | Clear history alarm | |
| 3/~ | history show | [<severity> all] [<alarm> all] [<condition> all] [<sdate> all] [<edate> all] [for rev] [detail] | Display history alarm | |
| 2/1 | port set | <all <portlist>> <severity> | Set xDSL port threshold of severity which will issue an alarm | |
| 3/3 | port show | | Display xDSL port threshold of severity which will issue an alarm | |
| 3/3 | show | [<severity> all] [<alarm> all] [<condition> all] [<sdate> all] [<edate> all] [for rev] [detail] | Display current alarm | |
| 3/3 | tablelist | [<alarm> all] [<severity> all] [<fac> all] [<target>[,<target>]] [<condition> all] | Display system alarm table | |
| 2/1 | xedit | <alarm> all <cond> <condcode> > <severity> <fac> <target>[,<target>] [clearable] | Edit system alarm table | |
| | | | | |
| 2/1 | acl delete | <portlist> <vpi> <vci> <profile> | Remove an acl profile from PVC <profile>: string32 up to 8 profiles if only one PVC has profiles | |
| 2/1 | acl profile delete | <profile> | delete an acl profile | |
| 2/1 | acl profile set | <profile> <rule> <action> | Create/modify a acl profile <rule>: <l2> <l3_protocol> <mfc> <l2>: Layer-2 match fields (listed in priority sequence match) etype <etype> vlan <vid> etype <etype> smac <mac> etype <etype> dmac <mac> vlan <vid> smac <mac> vlan <vid> dmac <mac> smac <mac> dmac <mac> vlan <vid> priority <priority> etype <etype> vlan <vid> smac <mac> dmac <mac> priority <priority> protocol <protocol> <priority>: 0~7 <etype>: 0~65535 <protocol>: | |

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| | | | tcp udp ospf igmp ip gre icmp <ptype> <ptype>: 0~65535 Note: multiple-field rules (position independent): MFC rules: {srcip <ip>/<mask>{ dstip <ip>/<mask>{ tos <tos>{ srcport <port>{ dstport <port>}}}}} <mask>: 0~32 <tos>:0~255 <port>:0~65535 <action>: rate <rate> rvlan <rvlan> rpri <rpri> deny <rate>: 1~65535 in unit of kbps <rvlan>: replaced vlan 1~4094 <rpri>: replaced priority 0~7 | |
| 3/3 | acl profile show | [<profile>] | Display an acl profile | |
| 3/3 | acl profile showmap | <profile> | Display acl profile reference | |
| 2/1 | acl set | <portlist> <vpi> <vci> <profile> | Apply an acl profile to a PVC. Max. 8 profiles per port | |
| 3/3 | acl show | [portlist] [<vpi> <vci>] | Show acl profile setting for a PVC | |
| 2/1 | dhcprelay disable | <vid> all | Disable DHCP relay function per vlan | Add <vid> all in 3.53 |
| 2/1 | dhcprelay enable | <vid> all | Enable DHCP relay function per vlan | Add <vid> all in 3.53 |
| 2/1 | dhcprelay opt82sub2 disable | <vid> all | Turns off option 82 sub-option 2 per vlan | Add <vid> all in 3.53 |
| 2/1 | dhcprelay opt82sub2 enable | <vid> all | Turns on option 82 sub-option 2 per vlan | Add <vid> all in 3.53 |
| 2/1 | dhcprelay opt82sub2 set | <vid> all <relay info> | Adds the specified information for sub-option 2 per vlan | Add <vid> all in 3.53 |
| 2/1 | dhcprelay option82 disable | <vid> all | Turns off the DHCP relay agent information (Option 82) feature per vlan. | Add <vid> all in 3.53 |
| 2/1 | dhcprelay option82 enable | <vid> all | Turns on the DHCP relay agent information (Option 82) feature per vlan. | Add <vid> all in 3.53 |
| 2/1 | dhcprelay option82 set | <vid> all <relay info> | Set option82 information per vlan | Add <vid> all in 3.53 |
| 1/1 | dhcprelay optionmode | <<vid> all> <private tr101> | Set option 82 Sub-option 1 and Sub-option 2 format to TR-101 or private mode. | Available in 3.53 |
| 2/1 | dhcprelay relaymode | <mode> | <mode>:auto, both | |

