



**Firmware Release Note**

**P-660H-D1**

**Standard version**

**Release 3.40(AGD.2)C0**

<b>Date:</b>	<b>Apr 26, 2006</b>
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## **ZyXEL P-660H-D1 Standard Version Release 3.40(AGD.2)C0 Release Note**

**Date:** Apr 26, 2006

### **Supported Platforms:**

ZyXEL P-660H-D1

### **Versions:**

ZyNOS Version : V3.40(AGD.2) | 04/26/2006 09:50:00  
bootbase version : V1.06 | 1/20/2006 15:48:00

### **Notes:**

The P-660H-D1, is 4th generation of ZyXEL ADSL product family. It is a high performance ADSL/ADSL2/ADSL2+ router for small/medium office to have Internet access and LAN-to-LAN application over the existing copper line. P-660H-D1 takes advantage of much higher data rate than ADSL, speed up to 12Mbps (ADSL2) or 26Mbps (ADSL2+), greater reach, faster start-up, advanced diagnostics and better power management. This high performance ADSL router is a high integrated advanced Firewall, Bandwidth Management .

P-660H-D1 provides four single auto-sensing, auto-detection 10/100BASE-T Ethernet ports for connection to the user's local network, and a single RJ-11/RJ-45 port for connection to ADSL/ADSL2/ADSL2+ line.

ADSL data pump version: TI AR7 05.01.03.00

### **Features:**

#### **Modifications in V 3.40(AGD.2)C0 | 04/26/2006**

1. Change to FCS

#### **Modifications in V 3.40(AGD.2)b4 | 04/26/2006**

- 1.[BUG FIXED] SPRID: 060425971

Problem Symptom: when press"Enable the Universal Plug and Play(UPnP) Service"and "Allow UPnP to pass through Firewall" ,it wills crash

Problem Condition: when press"Enable the Universal Plug and Play(UPnP) Service"and "Allow UPnP to pass through Firewall" ,it wills crash,and it will crash continually if you do nothing.

2. [ENHANCEMENT]

update for ADM6996i AD version .

**Modifications in V 3.40(AGD.2)b3 | 04/17/2006**

1. [BUG FIXED] SPRID: 060411614

Problem Symptom: When you add Firewall Rules, another rule will be added automatically

Problem Condition: 1.Add rules one by one. 2.When you add the fourth rule, the rule you have edited will be added, and the fifth rule with default setting will be added automatically. 3.You can add rules continuously, it always shows the same results. For example, you add the sixth rule , the seventh rule with default setting will be added automatically

2. [BUG FIXED] SPRID: 060411615

Problem Symptom: Press " apply " button in Bandwith Management->Rule Setup,the BW budget can' t work.

Problem Condition: setp1:Bandwith Management->Summary,set speed=1000kbps. step2:Bandwith Management->Rule Setup,set a rule BW=50Kbps,Service=FTP. It can meet the BM setting. step3:Press " apply " button in Bandwith Management->Rule Setup,It can' t meet the BM setting. step4:Enter other page(such as LAN),and enter Bandwith Management->Rule Setup again,the service is modifide as User defined

3. [ENHANCEMENT]

add SDRAM test item in htp and skip stack space when test SDRAM

4. [ENHANCEMENT]

Modify to support ADM6996i AB,AC,AD version

**Modifications in V 3.40(AGD.2)b2 | 03/29/2006**

1. [BUG FIXED] SPRID: 060317295

Problem Symptom: in GUI-> Security-> Firewall-> Rules, add a rule, Edit Customized Services, the NO.1 rule, if the Service Name is numbers, then click "Apply", the Protocol will show abnormity.

Problem Condition: Step1. Reset default romfile. Step2. Login in GUI-> Security-> Firewall-> Rules, add a rule (no matter which Packet Direction), Edit Customized Services. Step3. select the NO.1 rule, if the Service Name is numbers(ex. service Name = 9999), then select one Service Type(no matter which type), after you click "Apply", the Protocol will show abnormity.

2. [BUG FIXED] SPRID: 060317296

Problem Symptom: Use CI Command set NAT rule, it can't work

Problem Condition: step1. Reset default romfile. step2. Plug the DSL line,set correct VPI/VCI, LAN PC can ping to WAN PC. step3. Use CI command set NAT mapping rule. Set NAT type=full feature. step4. LAN PC try to ping out, it won't use the NAT mapping rule

3. [BUG FIXED] SPRID: 060320493

Problem Symptom: Change SNMP port, then run MIB Browser, you must use the old port to run first, and then the changed port can work.

Problem Condition: step1. Reset default romfile. step2. Login GUI-> Advanced-> Remote MGMT->SNMP, change the port from 161 to 16101, and then click "Apply". step3. Run MIB Browser, use port 16101 you can't login in. but if you use the port 161 login first then change the port to 16101, it can work correctly.

4. [BUG FIXED] SPRID: 060324080

Problem Symptom: [Regression]Set TR069, it can't work if you don't reboot it.

Problem Condition: Set TR069, it can't work if you don't reboot it.

5. [BUG FIXED] SPRID: 060327142

Problem Symptom: active Windows Networking(NetBIOS over TCP/IP) in GUI/advanced/ LAN/ IP Page, it can't save

Problem Condition: step1. login advanced, in network->LAN->IP page, click "advanced setup" button, in the following page, active Windows Networking(NetBIOS over TCP/IP), allow between LAN to WAN, then click "apply". step2. go to the page again, the set can't save, the Windows Networking(NetBIOS over TCP/IP) is still inactive.

**Modifications in V 3.40(AGD.2)b1 | 03/14/2006**

## **Appendix A use New GUI**

## **Appendix B remove SMT**

**Modifications in V 3.40(AGD.1)C0 | 03/07/2006**

## **Appendix C Change to FCS.**

## **Appendix D Change default romfile.**

**Modifications in V 3.40(AGD.1)b3 | 02/23/2006**

1. [BUG FIXED]

SPRID: 060208201

Symptom: In GUI NAT "many to many no overload", set IGA and ILA range does not match, but can save. And can't show error message

Condition: step1: In GUI, NAT --> Full feature, edit "many to many no overload" rule. Local IP: start=192.168.1.33, end=192.168.1.39. Global IP: start=172.25.12, end=172.25.14. But it can save and can't show error message. 3.40(AGD.1)b1 can show an error message. Step2: In SMT it will show a correct error message "IGA and ILA range does not match"

2. [BUG FIXED]

SPRID: 060209315

Symptom: run FTP file download about 8 hours, the device will reboot.

Condition: run FTP file download about 8 hours, the device will reboot. use Acaltel UD adsl2+, sync up rate: up 1195kbps, down 22037kbps. file download rate: 2105kB/s

3. [BUG FIXED]

SPRID: 060208192

Symptom: Set NAT rule, the DUT will crash. set 10 rules in menu 15.1.1, then set rules one by one in menu 15.1.2, when you set the 9th rule, DUT will crash.

Condition: Set NAT rule, the DUT will crash. set 10 rules in menu 15.1.1, then set rules one by one in menu 15.1.2, when you set the 9th rule, DUT will crash.

4. [BUG FIXED]

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SPRID: 060223108

Problem Symptom: set a filter, when apply it use CI command in WAN, it must fill 4 parameter,

but apply it in LAN it need not to fill 4 parameter, it can be save when it have only 1 parameter.

Problem Condition: set a filter, when apply it use CI command in WAN, it must fill 4 parameter,

but apply it in LAN it need not to fill 4 parameter, it can be save when it have only 1 parameter.

5. [BUG FIXED]

SPRID: 060223109

Symptom:when do chamber test DSL will link down an then up in one sencond .

Condition:when do chamber test DSL will link down an then up in one sencond .

6. [BUG FIXED]

SPRID: 060223110

Symptom:In GUI->Wizard Setup->Media Bandwidth Mgnt., click “next”, when it goes to next page, click “Return to Main Menu” to go to site map. Then click “back” button of IE, it cannot turn to previous page.

Condition:In GUI->Wizard Setup->Media Bandwidth Mgnt., click “next”, when it goes to next page, click “Return to Main Menu” to go to site map. Then click “back” button of IE, it cannot turn to previous page.

7. [BUG FIXED]

SPRID: 060223111

Symptom: Prestige can not be managed from WAN side in RFC1483bridge mode.

Condition: Prestige can not be managed from WAN side in RFC1483bridge mode.

8. [BUG FIXED]

SPRID: 060223126

Problem Symptom: The RIP via IP alias 1 and IP alias 2 can not works correctly.

Problem Condition: Step1.in GUI, config the IP alias 1 and IP alias 2, set the RIP direction = Both or In only, the RIP Version = RIP-1, RIP-2B or RIP-2M.

Step2.in LAN PC use tool generate RIP packet, the DUT can't receive the RIP packet.

Step3.use CI commands setup, have the same issue.

9.change datapump to 5.1.3.0

**Modifications in V 3.40(AGD.1)b2 | 01/04/2006**

1 . [BUG FIXED]

SPRID: 051227495

Symptom: In GUI,help page error

Condition: In GUI,Advanced Setup->UPnP help page is error.Wizard Setup->Media Bandwidth Mgnt help page cant open

2 . [BUG FIXED]

SPRID: 051226451

Symptom: NAT erro message doesn't correct

Condition: step1:Menu15.1.1,edit "many to many no overload"rule.Local  
IP:start=192.168.1.33,end=192.168.1.39.Global  
IP:start=17.2.5.12,end=17.2.5.16.

step2:It show error message"The end IP address must be great than the start  
IP address",but the correct is"IGA and ILA does not match"

**Modifications in V 3.40(AGD.1)b1 | 12/22/2005**

1. [BUG FIXED]

SPRID:051220117

Symptom: WEB/GUI will show "Duplicate IP address to other node's IP address."  
error message when configuring WAN page

Condition: 1 Set two remote node( dynamic get IP) in SMT memu 11.1 and 11.2  
2 and then Set Wan parameter in GUI

2. [BUG FIXED]

SPRID:051220118

Symptom: PPPoA idle time issue

Condition1: 1. PPPoA and LAN PC ping WAN PC continuously

2. Reboot device ,it can not connection to the remote node

Conditon2: 1. PPPoA and choose nail-up yes

2. in SMT-4 or SMT-11 change between two right accounts ,device can not connect  
to remote node

3. [BUG FIXED]

SPRID:051220120

Symptom: choose PPPoA encapsulation to sync up,when need to retype username and  
password

the IE url show "ZCfgPPPoE.html" webpage

Condition:choose PPPoA encapsulation to sync up,when need to retype username and  
password

the IE url show "ZCfgPPPoE.html" webpage

4. [BUG FIXED]

SPRID:051220122

Symptom: MIB Browser timeout but it still can set "sysName".

Condition: Step 1: Set with CI command "sys romr" and choose setting to "y" in menu  
24.8 to reset default romfile .

Step 2: Edit SMT menu 22 to set Get Community = 123456 and Set Community  
=123456,Trusted Host = 0.0.0.0,

Trap Community = 123456 , Destination = 192.168.1.33(LAN set PC IP  
address).

Step 3: Don't exit SMT.

Step 4: To MIB Tree/iso/org/dod/internet/mgmt/mib-2/system/sysName, then  
choose "Set"function -->To "Value

to Set" Item, key in "AAA" --> press "Set Value in Remote SNMP Agent"  
button.

Step 5: When request time out, the information can still be stored.

5. [BUG FIXED]

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SPRID: 051220127

Symptom: Upload wrong romfile by SMT Restore Configuration may cause device crash.

Condition: If the upload romfile is text format or wrong content binary image, after restore from

SMT 24.6, the device may crash.

6. [BUG FIXED]

SPRID: 051220129

Symptom: Change the LAN IP or subnet mask, IE can't access device.

Condition: In web wizard - LAN page. Change LAN IP for 192.168.1.1 to 192.168.181.1, the PC gets

IP from the device but can't use IE to access device.

7. [BUG FIXED]

SPRID: 051220131

Symptom: CI command "sys stdio" does not follow the spec.

Condition: Enter "sys stdio 4 30", it will set the timeout to 30 seconds.

8. [BUG FIXED]

SPRID: 051220132

Symptom: In "many to many no overload" mode, IGA and ILA does not match, but it can save in EWC.

Condition: Step 1: In the SMT menu 15.1.1, edit one rule, choose the type "many to many no

overload", if the number of local IP is not equal to the number of global IP, there is

error information "IGA and ILA does not match" and the setting can't be saved.

Step 2: In the GUI setting, if the number of local IP is not equal to the number of global IP, there is no error, and in the SMT menu 15 the setting has been saved.

9. [BUG FIXED]

SPRID: 051220133

Symptom: It can't escape SMT24.1

Condition: When performing vc-hunt process

10. [BUG FIXED]

SPRID: 051220134

Symptom: eWC timeout but telnet port still can save change.

Condition: step1.eWC in remote management.

step2.change telnet port 23 to 23023 and wait 3 minutes.

step3.apply it.

step4 turn on login face and login step5.in remote management the telnet port have

changed from 23 to 23023.?

11. [BUG FIXED]

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SPRID: 051220135

Symptom: While set the DUT LAN " Client IP Pool Starting Address " and " Size of Client IP Pool " which are not

match the " IP Subnet Mask " , but this can be saved in GUI\Wizard Setup and rom-t.

Condition: Step1: While set the DUT LAN setting as below: " Client IP Pool Starting Address=192.168.1.4 " ,

Size of Client IP Pool=4 " , " IP Subnet Mask=255.255.255.248 " , the DUT will show a prompt in SMT

and GUI/Advanced Setup: " Invalid DHCP Size of Client Pool " .

Step2: But in GUI/Wizard Setup and rom-t, this configuration will be saved, and LAN PC can get the

IP from 192.168.1.4.

12. [BUG FIXED]

SPRID: 051220136

Symptom: The"Connection testing"page will change to"connction testing fail"Page for only one brower.

condition: 1.If there are no correct PVC in hunting table.

2.Page will return to"Auto\_Hunt\_Fail".

3.If there are two or more browers,only one page will display"Auto\_Hunt\_Fail",the other pages will also display "Connection testing".

13. [BUG FIXED]

SPRID: 051220137

symptom:device will be crash

condition: 1.set default romfile

2.in vc hunt table have vpi/vci=0/33

3.turn on vc hunt debug flag

14.[BUG FIXED]

SPRID: 051220138

Symptom: Configure firewall will cause DUT crash.

Condition: In GUI->advanced setup ->firewall->rule summary,create a rule and apply it ,then enter the rule

and delete it,click back button in IE column and apply it again ,the DUT will crash.

15. [BUG FIXED]

SPRID: 051220139

Symptom: In EWC ISP's name can accecept special characters which is not accordant with SMT.

Condition: In SMT menu 4 the ISP's name can not accept special characters such as #\$/%^,

but in eWC can accept it.

16. [BUG FIXED]

SPRID: 051220140

Symptom: eWC time out but can reset DUT to the factory default.



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Condition: Step1 enter eWC->maintenance->firmware  
Step2 enter SMT menu 24.8 CI command "sys reboot"  
Step3 after DUT startup click the reset button in eWC then can reset DUT to the factory default

17. [BUG FIXED]

SPRID: 051220141

Symptom: Users can not login in prestige device if they use IE in Mac OS as browser.

Condition: Browser is IE on Mac OS

18. [Feature Enhancement]

Add Quick Route feature

19. change default romfile :quick route default run in task mode.

20 . [Feature Enhancement] (Triple play V1 for ADM6996I )

support Triple play v1 in switch chip ADM6996I

21.change datapump to 4.2.1.0

**Modifications in V 3.40(AGD.0)C0 | 11/02/2005**

1. Change to FCS version.

**Modifications in V 3.40(AGD.0)b3 | 10/27/2005**

1[BUGFIXED]

SPRID: 051025814

Symptom: enable upnp will cause the DUT crash.

Condition: step1 enter eWC upnp, enable upnp

step2 enter other page such as NAT then the DUT will crash.

step3 This phenomenon will appear on some PC, but the frequency is very high.

**Modifications in V 3.40(AGD.0)b2 | 10/18/2005**

1 [BUGFIXED]

SPRID: 051011968

Symptom: Web redirect does not work

Condition:

1 When LAN PC connect to Internet via web browser. 2. Web-Redirect can't provide error message or solution approach when user can't connect to internet.(such as "Connection Test in Progress" Page).

2[BUGFIXED]

SPRID: 051011970

Symptom: System Maintenance information can't display the standard correctly.

Condition: 1. When the DUT link up with some mode(such as G.dmt/G.lite) .