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| 2/1 | dhcprelay server active | <vid> all <active-server> | Set primary and secondary server per vlan | Add <vid> all in 3.53 |
| 2/1 | dhcprelay server delete | <vid> all [<primary-server>] | Delete servers of specific vlan | Add <vid> all in 3.53 |
| 2/1 | dhcprelay server set | <vid> <primary-server> [<secondary-server>] | Set DHCP server IP address where the DHCP request will forward to <vid>: VLAN <primary-server>: IP address for primary server <secondary-server>: IP address for secondary server. Maximum 32 entries can be configured.Default: (empty list) | |
| 3/3 | dhcprelay show | | Displays DHCP relay settings. | |
| 2/1 | dhcpsnoop disable | <portlist> | Disable ip spoofing for a port | |
| 2/1 | dhcpsnoop enable | <portlist> | Enable ip spoofing for a port | |
| 2/1 | dhcpsnoop flush | <portlist> | Flush DHCP snooping table for a port | |
| 2/1 | dhcpsnoop pool delete | <port> <ip> | Delete static IP for dhcp snoop per port | Available in 3.53 |
| 2/1 | dhcpsnoop pool set | <port> <ip> | Set static IP for dhcp snoop per port | Available in 3.53 |
| 3/3 | dhcpsnoop show | [<portlist>] | Display DHCP snooping result on a port | |
| 1/1 | dot1x auth | <profile radius> | Set authentication method to profile or radius. | |
| 1/1 | dot1x disable | | Turn off dot1x. | |
| 1/1 | dot1x enable | | Turn on dot1x. | |
| 1/1 | dot1x port control | <portlist> <auto auth unauth> | Set port authentication status. | |
| 1/1 | dot1x port disable | <portlist> | Turn off dot1x on port. | |
| 1/1 | dot1x port enable | <portlist> | Turn on dot1x on port. | |
| 1/1 | dot1x port peroid | <portlist> <period> | Set port reauth period. | |
| 1/1 | dot1x port reauth | <portlist> <on off> | Turn on or turn off port to do reauthentication. | |
| 1/1 | dot1x profile delete | <name> | Remove account for profile mode. | |
| 1/1 | dot1x profile set | <name> <password> | Set account and password for profile mode. | |
| 2/3 | dot1x profile show | | Display accounts for profile mode. | |
| 1/1 | dot1x radius ip | <ip> | Set Radius server IP. | |
| 1/1 | dot1x radius port | <port> | Set Radius server port. | |
| 1/1 | dot1x radius secret | <secret> | Set Radius server secret. | |
| 2/3 | dot1x radius | | Display radius server settings. | |

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| | show | | | |
| 2/3 | dot1x show | [portlist] | Display dot1x settings. | |
| 2/1 | dscp disable | <portlist> | Disable ADSL/ENET ports to use DSCP mapping | |
| 2/1 | dscp enable | <portlist> | Enable ADSL/ENET ports to use DSCP mapping | |
| 2/1 | dscp map set | <srccp> <mappri> <srccp>: source code point, 0~63, example: 1,3~5,10~15<mappri> : mapping priority, 0~7 | Setting the DSCP code to 802.1p mapping table | |
| 3/3 | dscp map show | | Displaying the DSCP code to 802.1p mapping table | |
| 3/3 | dscp show | [portlist] | Displaying per port DSCP setting | |
| 1/1 | enet disable | <portlist> | Turns off the specified Ethernet port(s). | |
| 1/1 | enet enable | <portlist> | Turns on the specified Ethernet port(s). | |
| 1/~ | enet length set | <portlist> auto <length> | Manually set the ENET cable length, this is used for very rare cases when connect to some ENET PHY, in most cases, should set to auto(system default) | AAM1212-51/53 only |
| 2/~ | enet length show | | Display the ENET cable length setting | AAM1212-51/53 only |
| 1/1 | enet maxmtu set | <size> | Sets the maximum MTU size for layer 2 frame, size from 1526 to 1600, default value is 1526 | Available in 3.53 |
| 2/3 | enet maxmtu show | | Displays current maximum MTU size | Available in 3.53 |
| 1/1 | enet name | <portlist> <name> | Sets the Ethernet port(s) name. | |
| 1/1 | enet reset | <portlist> | Reset the ENET interface. | |
| 2/3 | enet show | | Displays the Ethernet port settings. | |
| 1/1 | enet speed | <portlist> <1000fiber 1000copper 100copper auto> | Sets the Ethernet port(s) connection speed. | For IES-1248 series only |
| 1/1 | enet speed | <portlist> <10copper 100copper auto> | Sets the Ethernet port(s) connection speed. | For AAM1212-51/53 only |
| 1/1 | garptimer join | <join msec> | Set system's garp join time. | |
| 1/1 | garptimer leave | <leave msec> | Set system's garp leave time. | |
| 1/1 | garptimer leaveall | <leaveall msec> | Set system's garp leaveall time. | |
| 2/3 | garptimer show | | Display the system's garp settings. | |
| 1/1 | igmpfilter profile delete | <name> | Removes an IGMP filter profile. | |
| 1/1 | igmpfilter profile set | <name> <index> <startip> <endip> | Configures an IGMP filter profile. | |
| 2/3 | igmpfilter profile show | [name] | Displays an IGMP filter profile's settings. | |
| 1/1 | igmpfilter set | <portlist> <name> | Sets an ADSL port(s) to use an IGMP filter | |

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| | | | profile. | |
| 2/3 | igmpfilter show | [portlist] | Displays which IGMP filter profile an ADSL port(s) is using. | |
| 2/1 | igmpsnoop bandwidth default | <bandwidth> | Set default bandwidth for multicast IP channels | |
| 2/1 | igmpsnoop bandwidth delete | <index> | Delete an entry of bandwidth budget setting specified in <index> field. | |
| 2/1 | igmpsnoop bandwidth port disable | <portlist> | Disable bandwidth budget control for a port | |
| 2/1 | igmpsnoop bandwidth port enable | <portlist> | Enable bandwidth budget control for a port | |
| 2/1 | igmpsnoop bandwidth port set | <portlist> <bandwidth> | Set bandwidth threshold for a port <bandwidth>: 1..100,000, in unit of kbps | |
| 3/3 | igmpsnoop bandwidth port show | <portlist> | Show bandwidth control setting for a port | |
| 2/1 | igmpsnoop bandwidth set | <index> <start-mcast-ip> <end-mcast-ip> <bandwidth> | Set bandwidth budget for a range of multicast IP channels specified in <index> field. <index>: 1~96 <start-mcast-ip>: <ip>, start multicast IP address <end-mcast-ip>: <ip>, end multicast IP address | |
| 3/3 | igmpsnoop bandwidth show | | Show bandwidth budget for a range of multicast IP channels | |
| 1/1 | igmpsnoop disable | | Turns off IGMP snooping. | |
| 1/1 | igmpsnoop enable | <proxy snooping> [v2 v3] | Enable IGMP snooping or proxy with V2 or V3 mode(default is v2). | Add [v2 v3] in 3.53 |
| 1/1 | igmpsnoop igmpcount disable | <portlist> | Disable IGMP count limiting to subscriber port | |
| 1/1 | igmpsnoop igmpcount enable | <portlist> | Enable IGMP count limiting to subscriber port | |
| 1/1 | igmpsnoop igmpcount set | <portlist> <count> | Set IGMP count limiting number to subscriber port | |
| 2/3 | igmpsnoop igmpcount show | [portlist] | Display IGMP count limiting setting status on the specified slot | |
| 1/1 | igmpsnoop mvlan delete | <vlanlist> | Removes a MVLAN entry. | |
| 1/1 | igmpsnoop mvlan disable | <vid> | Turns off a MVLAN entry. | |
| 1/1 | igmpsnoop mvlan enable | <vid> | Turns on a MVLAN entry. | |

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| 1/1 | igmpsnoop mvlan group delete | <vid> <index> | Delete a multicast to VLAN translation entry. | |
| 1/1 | igmpsnoop mvlan group set | <vid> <index> <start_mcast_ip> <end_mcast_ip> | Create a multicast to VLAN translation entry. Up to 16 entries <index>: 1~16, Note: IP address in each entry should be disjointed | |
| 2/3 | igmpsnoop mvlan group show | <vlanlist> | Show a multicast to VLAN translation entry. | |
| 1/1 | igmpsnoop mvlan name | <vid> <name> | Sets the MVLAN ID name. | Available in 3.53 |
| 1/1 | igmpsnoop mvlan set | <vid> <portlist>:<F<T U> X> [<portlist>: <F<T U> X> ...] [name] | Configures a MVLAN entry. | |
| 2/3 | igmpsnoop mvlan show | <vlanlist> | Show multicast vlans, include group information | |
| 1/1 | igmpsnoop qryvid delete | <vid> | Delete IGMP query VLAN ID in IGMP proxy mode | Available in 3.53 |
| 1/1 | igmpsnoop qryvid set | <vid> | Set IGMP query VLAN ID in IGMP proxy mode | Available in 3.53 |
| 2/3 | igmpsnoop qryvid show | | Show IGMP query VLAN ID setting | Available in 3.53 |
| 2/3 | igmpsnoop show | | Displays the IGMP snooping setting. | |
| 1/1 | isolation daisychain | | Set switch mode to daisychain mode | |
| 1/1 | isolation disable | | Turns the subscriber isolation feature off. | |
| 1/1 | isolation enable | | Turns the subscriber isolation feature on. | |
| 2/3 | isolation show | | Displays the subscriber isolation feature's current setting. | |
| 1/1 | isolation standalone | | Set switch mode to standalone mode | |
| 1/1 | isolation vlan delete | <vid> | Delete an isolate VLAN. | Available in 3.53 |
| 1/1 | isolation vlan set | <vid> | Create an isolate VLAN. | Available in 3.53 |
| 1/1 | mac agingtime set | <sec, 10..10000 0:disable> | Sets the MAC aging out time period. | |
| 2/3 | mac agingtime show | | Displays the MAC aging out time period. | |
| 1/1 | mac antispoofing disable | | Turns off the MAC antispoofing | |
| 1/1 | mac antispoofing enable | | Turns on the MAC antispoofing | |
| 2/3 | mac | | Show the MAC antispoofing status | |