2 In the SMT manu 24.2.1 "system maintenance information" page, the standard is always multi-mode.

3. In GUI "system status" it also display multi-mode.

3 [Feature Enhancement]

TI throughput Enhancement

4[BUGFIXED]

SPRID: 051012991

Symptom: Use ax/4000 test QoS of CBR/VBR/UBR have problem

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Condition:

1.Set menu 4 ATM QoS Type= CBR

Peak Cell Rate (PCR) = 1000

Sustain Cell Rate (SCR) = 500

Maximum Burst Size (MBS) =500

The traffic do not restrict by the PCR, it can up to 1250 cells/s

2.Set menu 4 ATM QoS Type= VBR

Peak Cell Rate (PCR) = 1000

Sustain Cell Rate (SCR) = 500

Maximum Burst Size (MBS) =500

The traffic do not restrict by the SCR, it can up to 625 cells/s

3.Set menu 4 ATM QoS Type= UBR

Peak Cell Rate (PCR) = 1000

Sustain Cell Rate (SCR) = 500

Maximum Burst Size (MBS) =500

The traffic do not restrict by the PCR, it can up to 1250 cells/s

5[BUGFIXED]

SPRID: 051012004

Symptom: Subnet mask error.

Condition:

1. Subnet mask error.

2.Config Static IP via Wizard or Advanced Setup LAN/WAN.

3. Enter subnet mask "255.255.248.0"

4.Then it will pop up a message shows "subnet mask error". However, "255.255.248.0" is a valid subnet

6[Feature Enhancement]

Reset button test CI command"Sys reset"

7[BUGFIXED]

SPRID: 051012985

Symptom: DSL LED can't meet PS request. Flashing at 1 Hz with a 50% duty cycle during all training course.

Condition:

1.Set up test environment as description in test plan. 2.Use Oscilloscope scope observe DSL LED.

**Modifications in V 3.40(AGD.0)b1 | 9/14/2005**

1 Create this Project for P-660H-D1 OBM version base on WX Trunk

**Annex A CI Command List**

Command Class List Table		
<a href="#">System Related Command</a>	<a href="#">Exit Command</a>	<a href="#">Ethernet Related Command</a>
<a href="#">WAN Related Command</a>	<a href="#">WLAN Related Command</a>	<a href="#">IP Related Command</a>
<a href="#">PPP Related Command</a>	<a href="#">Bridge Related Command</a>	<a href="#">Radius Related Command</a>
<a href="#">8021x Related Command</a>	<a href="#">Firewall Related Command</a>	<a href="#">Configuration Related Command</a>

SMT Related Command

## System Related Command

[Home](#)

Command				Description
sys				
	adjtime			retrive date and time from Internet
	cbuf			
		display	[a f u]	display cbuf a: all f: free u: used
		cnt		cbuf static
			display	display cbuf static
			clear	clear cbuf static
	baud		<1..5>	change console speed
	callhist			
		display		display call history
		remove	<index>	remove entry from call history
	clear			clear the counters in GUI status menu
	countrycode		[countrycode]	set country code
	date		[year month date]	set/display date
	domainname			display domain name
	edit		<filename>	edit a text file
	enhanced			return OK if commands are supported for PWC purposes
	errctl		[level]	set the error control level 0:crash no save,not in debug mode (default) 1:crash no save,in debug mode 2:crash save,not in debug mode 3:crash save,in debug mode
	event			
		display		display tag flags information
		trace		display system event information
			display	display trace event
			clear <num>	clear trace event
	extraphnum			maintain extra phone numbers for outcalls
		add	<set 1-3> <1st phone num> [2nd phone num]	add extra phone numbers
		display		display extra phone numbers
		node	<num>	set all extend phone number to remote node <num>
		remove	<set 1-3>	remove extra phone numbers
		reset		reset flag and mask
	feature			display feature bit
	fid			
		display		display function id list
	firmware			display ISDN firmware type
	hostname		[hostname]	display system hostname
	iface			
		disp	[#]	display iface list
	isr		[all used free]	display interrupt service routine
	interrupt			display interrupt status
	logs			
		category		
			access [0:none/1:log]	record the access control logs
			attack [0:none/1:log/2:alert/3:both]	record and alert the firewall attack logs
			display	display the category setting

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			error [0:none/1:log/2:alert/3:both]	record and alert the system error logs
			ipsec [0:none/1:log]	record the access control logs
			mten [0:none/1:log]	record the system maintenance logs
			upnp [0:none/1:log]	record upnp logs
			urlblocked [0:none/1:log/2:alert/3:both]	record and alert the web blocked logs
			urlforward [0:none/1:log]	record web forward logs
		clear		clear log
		display		display all logs
		errlog		
			clear	display log error
			disp	clear log error
			online	turn on/off error log online display
		load		load the log setting buffer
		mail		
			alertAddr [mail address]	send alerts to this mail address
			display	display mail setting
			logAddr [mail address]	send logs to this mail address
			schedule display	display mail schedule
			schedule hour [0-23]	hour time to send the logs
			schedule minute [0-59]	minute time to send the logs
			schedule policy [0:full/1:hourly/2:daily/3:weekly/4:none]	mail schedule policy
			schedule week [0:sun/1:mon/2:tue/3:wed/4:thu/5:fri/6:sat]	weekly time to send the logs
			server [domainName/IP]	mail server to send the logs
			subject [mail subject]	mail subject
		save		save the log setting buffer
		syslog		
			active [0:no/1:yes]	active to enable unix syslog
			display	display syslog setting
			facility [Local ID(1-7)]	log the messages to different files
			server [domainName/IP]	syslog server to send the logs
	mbuf			
		cnt		
			disp	display system mbuf count
			clear	clear system mbuf count
		link	link	list system mbuf link
		pool	<id> [type]	list system mbuf pool
		status		display system mbuf status
		disp	<address>	display mbuf status
		debug	[on/off]	
	memory		<address> <length>	display memory content
	memwrite		<address> <len> [data list ...]	write some data to memory at <address>
	memwl		<address>	write long word to memory at <address>
	memrl		<address>	read long word at <address>
	memutil			
		usage		display memory allocate and heap status
		mqueue	<address> <len>	display memory queues
		mcell	mid [f u]	display memory cells by given ID
		msecs	[a f u]	display memory sections

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		mtstart	<n-mcell>	start memory test
		mtstop		stop memory test
		mtalloc	<size> [n-mcell]	allocate memory for testing
		mtfree	<start-idx> [end-idx]	free the test memory
	model			display server model name
	proc			
		display		display all process information
		stack	[tag]	display process's stack by a give TAG
		pstatus		display process's status by a give TAG
	queue			
		display	[a f u] [start#] [end#]	display queue by given status and range numbers
		ndisp	[qid]	display a queue by a given number
	quit			quit CI command mode
	reboot		[code]	reboot system code = 0 cold boot, = 1 immediately boot = 2 bootModule debug mode
	reslog			
		disp		display resources trace
		clear		clear resources trace
	stdio		[second]	change terminal timeout value
	time		[hour [min [sec]]]	display/set system time
	timer			
		disp		display timer cell
		trace	[on off]	set/display timer information online
		start	[tmValue]	start a timer
		stop	<ID>	stop a timer
	trcdisp			monitor packets
	trclog			
		switch	[on off]	set system trace log
		online	[on off]	set on/off trace log online
		level	[level]	set trace level of trace log #:1-10
		type	<bitmap>	set trace type of trace log
		disp		display trace log
		clear		clear trace
		call		display call event
		encapmask	[mask]	set/display tracelog encapsulation mask
	trcpacket			
		create	<entry> <size>	create packet trace buffer
		destroy		packet trace related commands
		channel	<name> [none incoming outgoing bothway]	<channel name>=enet0,sdsl00, fr0 set packet trace direction for a given channel
		string		enable smt trace log
		switch	[on off]	turn on/off the packet trace
		disp		display packet trace
		udp		send packet trace to other system
			switch [on off]	set tracepacket upd switch
			addr <addr>	send trace packet to remote udp address
			port <port>	set tracepacket udp port
		parse	[[start idx], end idx]	parse packet content
		brief		display packet content briefly
	version			display RAS code and driver version
	view		<filename>	view a text file

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	wdog			
		switch	[on/off]	set on/off wdog
		cnt	[value]	display watchdog counts value: 0-34463
	romreset			restore default romfile
	server			
		access	<telnet ftp web icmp snmp dns> <value>	set server access type
		load		load server information
		disp		display server information
		port	<telnet ftp web snmp> <port>	set server port
		save		save server information
		secureip	<telnet ftp web icmp snmp dns> <ip>	set server secure ip addr
	spt			
		dump		dump spt raw data
			root	dump spt root data
			rn	dump spt remote node data
			user	dump spt user data
			slot	dump spt slot data
		save		save spt data
		size		display spt record size
		clear		clear spt data
	cmgr			
		trace		
			disp <ch-name>	show the connection trace of this channel
			clear <ch-name>	clear the connection trace of this channel
		cnt	<ch-name>	show channel connection related counter
	socket			display system socket information
	filter			
		clear		clear filter statistic counter
		disp		display filter statistic counters
		sw	[on/off]	set filter status switch
		set	<set>	display filter rule
		netbios		
			disp	display netbios filter status
			config <0:LAN to WAN, 1:WAN to LAN, 2:LAN to DMZ, 3:IPSec passthrough, 4:Trigger Dial> <on/off>	config netbios filter
	ddns			
		debug	<level>	enable/disable ddns service
		display	<iface name>	display ddns information
		restart	<iface name>	restart ddns
		logout	<iface name>	logout ddns
	cpu			
		display		display CPU utilization