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| | antispoofing show | | | |
| 1/1 | mac count disable | <portlist> | Turns off the MAC address count filter for an ADSL port(s). | |
| 1/1 | mac count enable | <portlist> | Turns on the MAC address count filter for an ADSL port(s). | |
| 1/1 | mac count set | <portlist> <count> | Sets the MAC address count filter for an ADSL port(s). | |
| 2/3 | mac count show | [portlist] | Displays the system's current MAC address count settings. | |
| 1/1 | mac filter delete | <port> <mac> [<mac> <mac> ...] | Removes a MAC filter MAC entry on an ADSL port(s). | |
| 1/1 | mac filter disable | [portlist] | Turns off the MAC filter. | |
| 1/1 | mac filter enable | [portlist] | Turns on the MAC filter. | |
| 1/1 | mac filter mode | <port> <accept deny> | Sets the MAC filter to accept or deny. | |
| 1/1 | mac filter set | <port> <mac> [<mac> <mac> ...] | Adds a MAC filter MAC entry on an ADSL port(s). | |
| 2/3 | mac filter show | [portlist] | Displays MAC filter settings. | |
| 1/1 | mac flush | | Clears learned MAC addresses from the forwarding table. | |
| 1/1 | ouifilter delete | <port> <mac> | Removes an OUI filter OUI entry on an ADSL port(s). | Available in 3.53 |
| 1/1 | ouifilter disable | <portlist> | Turns off the OUI filter. | Available in 3.53 |
| 1/1 | ouifilter enable | <portlist> | Turns on the OUI filter. | Available in 3.53 |
| 1/1 | ouifilter mode | <port> <accept deny> | Sets the OUI filter to accept or deny. | Available in 3.53 |
| 1/1 | ouifilter set | <port> <mac> | Adds an OUI filter OUI entry on an ADSL port(s). | Available in 3.53 |
| 2/3 | ouifilter show | [portlist] | Displays OUI filter settings. | Available in 3.53 |
| 1/1 | pktfiler ppoeonly | <portlist> | Set packet filter to pppoe only for port. | |
| 1/1 | pktfiler set | <portlist> <filter> | Set packet filter for port | |
| 2/3 | pktfiler show | [portlist] | Display packet filter settings. | |
| 1/1 | poeagent clearinfo | <<vid> all> | Clears Sub-option 1 of an Agent. vid is 0..4094 | Available in 3.53 |
| 1/1 | poeagent delete | <<vid> all> | Deletes a PPPoE Intermediate Agent vid is 1..4094 | Available in 3.53 |
| 1/1 | poeagent disable | <<vid> all> | Disalbe a PPPoE Intermediate Agent. vid is 0..4094 | Available in 3.53 |
| 1/1 | poeagent enable | <<vid> all> | Enable a PPPoE Intermediate Agent vid is 0..4094 | Available in 3.53 |
| 1/1 | poeagent info | <<vid> all> <info> | Sets Sub-option 1 (Circuit ID) of an Agent, it will append this string to BRAS. vid is 0..4094 | Available in 3.53 |
| 1/1 | poeagent optionmode | <<vid> all> <private tr101> | Set Sub-option 1 (Circuit ID) format to TR-101 or private mode. | Available in 3.53 |