## Exit Command

[Home](#)

Command				Description
exit				exit smt menu

## Ethernet Related Command

[Home](#)

Command				Description
ether				
	config			display LAN configuration information
	driver			
		cnt		
			disp <name>	display ether driver counters
			clear <name>	clear ether driver counters
		iface	<ch_name> <num>	send driver iface
		ioctl	<ch_name>	Useless in this stage.
		mac	<ch_name> <mac_addr>	Set LAN Mac address
		reg	<ch_name>	display LAN hardware related registers
		rxmod	<ch_name> <mode>	set LAN receive mode. mode: 1: turn off receiving 2: receive only packets of this interface 3: mode 2+ broadcast 5: mode 2 + multicast 6: all packets
		status	<ch_name>	see LAN status
		init	<ch_name>	initialize LAN
	version			see ethernet device type
	pkttest			
		disp		
			packet <level>	set ether test packet display level
			event <ch> [on/off]	turn on/off ether test event display
		sap	[ch_name]	send sap packet
		arp	<ch_name> <ip-addr>	send arp packet to ip-addr
		mem	<addr> <data> [type]	write memory data in address
	test		<ch_id> <test_id> [arg3] [arg4]	do LAN test
	pncconfig		<ch_name>	do pnc config
	mac		<src_ch> <dest_ch> <ipaddr>	fake mac address

## WAN Related Command

[Home](#)

Command				Description
wan	adsl	bert		ADSL ber
		chandata		ADSL channel data, line rate
		close		Close ADSL line
		coding		ADSL standard current
		ctrleint		ADSL CTRLE response command
		defbitmap		ADSL defect bitmap status
		dyinggasp		Send ADSL dyinggasp
		fwav		Test the ADSL F/W available ping
		fwdl		Download modem code, but must reset first
		linedata		
			near	Show ADSL near end noise margin
			far	Show ADSL far end noise margin
		open		Open ADSL line
		opencmd		Open ADSL line with specific standard
		opmode		Show the operational mode
		perfdata		Show performance information,CRC,FEC, error seconds..
		rdata	[start] [length]	Read DSP CTRLE registers 512 bytes
		reset		Reset ADSL modem, and must reload the modem code again

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		selftest		
			long	ADSL long loop test
			short	ADSL short loop test
		status		ADSL status (ex: up, down or wait for init)
		version		ADSL version information
		vendorid		ADSL vendor information
		utopia		Show ADSL utopia information
		cellcnt		Show ADSL cell counter
		display		
			shutdown	Show the counter of rate adaptive mechanism happening
			rateup	Show real status that rate adaptive mechanism happened
		rateadap	[on/off]	Turn on/off rate adaptive mechanism
		dumpcondition	[on/off]	Turn on/off online debug information of rate adaptive mechanism
		sampletime	[mins]	Tune the sample time of rate adaptive mechanism
		noisegt	[dB]	if noise margin is 3db greater than before, and rate is worse than before, then system will do “L1 shutdown RA3”, default is 3db
		noisemargin	[dB]	if noise margin is greater than this value, and rate is worse than before, then system will do “L1 shutdown RA3”, default is 8db
		persisttime	[time]	when the adaptive condition is matched system will continue to monitor the time period “persisttime” before doing “L1 shutdown RA3”, default is 30 seconds
		timeinterval	[mins]	when “L1 shutdown RA3” is done twice, and still can’t reach the max rate which system recorded, it will delay a time period that the period base time is “timeinterval” before starting again. The time-based default is 2 hrs
		defectcheck	[on/off]	Turn on/off detect table checking, default is on
		txgain	[value]	Set the CTRL register (0xc3), the value is from 0xfa to 0x06
		targetnoise	[value]	Set the CTRL register (0xc4), the value is from 0xfa to 0x06
		maxtonelimit	[value]	Set the CTRL register (0xc5), the value is from 0xfa to 0x06
		rxgain	[value]	Set the CTRL register (0xc6), the value is from 0xfa to 0x06
		txoutputpwr	[value]	Set the CTRL register (0xc7), the value is from 0xfa to 0x06
		rxoutputpwr	[value]	Set the CTRL register (0xc8), the value is from 0xfa to 0x06
		maxoutputpwr	[value]	Set the CTRL register (0xc9), the value is from 0xfa to 0x06
		errorsecond		
			sendes	Send current error second information immediately
		dygasprecover		
		dygasprecover	level [value]	By default is 100, after receiving 100 dying gasp system will reboot
		dygasprecover	active [on/off]	Turn on/off this mechanism



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		rsploss	[1 0]	Turn on means to response signal loss of CTRL E immediately, default is off
	atm	test	[fix rand period oam loopback]	Generate ATM traffic
	hwsar	disp		Display hwsar packets incoming/outgoing information
		clear		Clear hwsar packets information

**WLAN Related Command**[Home](#)

Command				Description
Wlan				
	active	[on off]	[0 1]	Turn on/off wireless lan
	association			Show association list
	load			Load WLAN configuration into buffer.
	Display			Display WLAN configuration data.
	chid			Configure channel ID
	essid			Configure ESSID
	hiddenssid		[on/off]	Enable/Disable hidden SSID
	threshold			
		rts	<RTS threshold value>	Set threshold rts value
		Fragment	<Fragment threshold value>	Set threshold fragmentation value
	wep			
		type	<none 64 128 256>	Set WEP key to 64, 128 or 256 bits.
		Key	Set <set> <value>	Set WEP key value per set
		Key	Default <set>	Set WEP default key set
	macfilter			
		Enable		Enable macfilter
		Disable		Disable macfilter
		Action	<allow deny>	When action match, allow or deny this mac
		Set	<Set#> <MAC Address>	Set mac address by set
	Clear			Clear all WLAN configuration data.
	Save			Save WLAN configuration working buffer to Rom file.
	Power		[1:19dbm, 2:18dbm, 3:16dbm, 4:15dbm, 5:14dbm]	Change TX power level.
	reset			Reset WLAN
	filter			
		[incoming   outgoing]	<generic>[set#1][set#2][set#3][set#4]	To set generic filter for wireless channel
	fildisp			Display wireless filter setting
	1130cmd			Internal usage.
		restart_stat		Show WLAN restart statistics
		chg_dot11mode		Set WLAN state to mix mode, B only or G only
		show_rxDesc		Show number of Rx host descriptors
		acxstat		Show acx run time statistics

**IP Related Command**[Home](#)

Command				Description
ip				
	address		[addr]	display host ip address
	<a href="#">loopbackaddr</a>		<IP1> [IP2]	<a href="#">Set loopback address.</a>
	alias		<iface>	alias iface

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	aliasdis		<0 1>	disable alias
	arp			
		status	<iface>	display ip arp status
		add	<hostid> ether <ether addr>	add arp information
		resolve	<hostid>	resolve ip-addr
		drop	<hostid> [hardware]	drop arp
		flush		flush arp table
		publish		add proxy arp
	dhcp		<iface>	
		client		
			release	release DHCP client IP
			renew	renew DHCP client IP
		mode	<server relay none client>	set dhcp mode
		relay	server <serverIP>	set dhcp relay server ip-addr
		reset		reset dhcp table
		server		
			probecount <num>	set dhcp probe count
			dnsserver <IP1> [IP2] [IP3]	set dns server ip-addr
			winsserver <winsIP1> [<winsIP2>]	set wins server ip-addr
			gateway <gatewayIP>	set gateway
			hostname <hostname>	set hostname
			initialize	fills in DHCP parameters and initializes (for PWC purposes)
			leasetime <period>	set dhcp leasetime
			netmask <netmask>	set dhcp netmask
			pool <startIP> <numIP>	set dhcp ip pool
			renewaltime <period>	set dhcp renew time
			rebindtime <period>	set dhcp rebind time
			reset	reset dhcp table
			server <serverIP>	set dhcp server ip for relay
			dnsorder [router isp]	set dhcp dns order
		status	[option]	show dhcp status
		static		
			delete <num> all	delete static dhcp mac table
			display	display static dhcp mac table
			update <num> <mac> <ip>	update static dhcp mac table
	dns			
		query		
			address <ipaddr> [timeout]	resolve ip-addr to name
			debug <num>	enable dns debug value
			name <hostname> [timeout]	resolve name to ip-addr
			status	display dns query status
			table	display dns query table
		server	<primary> [secondary] [third]	set dns server
		stats		
			clear	clear dns statistics
			disp	display dns statistics
		table		display dns table
	httpd			
		debug	[on off]	set http debug flag
	icmp			
		echo	[on off]	set icmp echo response flag
		data	<option>	select general data type