| | | | | |
|-----|--------------------|--------------------------------|---|-------------------|
| 1/1 | poeagent set | <vid> | Sets a PPPoE Intermediate Agent. vid is 1..4094 | Available in 3.53 |
| 2/3 | poeagent show | [<vlan list>] | Displays current settings of PPPoE Intermediate Agent | Available in 3.53 |
| 1/1 | queuemap set | <priority> <queue level> | Maps a priority level to a physical queue. | |
| 2/3 | queuemap show | | Displays the system's priority level to physical queue mapping. | |
| 1/1 | rstp disable | | Turn system's rstp off. | |
| 1/1 | rstp enable | | Turn system's rstp on. | |
| 1/1 | rstp fwdelay | <fwdelay sec> | Set system rstp's forward delay time. | |
| 1/1 | rstp hellotime | <hellotime sec> | Set system rstp's hello time. | |
| 1/1 | rstp maxage | <maxage sec> | Set system rstp's max age. | |
| 1/1 | rstp port disable | <portlist> | Set enet port to disable rstp. | |
| 1/1 | rstp port enable | <portlist> | Set enet port to enable rstp. | |
| 1/1 | rstp port pathcost | <portlist> <pathcost> | Set enet port's rstp pathcost. | |
| 1/1 | rstp port priority | <portlist> <priority> | Set enet port's rstp priority. | |
| 2/3 | rstp port show | | Display enet port rstp status. | |
| 1/1 | rstp priority | <priority> | Set system rstp's priority. | |
| 2/3 | rstp show | | Display the system's rstp settings. | |
| 1/1 | smcast delete | <mac> | Removes a static multicast filter entry by deleting the associated MAC address. | |
| 1/1 | smcast set | <adsl_port> <mac> <join leave> | Use join/leave to add/ remove multicast MAC addresses on specified ADSL ports, a range of ADSL ports or all ADSL ports. MAC example: 01005E010203 | |
| 2/3 | smcast show | | Display all MAC addresses joined to ADSL ports. | |
| 1/~ | vlan cpu set | <vid> [priority] | Sets the VLAN ID, priority of the management VLAN. | |
| 2/~ | vlan cpu show | | Displays the VLAN ID of the management VLAN. | |
| 1/1 | vlan delete | <vlanlist> | Removes a VLAN entry. | |
| 1/1 | vlan disable | <vid> | Turns off a VLAN entry. | |
| 1/1 | vlan enable | <vid> | Turns on a VLAN entry. | |
| 1/1 | vlan frametype | <portlist> <all tag> | Sets the specified DSL port to accept tagged, untagged or Ethernet frames (or both). Note: enet1, enet2 are fixed at 'all'. | |
| 1/1 | vlan gvrp | <portlist> <enable disable> | Set the port(s) to enable or disable gvrp. | |
| 1/1 | vlan name | <vid> <name> | Sets the VLAN ID name. | Available in 3.53 |
| 2/3 | vlan portshow | [portlist] | Displays the port(s) VLAN settings. | |
| 1/1 | vlan priority | <portlist> <priority> | Sets a port's default IEEE 802.1p priority. | |
| 1/1 | vlan pvid | <portlist> <pvid> | Sets the PVID (Port VLAN ID) assigned to untagged frames or priority frames (0 VID) received on this port(s). | |
| 1/1 | vlan set | <vid> | Configures a VLAN entry. | |

| | | | | |
|----|-----|--|---|--|
| ip | | <portlist>:<F<T U> X N> [<portlist>:<F<T U> X N> ...] [name] | | |
| | 2/3 | vlan show | <vlanlist> | Displays VLAN settings. |
| | 1/1 | arp flush | | Clears the device's IP Address Resolution Protocol(ARP) table. |
| | 2/3 | arp show | | Displays the device's IP Address Resolution Protocol(ARP) table. |
| | 1/1 | gateway | <gateway ip> | Sets the IP address of the device's default gateway. |
| | 2/3 | ping | <ip> [count] | Pings a remote host. |
| | 1/1 | route delete | <dst ip>[/netmask] | Removes a routing table entry. |
| | 1/~ | route flush | | Clears the routing table. |
| | 1/1 | route set | <dst ip>[/netmask] <gateway ip> [metric] <name> | Adds a routing table entry. |
| | 1/1 | route set | default <gateway ip> <metric> | Sets the device's default route. |
| | 2/3 | route show | | Displays the routing table. |
| | 1/1 | set | <ip>[/netmask] | Sets the Management IP address and subnet mask. |
| | 2/3 | show | | Displays the Management IP address settings. |
| | 2/3 | adsl 15mperf | <portlist> [count <0..96>] | Displays line performance statistics for the current and previous 15-minute periods. |
| | 2/3 | adsl 1dayperf | <portlist> | Displays line performance statistics for the current and previous 24 hours. |
| | 2/3 | adsl gbond | [<bond_name>] | Display gbond setting and link up US/DS rate. |
| | 2/3 | adsl linedata | <portlist> | Displays the line data load per symbol (tone). |
| | 2/3 | adsl lineinfo | <portlist> | Displays the info of the specified ADSL ports. |
| | 2/3 | adsl lineperf | <portlist> | Displays the performance statistics of the specified ADSL port. |
| | 2/3 | adsl linerate | <portlist> | Displays the line rate. |
| | 2/3 | adsl show | [portlist] | Displays ADSL port connection status. |
| | 3/3 | dhcp counter | [<portlist> [clear]] | Display DHCP statistics for a port |
| | 3/3 | dhcp snoop | <portlist> | Display snooping |
| | 2/3 | dot1x | [portlist] | |
| | 2/3 | enet | | Displays Ethernet port settings and statistics. |
| | 3/3 | igmpsnoop group | | Didplay IGMP learned group member information |
| | 3/3 | igmpsnoop info | [clear] | Display protocol packets counters & number of learned groups |
| | 3/3 | igmpsnoop | <portlist> | Display joined groups in this port |

| | | | | |
|--------|-----|------------------------|---|--|
| config | | port group | | |
| | 3/3 | igmpsnoop port info | [<portlist> [clear]] | Display received protocol packets counters, number of joined groups. |
| | 2/~ | ip | | Displays a Management port's status and performance data. |
| | 2/3 | mac | | Displays current MAC address forwarding table. |
| | 2/3 | monitor | | Displays hardware monitor status. |
| | 2/3 | port | <portlist> [<vpi> <vci>] [clear] | This command displays and/or erases port statistics. *:[clear] can only be applied in WEB with high privilege |
| | 2/3 | rmon | Stats history <enet port> | Display uplink/subtending link RMON information |
| | 2/3 | rstp | | |
| | 2/3 | vlan | | Displays current VLANs. |
| | | | | |
| | 1/1 | restore | | Reloads the factory default configuration. |
| | 1/1 | save | | Saves the current configuration. |
| | 2/3 | show | <sys sw adsl ip stat all> [nopause] | Displays the device's configuration. |
| exit | 3/3 | | | Ends the console or telnet session. |