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		status		display icmp statistic counter
		trace	[on/off]	turn on/off trace for debugging
		discovery	<iface> [on/off]	set icmp router discovery flag
	ifconfig		[iface] [ipaddr] [broadcast <addr>  mtu <value> dynamic]	configure network interface
	ifdrop		<iface>	check if iface is available.
	ping		<hostid>	ping remote host
	pong		<hostid> [<size> <time-interval>]	pong remote host
	extping		<target address>	
			[-t]	Continue to send ECHO_REQ until Ctrl-C input
			[-c]	Validate the reply data
			[-d] [Data]	Data pattern. The maximum length of data is 255 characters.
			[-f]	Set DF flag.
			[-l] [Data size]	Datagram size in bytes (with 28 bytes Header).
			[-v] [TOS value]	Specify the value of TOS flag.
			[-n] [Repeat value]	The number of times to send ECHO_REQ packet.
			[-w] [Timeout value]	Specify the value of Timeout in seconds.
			[-o] [IP address/IFace]	To specify one IP address or interface to be the Source IP address.
			[-p] [Min MTU] [Max MTU] [Interval size]	Sweep range of sizes.
	route			
		status	[if]	display routing table
		add	<dest_addr default>[/<bits> <gateway> [<metric>]	add route
		addiface	<dest_addr default>[/<bits> <gateway> [<metric>]	add an entry to the routing table to iface
		addprivate	<dest_addr default>[/<bits> <gateway> [<metric>]	add private route
		drop	<host addr> [/<bits>]	drop a route
		flush		flush route table
		lookup	<addr>	find a route to the destination
		errcnt		
			disp	display routing statistic counters
			clear	clear routing statistic counters
	status			display ip statistic counters
	adjTcp		<iface> [<mss>]	adjust the TCP mss of iface
	udp			
		status		display udp status
	rip			
		accept	<gateway>	drop an entry from the RIP refuse list
		activate		enable rip
		merge	[on/off]	set RIP merge flag
		refuse	<gateway>	add an entry to the rip refuse list
		request	<addr> [port]	send rip request to some address and port
		reverse	[on/off]	RIP Poisoned Reverse
		status		display rip statistic counters
		trace		enable debug rip trace
		mode		
			<iface> in [mode]	set rip in mode
			<iface> out [mode]	set rip out mode
		dialin_user	[show/in/out/both/none]	show dialin user rip direction

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	tcp			
		ceiling	[value]	TCP maximum round trip time
		floor	[value]	TCP minimum rtt
		irtt	[value]	TCP default init rtt
		kick	<tcb>	kick tcb
		limit	[value]	set tcp output window limit
		max-incomplete	[number]	Set the maximum number of TCP incomplete connection.
		mss	[value]	TCP input MSS
		reset	<tcb>	reset tcb
		rtt	<tcb> <value>	set round trip time for tcb
		status	[tcb] [<interval>]	display TCP statistic counters
		syndata	[on/off]	TCP syndata piggyback
		trace	[on/off]	turn on/off trace for debugging
		window	[tcb]	TCP input window size
	samenet		<iface1> [<iface2>]	display the ifaces that in the same net
	uninet		<iface>	set the iface to uninet
	tftp			
		support		prtn if tfpt is support
		stats		display tftp status
	xparent			
		join	<iface1> [<iface2>]	join iface2 to iface1 group
		break	<iface>	break iface to leave ipxparent group
	antiprobe		<0 1> 1:yes 0:no	set ip anti-probe flag
	anyip			
		status		display that if any ip work now
		enable	[yes/no]	enbale disable anyop feature
		display		display all any ip entry
		restrict	[yes/no]	restrict the connection between any ip client
		flush		delete all any ip entry
		save		Save any ip enable status to rom
	igmp			
		debug	[level]	set igmp debug level
		forwardall	[on/off]	turn on/off igmp forward to all interfaces flag
		querier	[on/off]	turn on/off igmp stop query flag
		iface		
			<iface> grouptm <timeout>	set igmp group timeout
			<iface> interval <interval>	set igmp query interval
			<iface> join <group>	join a group on iface
			<iface> leave <group>	leave a group on iface
			<iface> query	send query on iface
			<iface> rsptime [time]	set igmp response time
			<iface> start	turn on of igmp on iface
			<iface> stop	turn off of igmp on iface
			<iface> ttl <threshold>	set ttl threshold
			<iface> v1compat [on/off]	turn on/off v1compat on iface
		robustness	<num>	set igmp robustness variable
		status		dump igmp status
	pr			
		clear		clear ip pr table counter information
		disp		dump ip pr table counter information
		switch		turn on/off ip pr table counter flag
	nat			
		timeout		

			gre [timeout]	set nat gre timeout value
			iamt [timeout]	set nat iamt timeout value
			generic [timeout]	set nat generic timeout value
			reset [timeout]	set nat reset timeout value
			tcp [timeout]	set nat tcp timeout value
			tcpother [timeout]	set nat tcp other timeout value
		update		create nat system information from spSysParam
		iamt		display nat iamt information
		iface	<iface>	show nat status of an interface
		lookup	<rule set>	display nat lookup rule
		new-lookup	<rule set>	display new nat lookup rule
		loopback	[on/off]	turn on/off nat loopback flag
		reset	<iface>	reset nat table of an iface
		server		
			disp	display nat server table
			load <set id>	load nat server information from ROM
			save	save nat server information to ROM
			clear <set id>	clear nat server information
			edit active <yes/no>	set nat server edit active flag
			edit svrport <start port> [end port]	set nat server server port
			edit intport <start port> [end port]	set nat server forward port
			edit remotehost <start ip> [end ip]	set nat server remote host ip
			edit leasetime [time]	set nat server lease time
			edit rulename [name]	set nat server rule name
			edit forwardip [ip]	set nat server server ip
			edit protocol [protocol id]	set nat server protocol
		service		
			irc [on/off]	turn on/off irc flag
			sip active <1/0> (enable/disable)	Enable/disable SIP ALG
		resetport		reset all nat server table entries
		incikeport	[on/off]	turn on/off increase ike port flag

## PPP Related Command

[Home](#)

Command				Description
ppp				
	autotriggr			
		on	<remoteNodeIndex>	turn on packet trigger, default is enable
		off	<remoteNodeIndex>	turn off packet trigger
		status		show autotriggr status
	retry		<interval>	adjust PPP retrial interval

## Bridge Related Command

[Home](#)

Command				Description
bridge				
	mode		<1/0> (enable/disable)	turn on/off (1/0) LAN promiscious mode
	blt			related to bridge local table
		disp	<channel>	display blt data
		reset	<channel>	reset blt data
		traffic		display local LAN traffic table
		monitor	[on/off]	turn on/off traffice monotor. Default is off.
		time	<sec>	set blt re-init interval
	brt			related to bridge route table
		disp	[id]	display brt data

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		reset	[id]	reset brt data
	cnt			related to bridge routing statistic table
		disp		display bridge route counter
		clear		clear bridge route counter
	stat			related to bridge packet statistic table
		disp		display bridge route packet counter
		clear		clear bridge route packet counter
	disp			display bridge source table

**Radius Related Command**[Home](#)

Command				Description
radius				
	auth			show current radius authentication server configuration
	acco			show current radius accounting server configuration

**8021x Related Command**[Home](#)

Command				Description
8021x				
	debug	level	[debug level]	set ieee802.1x debug message level
		trace		show all supplications in the supplication table
		user	[username]	show the specified user status in the supplicant table

**Configuration Related Command**[Home](#)

Command					Description
config					The parameters of config are listed below.
edit	firewall	active <yes/no>			Activate or deactivate the saved firewall settings
retrieve	firewall				Retrieve current saved firewall settings
save	firewall				Save the current firewall settings
display	firewall				Displays all the firewall settings
		set <set#>			Display current entries of a set configuration; including timeout values, name, default-permit, and number of rules in the set.
		set <set#>	rule <rule#>		Display current entries of a rule in a set.
		attack			Display all the attack alert settings in PNC
		e-mail			Display all the e-mail settings in PNC
		?			Display all the available sub commands
		e-mail	mail-server <mail server IP>		Edit the mail server IP to send the alert
			return-addr <e-mail address>		Edit the mail address for returning an email alert
			e-mail-to <e-mail address>		Edit the mail address to send the alert
			policy <full   hourly   daily   weekly>		Edit email schedule when log is full or per hour, day, week.
			day <sunday   monday   tuesday>		Edit the day to send the log when the email policy is set to Weekly

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			wednesday   thursday   friday   saturday>		
			hour <0~23>		Edit the hour to send the log when the email policy is set to daily or weekly
			minute <0~59>		Edit the minute to send to log when the email policy is set to daily or weekly
			Subject <mail subject>		Edit the email subject
		attack	send-alert <yes no>		Activate or deactivate the firewall DoS attacks notification emails
			block <yes no>		Yes: Block the traffic when exceeds the tcp-max-incomplete threshold
					No: Delete the oldest half-open session when exceeds the tcp-max-incomplete threshold
			block-minute <0~255>		Only valid when sets 'Block' to yes. The unit is minute
			minute-high <0~255>		The threshold to start to delete the old half-opened sessions to minute-low
			minute-low <0~255>		The threshold to stop deleting the old half-opened session
			max-incomplete-high <0~255>		The threshold to start to delete the old half-opened sessions to max-incomplete-low
			max-incomplete-low <0~255>		The threshold to stop deleting the half-opened session
			tcp-max-incomplete <0~255>		The threshold to start executing the block field
		set <set#>	name <desired name>		Edit the name for a set
			default-permit <forward block>		Edit whether a packet is dropped or allowed when it does not match the default set
			icmp-timeout <seconds>		Edit the timeout for an idle ICMP session before it is terminated
			udp-idle-timeout <seconds>		Edit the timeout for an idle UDP session before it is terminated
			connection-timeout <seconds>		Edit the wait time for the SYN TCP sessions before it is terminated
			fin-wait-timeout <seconds>		Edit the wait time for FIN in concluding a TCP session before it is terminated
			tcp-idle-timeout <seconds>		Edit the timeout for an idle TCP session before it is terminated
			pnc <yes no>		PNC is allowed when 'yes' is set even there is a rule to block PNC
			log <yes no>		Switch on/off sending the log for matching the default permit
			rule <rule#>	permit <forward block>	Edit whether a packet is dropped or allowed when it matches this rule
				active <yes no>	Edit whether a rule is enabled or not
				protocol <0~255>	Edit the protocol number for a rule. 1=ICMP, 6=TCP, 17=UDP...
				log <none match not-match both>	Sending a log for a rule when the packet none matches not match both the rule
				alert <yes no>	Activate or deactivate the notification when a DoS attack occurs or there is a violation of any alert

					settings. In case of such instances, the function will send an email to the SMTP destination address and log an alert.
				srcaddr-single <ip address>	Select and edit a source address of a packet which complies to this rule
				srcaddr-subnet <ip address> <subnet mask>	Select and edit a source address and subnet mask if a packet which complies to this rule.
				srcaddr-range <start ip address> <end ip address>	Select and edit a source address range of a packet which complies to this rule.
				destaddr-single <ip address>	Select and edit a destination address of a packet which complies to this rule
				destaddr-subnet <ip address> <subnet mask>	Select and edit a destination address and subnet mask if a packet which complies to this rule.
				destaddr-range <start ip address> <end ip address>	Select and edit a destination address range of a packet which complies to this rule.
				tcp destport-single <port#>	Select and edit the destination port of a packet which comply to this rule. For non-consecutive port numbers, the user may repeat this command line to enter the multiple port numbers.
				tcp destport-range <start port#> <end port#>	Select and edit a destination port range of a packet which comply to this rule.
				udp destport-single <port#>	Select and edit the destination port of a packet which comply to this rule. For non-consecutive port numbers, users may repeat this command line to enter the multiple port numbers.
				udp destport-range <start port#> <end port#>	Select and edit a destination port range of a packet which comply to this rule.
				desport-custom <desired custom port name>	Type in the desired custom port name
delete	firewall	e-mail			Remove all email alert settings
		attack			Reset all alert settings to defaults
		set <set#>			Remove a specified set from the firewall configuration
		set <set#>	rule <rule#>		Remove a specified rule in a set from the firewall configuration
insert	firewall	e-mail			Insert email alert settings
		attack			Insert attack alert settings
		set <set#>			Insert a specified rule set to the firewall configuration
		set <set#>	rule <rule#>		Insert a specified rule in a set to the firewall configuration
cli					Display the choices of command list.

## Firewall Related Command

[Home](#)

Command				Description
sys				
	firewall			



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	acl		
		disp	Display specific ACL set # rule #, or all ACLs.
	active	<yes no>	Active firewall or deactivate firewall
	cnt		
		disp	Display firewall log type and count.
		clear	Clear firewall log count.
	pktdump		Dump the 64 bytes of dropped packet by firewall
	update		Update firewall
	dynamicrule		
	teprst		
		rst	Set TCP reset sending on/off.
		rst113	Set TCP reset sending for port 113 on/off.
		display	Display TCP reset sending setting.
	icmp		
	dos		
		smtp	Set SMTP DoS defender on/off
		display	Display SMTP DoS defender setting.
		ignore	Set if firewall ignore DoS in lan/wan/dmz/wlan
	ignore		
		triangle	Set if firewall ignore triangle route in lan/wan/dmz/wlan

## SMT Related command

[Home](#)

No	Command	Description	Comment
	sys bridge [on/off]	Set system bridge on/off	Menu 1
	sys routeip [on/off]	Set system IP routing on/off	Menu 1
	sys hostname [hostname]	Set system name	Menu 1
	sys display	Display hostname, routing/bridge mode information in menu 1	Display Menu 1
	sys default	Load All Default Settings Except LAN and DHCP.	
	sys save	Save all the parameters which will include menu1, menu 3.2 LAN, menu 4 or menu 11 WAN, menu 12 static route, menu 15 NAT server set, menu 21 filter sets, menu 22 SNMP, menu 24.11 remote management and 3.5 Wireless LAN	
	wan backup <a href="#">mechanism</a> [dsl   icmp]	Set wan backup mechanism to DSL link or ICMP	Menu 2
	wan backup addr [index] [IP addr]	Set wan ip address <index>	Menu 2
	wan backup tolerance [number]	Set keepalive fail tolerance	Menu 2
	wan backup recovery [interval(sec)]	Set recovery interval	Menu 2
	wan backup timeout [number]	Set ICMP timeout	Menu 2
	wan backup save	Save wan backup related parameters	Menu 2
	wan backup display	Display wan backup configurations	Menu 2
	wan tredir active [on/off]	Set traffic redirect on/off	Menu 2.1
	wan tredir ip [IP addr]	Set traffic redirect gateway IP address	Menu 2.1
	wan tredir metric [number]	Set traffic redirect metric	Menu 2.1
	<a href="#">wan tredir save</a>	<a href="#">Save traffic redirect related parameters</a> <b>** Have to apply “wan backup save” command thereafter</b>	<a href="#">Menu 2.1</a>
	wan tredir display	Display traffic redirect configurations	Menu 2.1
	lan index [1 2 3] 1: Select main LAN Interface 2: Select IP Alias 1	Select a LAN interface to edit	Menu 3.2