Default Configuration

1. System information
 - hostname "ras"
 - location ""
 - contact ""
2. SNMP
 - get community "public"
 - set community "public"
 - trap community "public"
 - trusted host IP "0.0.0.0"
 - trap destination IP entry 1 "0.0.0.0/162"
 - trap destination IP entry 2 "0.0.0.0/162"
 - trap destination IP entry 3 "0.0.0.0/162"
 - trap destination IP entry 4 "0.0.0.0/162"
3. System service
 - telnet enable
 - ftp enable
 - web enable
 - icmp enable
 - telnet port 23
 - ftp port 21
 - web port 80
4. Secure client
 - accept icmp/telnet/ftp/web access from IP 0.0.0.0 to 223.255.255.255
5. CLI shell timeout
 - 5 mins
6. UNIX log
 - service disable

- server IP 0.0.0.0
- 7. System watchdog timer 10000 ms
- 8. System hardware monitor
 - Enabled
 - Voltage monitor sensor point 1 threshold 1.284v / 1.116v
 - Voltage monitor sensor point 2 threshold 1.944v / 1.656v
 - Voltage monitor sensor point 3 threshold 3.564v / 3.036v
 - Voltage monitor sensor point 4 threshold 25.92v / 22.08v
 - Temperature monitor sensor point 1 threshold 97.000°C / -55.000°C
 - Temperature monitor sensor point 2 threshold 97.000°C / -55.000°C
 - Temperature monitor sensor point 3 threshold 97.000°C / -55.000°C
 - Fan monitor sensor point 1 threshold 8000RPM / 2000RPM
 - Fan monitor sensor point 2 threshold 8000RPM / 2000RPM
 - Fan monitor sensor point 3 threshold 8000RPM / 2000RPM
 - External alarm index 1 name "extalm1"
 - External alarm index 2 name "extalm2"
 - External alarm index 3 name "extalm3"
- 9. Multiuser
 - Set user "admin", password "*****" (encrypted)
 - User authentication method "local and remote"
- 10. VLAN
 - Port default 802.1p priority 0
 - Port GVRP disabled
 - Port accept frametype(802.1Q VLAN tag) all
 - Set default VLAN(vid 1) join all ports
 - Port default pvid 1
 - System host port join join vid 1
- 11. System igmpsnooping disabled
- 12. 802.1p priority(0~7) to system ENET port priority(0~3) mapping
 - 0 ⇒ 1
 - 1 ⇒ 0
 - 2 ⇒ 0
 - 3 ⇒ 1
 - 4 ⇒ 2
 - 5 ⇒ 2
 - 6 ⇒ 3
 - 7 ⇒ 3
- 13. 802.1p priority(0~7) to system ADSL port priority(0~7) mapping
 - 0 ⇒ 0
 - 1 ⇒ 1
 - 2 ⇒ 2
 - 3 ⇒ 3
 - 4 ⇒ 4
 - 5 ⇒ 5
 - 6 ⇒ 6
 - 7 ⇒ 7
- 14. GARP timer default setting
 - Leaveall timer 10000ms
 - Leave timer 600ms
 - Join timer 200ms
- 15. RSTP parameters
 - Service disabled
 - Forward delay 15 sec
 - Maxage 20 sec
 - Hellotime 2 sec

- Priority 32768
 - Port priority 128
 - Port path cost 4
 - Port RSTP disabled
16. DHCP relay
- Service disabled
 - Relay server IP "0.0.0.0"
 - Option82 ""
 - Option82 disabled
 - Option82 suboption 2 ""
 - Option82 suboption 2 disabled
17. 802.1X
- Service enabled
 - Port auth disabled
 - Authentication via radius server
 - Port auth control auto
 - Port re-auth on
 - Port re-auth period 3600ms
 - Radius server IP "0.0.0.0/1812"
 - Radius server secret "1234"
 - Local user database set user "admin", password "*****" (encrypted)
18. ENET
- Naming enet port 1 "enet1"
 - Naming enet port 2 "enet2"
 - Port enabled
 - ENET speed mode auto
19. Isolation
- Enabled
 - Mode standalone mode
20. IP
- 192.168.1.1/24
 - Default gateway IP 192.168.1.254
21. MAC
- Aging time 300 sec
 - Port MAC count filter number 5
 - Port MAC count filter disabled
 - Port MAC filter disabled
22. System time server
- Time protocol none
 - Server IP "0.0.0.0"
 - Time zone UTC
23. ADSL port default setting
- Enabled
 - Default ADSL profile "DEFVAL_MAX"
- | | | |
|------------------------|---------------|-------------|
| DEFVAL_MAX | latency mode: | interleave |
| | up stream | down stream |
| | ----- | ----- |
| max rate (kbps): | 512 | 9088 |
| min rate (kbps): | 64 | 64 |
| latency delay(ms): | 4 | 4 |
| max margin (db): | 31 | 31 |
| min margin (db): | 0 | 0 |
| target margin(db): | 6 | 6 |
| up shift margin(db): | 9 | 9 |
| down shift margin(db): | 3 | 3 |
- ADSL mode: auto negotiate

- Default Port VC 0/33, super channel, ATM profile “DEFVAL”
profile encap class aal pcr cdvt scr bt

```
-----
DEFVAL      llc   ubr   aal5  300000 0      0      0
```

- Default IGMP filter “DEFVAL”
Profile startip endip

```
-----
DEFVAL      224.0.0.0      239.255.255.255
```

- Packet filter applied none

- Default ADSL alarm profile “DEFVAL”

```
DEFVAL      ATU-C      ATU-R
-----
Thresh15MinLofs      (sec):      0      0
Thresh15MinLoss      (sec):      0      0
Thresh15MinLols      (sec):      0      ---
Thresh15MinLprs      :      0      0
Thresh15MinESs      (sec):      0      0
ThreshFastRateUp      (bps):      0      0
ThreshInterleaveRateUp (bps):      0      0
ThreshFastRateDown      (bps):      0      0
ThreshInterleaveRateDown (bps):      0      0
InitFailureTrap(1-enable, 2-disable): 2      ---
Thresh15MinFailedFastRetrain :      0      ---
Thresh15MinSes      (sec):      0      0
Thresh15MinUas      (sec):      0      0
```

- ADSL up/down stream nominal PSD 0
- ADSL up/down stream carrier mask 0
- ADSL annexL disabled
- ADSL annexM disabled
- ADSL PMM disabled
- ADSL PMM L0Time 300 sec, L2Time 30 sec, L2ATPR 1 dB, L2ATPRT 6 dB
- ADSL PMM maxL2rate 4096 Kbps, minL2rate 32 Kbps , L0toL2rate 16 Kbps
- ADSL SRA disabled
- ADSL up/down stream INP 0 DMT symbol
- ADSL port downstream broadcast disabled VLAN: none
- ADSL PPVC: none

24. RFC 2684 routed mode

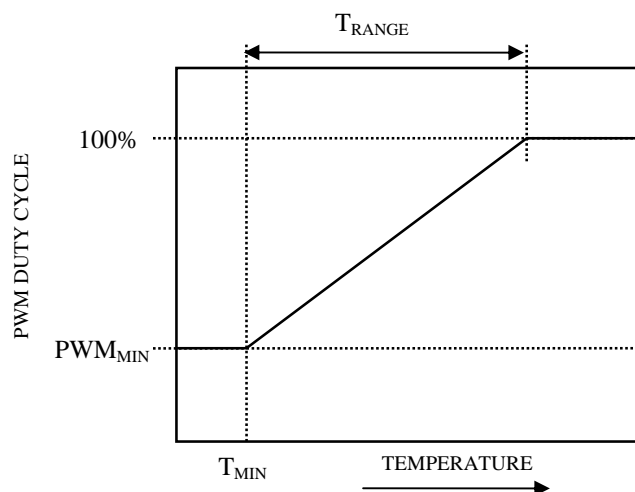
- Routed mode ARP aging time 600 sec

25. Alarm manager alarm assignment

| | no alarm | condition | facility | snmp | syslog | severity | clearable |
|----|----------|---------------------------|----------|------|--------|----------|-----------|
| 1 | dsl | (5000)line_up | local1 | V | V | info | - |
| 2 | dsl | (5001)line_down | local1 | V | V | minor | V |
| 3 | dsl | (5002)ad_perf_lol_thresh | local1 | V | V | minor | V |
| 4 | dsl | (5003)ad_perf_lof_thresh | local1 | V | V | minor | V |
| 5 | dsl | (5004)ad_perf_los_thresh | local1 | V | V | minor | V |
| 6 | dsl | (5005)ad_perf_lop_thresh | local1 | V | V | minor | V |
| 7 | dsl | (5006)ad_perf_es_thresh | local1 | V | V | minor | V |
| 8 | dsl | (5007)ad_perf_ses_thresh | local1 | V | V | minor | V |
| 9 | dsl | (5008)ad_perf_uas_thresh | local1 | V | V | minor | V |
| 10 | dsl | (5009)ad_atuc_loftrap | local1 | V | V | minor | - |
| 11 | dsl | (5010)ad_atuc_lostrap | local1 | V | V | minor | - |
| 12 | dsl | (5011)ad_atur_loftrap | local1 | V | V | minor | - |