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	3: Select IP Alias 2		
	lan active [on off]	Turn on or off on IP Alias Interface	Menu 3.2.1
	lan ipaddr [address] [subnet mask]	Set LAN IP address and subnet mask Example: > lan ipaddr 192.168.1.1 255.255.255.0	Menu 3.2
	lan rip [none in out both] [rip1 rip2b rip2m]	Set LAN IP RIP mode and RIP version, if you choose none in the first parameter, the second parameter is also necessary	Menu 3.2
	lan multicast [none igmpv1 igmpv2]	Set LAN IP multicast mode	Menu 3.2
	lan filter [incoming outgoing] [tcpip generic] [set#1] [set#2] [set#3] [set#4]	Set LAN filter to be incoming/outgoing or protocol /device and the filter set could be 1-12, 0 means empty Example: Lan filter incoming tcpip 1 0 0 0	Menu 3.1
	lan dhcp mode [server relay none]	Set DHCP mode to be "server", "relay", "none"	Menu 3.2
	lan dhcp server dnsserver [pri dns] [sec dns]	Set primary and secondary LAN DNS server	Menu 3.2
	lan dhcp server pool [start-address] [num]	Set DHCP start address and pool size	Menu 3.2
	lan dhcp server gateway [IP address]	Set DHCP gateway	Menu 3.2
	lan dhcp server netmask [subnet mask]	Set DHCP subnet mask	Menu 3.2
	lan dhcp server leasetime [second]	Set DHCP lease time	Menu 3.2
	lan dhcp server renewalttime [second]	Set DHCP renew time	Menu 3.2
	lan dhcp server rebindtime [second]	Set DHCP rebind time	Menu 3.2
	lan dhcp relay server [IP address]	Set IP address of DHCP relay server	Menu 3.2
	lan display	Display LAN or IP alias parameters	Display Menu 3
	lan clear	Clear the Working Buffer	
	lan save	Save LAN related parameters	
	wan node index [1-8]	Set the node pointer to specific wan profile. If you want to set WAN profile, please use this command first, system will use the index number for pointing to specific PVC (remote node), and for consequent commands reference, if index = 1 means it's ISP node	Menu 11.1
	wan node clear	Clear the parameters of the temporary WAN profile	Menu 11.1
	wan node ispname [ISP name]	Enable the name of wan node	Menu 11.1
	wan node enable	Enable the wan profile	Menu 11.1
	wan node disable	Disable the wan profile	Menu 11.1
	wan node encap [1483 pppoa pppoe enet]	Set the wan protocol	Menu 11.1
	wan node mux [vc llc]	Set the wan multiplex	Menu 11.1
	wan node ppp authen [chap pap both]	Set PPP authentication type	Menu 11.1
	wan node ppp username [name]	Set PPP username	Menu 11.1
	wan node ppp password [password]	Set PPP password	Menu 11.1
	wan node service [name]	Set PPPoE service name	Menu 11.1
	wan node bridge [on off]	Set the wan bridge mode	Menu 11.1
	wan node routeip [on off]	Set the wan IP routing mode	Menu 11.1
	wan node callsch [set1#][set2#][set3#][set4#]	Set call schedule set, set number 0 means empty	Menu 11.1
	wan node nailedup [on off]	Set nailed up connection on/off	Menu 11.1
	wan node vpi [num]	Set the wan vpi. Range : 0~255	Menu 11.6
	wan node vci [num]	Set the wan vci. Range : 32~65535	Menu 11.6
	wan node qos[ubr cbr]	Set the wan QOS type to be UBR or CBR	Menu 11.6
	wan node pcr [num]	Set the wan PCR value	Menu 11.6
	wan node scr [num]	Set the wan SCR value	Menu 11.6
	wan node mbs [num]	Set the wan MBS value	Menu 11.6
	wan node wanip [static dynamic] [address]	Set the wan IP address	Menu 11.3
	wan node remoteip [address] [subnet mask]	Set the remote gateway IP address and subnet mask	Menu 11.3

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	wan node nat [off   sua   full] [address mapping #]	Set type wan NAT mode to be off or SUA or Full feature	Menu 11.3
	wan node rip [none in out both] [rip1 rip2b rip2m]	Set the wan RIP mode and RIP version	Menu 11.3
	wan node multicast [none igmpv1 igmpv2]	Set the wan IP multicast mode	Menu 11.3
	wan node filter [incoming outgoing] [tcpip generic] [set #1] [set #2] [set #3] [set #4]	Set WAN filter, incoming or outgoing can be specified, and filter set can be 1-12, value 0 means empty	Menu 11.5
	wan node save	Save the related parameters of WAN node	
	wan node display	Display WAN profile configuration in buffer	Display Menu 11
	ip route addrom index [Rule #]	Select a Static Route index 1-16 to edit	Menu 12.1
	ip route addrom name [Name]	Set Rule Name	Menu 12.1
	ip route addrom active [on off]	Set Active or Inactive Flag	Menu 12.1
	ip route addrom set [dest address/ mask bits] [gateway] [metric]	Set IP static route Example: > ip ro addrom set 192.168.1.33/24 192.168.1.1 2	Menu 12.1
	ip route addrom private [yes no]	Set Private Flag	Menu 12.1
	ip route addrom disp	Display both working buffer and Editing Entry	Menu 12.1
	ip route addrom freememory	Discard all changes	Menu 12.1
	ip route addrom save	Save edited settings	Menu 12.1
	ip route addrom clear [Index #]	Clear Static Route Index	Menu 12.1
	ip nat addrmap map [map#] [set name]	Select NAT address mapping set and set mapping set name, but set name is optional Example: > ip nat addrmap map 1 myset	Menu 15.1
	ip nat addrmap rule [rule#] [insert   edit] [type] [local start IP] [local end IP] [global start IP] [global end IP] [server set #]	Set NAT address mapping rule. If the “type” is not “inside-server” then the “type” field will still need a dummy value like “0”. Type is 0 - 4 = one-to-one, many-to-one, many-to-many-overload, many-to-many-non overload, inside-server Example: > ip nat addrmap rule 1 edit 3 192.168.1.10 192.168.1.20 192.168.10.56 192.168.1.56 0	Menu 15.1
	ip nat addrmap clear [map#] [rule#]	Clear the selected rule of the set	Menu 15.1
	ip nat addrmap freememory	Discard Changes	Menu 15.1
	ip nat addrmap disp	Display nat set information	Menu 15.1
	ip nat addrmap save	Save settings	Menu 15.1
	ip nat server load [set#]	Load the server sets of NAT into buffer	Menu 15.2
	ip nat server disp [1]	“disp 1” means to display the NAT server set in buffer, if parameter “1” is omitted, then it will display all the server sets	Menu 15.2
	ip nat server save	Save the NAT server set buffer into flash	Menu 15.2
	ip nat server clear [set#]	Clear the server set [set#], must use “save” command to let it save into flash	Menu 15.2
	ip nat server edit [rule#] active	Activate the rule [rule#], rule number is 1 to 24, the number 25-36 is for UPNP application	Menu 15.2
	ip nat server edit [rule#] svrport <start port> <end port>	Configure the port range from <start port> to <end port>	Menu 15.2
	ip nat server edit [rule#] remotehost <start IP> <end IP>	Configure the IP address range of remote host (Leave it to be default value if you don’t need this command)	Menu 15.2
	ip nat server edit [rule#] leasetime <seconds>	Configure the lease time (Leave it to be default value if you don’t want this command)	Menu 15.2

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	ip nat server edit [rule#] rulename <string>	Configure the name of the rule (Leave it to be default value if you don't want this command)	Menu 15.2
	ip nat server edit [rule#] forwardip <IP address>	Configure the LAN IP address to be forwarded	Menu 15.2
	ip nat server edit [rule#] protocol <TCP UDP ALL>	Configure the protocol to be used TCP , UDP or ALL (it must be capital)	Menu 15.2
	sys filter set index [set#] [rule#]	Set the index of filter set rule, you may apply this command first before you begin to configure the filter rules	Menu 21 filter sets
	sys filter set name [set name]	Set the name of filter set	Menu 21 filter sets
	sys filter set type [tcpip   generic]	Set the type of filter rule	Menu 21 filter sets
	sys filter set enable	Enable the rule	Menu 21 filter sets
	sys filter set disable	Disable the rule	Menu 21 filter sets
	sys filter set protocol [protocol #]	Set the protocol ID of the rule	Menu 21 filter sets
	sys filter set sourceroute [yes no]	Set the sourceroute yes/no	Menu 21 filter sets
	sys filter set destip [address] [subnet mask]	Set the destination IP address and subnet mask of the rule	Menu 21 filter sets
	sys filter set destport [port#] [compare type = none equal notequal less greater]	Set the destination port and compare type (compare type could be 0(none) 1(equal) 2(not equal) 3(less) 4(greater) )	Menu 21 filter sets
	sys filter set srcip [address] [subnet mask]	Set the source IP address and subnet mask	Menu 21 filter sets
	sys filter set srcport [port#] [compare type = none equal not equal less greater]	Set the source port and compare type (compare type could be 0(none) 1(equal) 2(not equal) 3(less) 4(greater) )	Menu 21 filter sets
	sys filter set tcpEstab [yes no]	Set TCP establish option	
	sys filter set more [yes no]	Set the more option to yes/no	Menu 21 filter sets
	sys filter set log [type 0-3= none   match  notmatch   both ]	Set the log type (it could be 0-3 =none, match, not match, both)	Menu 21 filter sets
	sys filter set actmatch[type 0-2 = checknext   forward   drop]	Set the action for match	Menu 21 filter sets
	sys filter set actnomatch [type 0-2 = checknext   forward   drop]	Set the action for not match	Menu 21 filter sets
	sys filter set offset [#]	Set offset for the generic rule	Menu 21, it's for generic filter
	sys filter set length [#]	Set the length for generic rule	Menu 21, it's for generic filter
	sys filter set mask [#]	Set the mask for generic rule	Menu 21, it's for generic filter
	sys filter set value [(depend on length in hex)]	Set the value for generic rule	Menu 21, it's for generic filter
	sys filter set clear	Clear the current filter set	Menu 21
	sys filter set save	Save the filter set parameters	
	sys filter set display [set#][rule#]	Display Filter set information. W/o parameter, it will display buffer information.	
	sys filter set freememory	Discard Changes	
	sys snmp disp	Display SNMP parameters	Menu 22
	sys snmp get [community]	Set the community string of get	Menu 22 SNMP
	sys snmp set [community]	Set the community string of set	Menu 22 SNMP
	sys snmp trusthost [IP address]	Set the IP address of trusted host	Menu 22 SNMP
	sys snmp trap community [community]	Set the community string of trap	Menu 22 SNMP
	sys snmp trap destination [IP address]	Set the destination address of trap	Menu 22 SNMP
	sys snmp discard	Discard changes	
	sys snmp clear	Clear Working Buffer	
	sys snmp save	Set the SNMP parameters	Menu 22 SNMP
	sys password [new password]	Set system password [save immediately]	Menu 23 system password

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	sys baud [1-5]	Index 12,3 will be 38400,19200, 9600, 57600, 115200 bps [save immediately]	Menu 24.2.2 console speed
	sys server load	Load setting before editing	
	sys server access [ftp telnet web] [access type]	Set the server access type to be 0: ALL, 1: None, 2:LAN only, 3:WAN only	Menu 24.11 remote management
	sys server port [ftp telnet web] [port]	Set the server port number	Menu 24.11 remote management
	sys server secureip[ftp telnet web] [address]	Set the server security IP address	Menu 24.11 remote management
	sys server disp [1]	Display server settings, [1] means display buffer	
	sys server save	Save the embedded server (remote management) parameters	
	wlan load	Load system parameters into working buffer	Menu 3.5 for Wireless LAN
	wlan disp	Display the working buffer	Menu 3.5 for Wireless LAN
	wlan essid [name]	Set the wireless ESSID	Menu 3.5 for wireless LAN
	wlan hideessid [on off]	Set to hide ESSID or not	Menu 3.5 for wireless LAN
	wlan chid [#=1~11]	Set channel ID 1-11	Menu 3.5 for wireless LAN
	wlan threshold rts [value]	Set the RTS threshold value	Menu 3.5 for wireless LAN
	wlan threshold fragment [value]	Set fragment threshold	Menu 3.5 for wireless LAN
	wlan wep type [none 64 128]	Set the wep type to be none, 64bit or 128bits	Menu 3.5 for wireless LAN
	wlan wep key set [key set#1-4] [key value]	Set wep key value	Menu 3.5 for wireless LAN
	wlan wep key default [key set # 1-4]	Set default key set value	Menu 3.5 for wireless LAN
	wlan macfilter enable	Enable mac filter	Menu 3.5.1 for wireless LAN
	wlan macfilter disable	Disable mac filter	Menu 3.5.1 for wireless LAN
	wlan macfilter action [allow deny]	Set the action type of filter	Menu 3.5.1 for wireless LAN
	wlan macfilter set [set# 1-12] [mac address]	Set the mac address of filter	Menu 3.5.1 for wireless LAN
	wlan clear	Clear Working Buffer	
	wlan save	Save wireless MAC filter parameters	

**Bandwidth Management**

Command					Description
bm					
	interface	lan	enable	<bandwidth xxx>	Enable bandwidth management in LAN with bandwidth xxx bps. If the user doesn't set the bandwidth, the default value is 100Mbps.
				<wrr pr>	Select fairness-based(WRR) or priority-based(PRR) mechanism. the default

						value is fairness-based.
				<efficient>		Enable work-conserving feature.
			disable			Disable bandwidth management in LAN
		wlan	enable	<bandwidth xxx>		Enable bandwidth management in WLAN with bandwidth xxx bps. If the user doesn't set the bandwidth, the default value is 100Mbps.
				<wrr pr>		Select fairness-based(WRR) or priority-based(PRR) mechanism. the default value is fairness-based.
				<efficient>		Enable work-conserving feature.
			disable			Disable bandwidth management in WLAN
		mpoa[00~07]	enable	<bandwidth xxx>		Enable bandwidth management in WAN with bandwidth xxx bps. If the user doesn't set the bandwidth, the default value is 100Mbps.
				<wrr pr>		Select fairness-based(WRR) or priority-based(PRR) mechanism. the default value is fairness-based.
				<efficient>		Enable work-conserving feature.
			disable			Disable bandwidth management in WAN
	class	lan	add #	bandwidth xxx	<name xxx>	Add a class with bandwidth xxx bps in LAN. The name is for users' information.
					<priority x>	Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The default value is 3.
					<borrow on off>	The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The default value is off.
			mod #	<bandwidth xxx>		Modify the parameters of the class in LAN. The bandwidth is unchanged if the user doesn't set a new value.
				<name xxx>		Set the class' name.
				<priority x>		Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The priority is unchanged if the user doesn't set a new value.
				<borrow on off>		The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The borrow is unchanged if the user doesn't set a new value.
			del #			Delete the class # and its filter and all its children class and their filters in LAN.
		wlan	add #	bandwidth xxx	<name xxx>	Add a class with bandwidth xxx bps in WLAN. The name is for users' information.
					<priority x>	Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The default value is 3.
					<borrow on off>	The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The default value is off.
			mod #	<bandwidth xxx>		Modify the parameters of the class in WLAN. The bandwidth is unchanged if the user doesn't set a new value.
				<name xxx>		Set the class' name.
				<priority x>		Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The priority is unchanged if the user doesn't set a new value.

				<borrow on off>		The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The borrow is unchanged if the user doesn't set a new value.
			del #			Delete the class # and its filter and all its children class and their filters in WLAN.
		mpoa[00~07]	add #	bandwidth xxx	<name xxx>	Add a class with bandwidth xxx bps in WAN. The name is for users' information.
					<priority x>	Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The default value is 3.
					<borrow on off>	The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The default value is off.
			mod #	<bandwidth xxx>		Modify the parameters of the class in WAN. The bandwidth is unchanged if the user doesn't set a new value.
				<name xxx>		Set the class' name.
				<priority x>		Set the class' priority. The range is between 0 (the lowest) to 7 (the highest). The priority is unchanged if the user doesn't set a new value.
				<borrow on off>		The class can borrow bandwidth from its parent class when the borrow is set on, and vice versa. The borrow is unchanged if the user doesn't set a new value.
			del #			Delete the class # and its filter and all its children class and their filters in WAN.
	filter	lan	add #	Daddr <mask Dmask> Dport Saddr <mask Smask> Sport protocol		Add a filter for class # in LAN. The filter contains destination address (netmask), destination port, source address (netmask), source port and protocol. You may set the value as 0 if you do not care the item.
			del #			Delete a filter which belongs to class # in LAN.
		wlan	add #	Daddr <mask Dmask> Dport Saddr <mask Smask> Sport protocol		Add a filter for class # in WLAN. The filter contains destination address (netmask), destination port, source address (netmask), source port and protocol. You may set the value as 0 if you do not care the item.
			del #			Delete a filter which belongs to class # in WLAN.
		mpoa[00~07]	add #	Daddr <mask Dmask> Dport Saddr <mask Smask> Sport protocol		Add a filter for class # in WAN. The filter contains destination address (netmask), destination port, source address (netmask), source port and protocol. You may set the value as 0 if you do not care the item.
			del #			Delete a filter which belongs to class # in WAN.
	show	interface	lan			Show the interface settings of LAN
			wlan			Show the interface settings of WLAN
			mpoa[00~07]			Show the interface settings of WAN
		class	lan			Show the classes settings of LAN
			wlan			Show the classes settings of WLAN
			mpoa[00~07]			Show the classes settings of WAN
		filter	lan			Show the filters settings of LAN
			wlan			Show the filters settings of WLAN

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			mpoa[0 0~07]			Show the filters settings of WAN
		statistics	lan			Show the statistics of the classes in LAN
			wlan			Show the statistics of the classes in WLAN
			mpoa[0 0~07]			Show the statistics of the classes in WAN
	monitor	lan	<#>			Monitor the bandwidth of class # in LAN. If the class is not specific, all the classes in LAN will be monitored. The first time you key the command will set it on; the second time you will set it off, and so on.
		wlan	<#>			Monitor the bandwidth of class # in WLAN. If the class is not specific, all the classes in WLAN will be monitored. The first time you key the command will set it on; the second time you will set it off, and so on.
		mpoa[00~ 07]	<#>			Monitor the bandwidth of class # in WAN. If the class is not specific, all the classes in WAN will be monitored. The first time you key the command will set it on; the second time you will set it off, and so on.
	config	save				Save the configuration.
		load				Load the configuration.
		clear				Clear the configuration.