| | | | | | | | |
|----|------|-----------------------|--------|---|---|----------|---|
| 13 | dsl | (5012)ad_atu_lostrap | local1 | V | V | minor | - |
| 14 | dsl | (5013)ad_atu_lprtrap | local1 | V | V | minor | - |
| 15 | eqpt | (10000)vol_err | local1 | V | V | critical | - |
| 16 | eqpt | (10001)temp_err | local1 | V | V | critical | - |
| 17 | eqpt | (10002)fan_err | local1 | V | V | critical | - |
| 18 | eqpt | (10003)hw_rtc_fail | local1 | V | V | critical | - |
| 19 | eqpt | (10004)hw_mon_fail | local1 | V | V | critical | - |
| 20 | eqpt | (10005)cold_start | local1 | V | V | info | - |
| 21 | eqpt | (10006)warm_start | local1 | V | V | info | - |
| 22 | eqpt | (10007)alm_input | local1 | V | V | critical | - |
| 23 | sys | (15000)reboot | local1 | V | V | info | - |
| 24 | sys | (15001)aco | local1 | V | V | info | - |
| 25 | sys | (15002)alm_clear | local1 | V | V | info | - |
| 26 | sys | (15003)login_fail | local1 | V | V | minor | V |
| 27 | sys | (15004)anti_spoofing | local1 | V | V | minor | V |
| 28 | enet | (20000)up | local1 | V | V | info | - |
| 29 | enet | (20001)down | local1 | V | V | major | V |

26. Fan speed control



- $PWM_{MIN} = 20\%$
- $T_{MIN} = 40^{\circ}\text{C}$
- $T_{RANGE} = 32^{\circ}\text{C}$

27. System MTU size is 1526 bytes

28. PPPoE intermediate agent disabled

Table Size & Limitations

Per ADSL port limitations:

Number of Mac filter: 10
Number of OUI filter: 10
Number of PVC: 8
Number of PPVC: 2
Number of PPVC member: 8
Number of RPVC: 8
Number of TLSPVC: 8
Number of PAEPVC: 8
Number of Vlan: 16
IGMP maximum group per DSL port is 16
IGMP maximum host IPs per DSL port is 16
IGMP maximum host IPs per Ethernet port is 1024
Number of DHCP snooping: 32
DHCP Snoop static IP pool entry: 3
Maximum joined MVLAN: 4
Maximum ACL profile mapping: 8

System limitations:

User Account: 16
Trap destination: 4
Secured Client groups: 16
Telnet Sessions : 5
Number of VLAN: 1024
ADSL profile: 96
ATM profile: 96
IGMP filter profile: 128
IGMP proxy static query vid: 16
ADSL ALARM profile: 8
Dot1X profile: 64
DHCP relay server: 32
IP ROUTE: 128
Static multicast address: 32
Multicast Groups Range per MVLAN: 16
Multicast Bandwidth Control Groups: 96
Icmp groups: 512 groups
MAC learning: 14k at most (128 per ADSL port at most, 4k per ENET port at most)
RPVC gateway IP address: 96
RPVC routing entry: 96
ACL profile: 128
IP bridging:
 Domain: 8
 VLAN per Domain: 8
 Edge router: 64 (VLAN per Domain * max of Domain)
 Interface: 384 (DSL port number * max of Domain)
 Routes per Domain: 16
 Routes: 128
 ARP per ENET port: 64
 ARP per DSL port: 32
PPPoE Intermediate Agent: 48
VLAN Isolation: 16

Known Constraints, Restrictions

1. Though this version has improved the Host protection(see above), but since many types of DoS (denial-of-service) attack to host, host CPU might be very busy on processing these undesired packets. This will cause CPU loading increase and might lead to long response time to user's management. One workaround of such issue is to protect the system from its uplink side, like enabling the anti-DoS feature of the intelligent switch –router which resides on the uplink side of the system.
2. Total MAC filter count is around 128 when system is created with 1024 VLANs and this number is dependent on your configuration.
3. PMM mode can not work with Gbond.

Backward Compatibility Notice:

1. Text configuration files of different F/W versions may not compatible. Please backup the text configuration files before F/W upgrade
2. Before upgrade F/W from 3.53(ABQ.0)C0 or earlier to 3.53(ABQ.1)C0 , please “config save” before upgrading.

Notice:

If you need to roll back to old versions (eg. 3.53(ABQ.0)C0) from 3.53(ABQ.1)C0, please following below procedure:

1. Restore text configuration file of the previous F/W backup.
2. After system boot up again, restore old version F/W(eg. 3.53(ABQ.0)C0)

Appendix:
