

TrendChip ADSL WLAN Router

CI Command Reference Manual

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Table of Contents

1	REVISION HISTORY	10
2	REFERENCES	11
3	ABBREVIATIONS	12
4	GENERAL DESCRIPTION	13
5	CI COMMAND REFERENCE	14
5.1	Command Interpreter Mode	14
5.1.1.	Command Syntax and General User Interface.....	14
5.1.2.	System Related Commands	14
5.1.3.	TCP/IP Protocol Commands.....	15
5.1.4.	Ether debug Commands.....	15
5.1.5.	WAN ADSL Commands	16
5.1.6.	WAN PVC Commands.....	16
5.1.7.	LAN Commands.....	17
5.1.8.	WLAN Commands	17
5.1.9.	Other Commands	17
5.1.10.	CWMP (TR069) Commands	18
6	COMMAND LISTING	19
6.1	sys adjtime.....	19
6.2	sys countrycode	20
6.3	sys cpu display.....	21
6.4	sys date.....	22
6.5	sys edit	23
6.6	sys feature.....	24
6.7	sys hostname.....	25
6.8	sys log clear	26
6.9	sys log disp.....	27
6.10	sys log online	28

6.11	sys socket	29
6.12	sys stdio.....	30
6.13	sys time	31
6.14	sys version	32
6.15	sys view	33
6.16	sys wdog switch	34
6.17	sys wdog cnt.....	35
6.18	sys romreset.....	36
6.19	sys atsh.....	37
6.20	sys password.....	38
6.21	sys reboot.....	39
6.22	sys cwmp disp.....	40
6.23	show channel display	41
6.24	show channel clear.....	42
6.25	show all	43
6.26	show wan node	44
6.27	show lan	45
6.28	ip address.....	46
6.29	ip dns stats disp	47
6.30	ip ifconfig.....	48
6.31	ip ping	49
6.32	ip route status.....	50
6.33	ip route add	51
6.34	ip route addiface	52
6.35	ip route addprivate	53

6.36	ip route drop	54
6.37	ip status.....	55
6.38	ip udp status	56
6.39	ip tcp status	57
6.40	ip igmp debug.....	58
6.41	ip igmp forwardall.....	59
6.42	ip igmp querier	60
6.43	ip igmp iface	61
6.44	ip igmp robustness	63
6.45	ip igmp status	64
6.46	ip igmpsnoop active	65
6.47	ip igmpsnoop debug.....	66
6.48	ip igmpsnoop disp	67
6.49	ether config.....	68
6.50	ether driver cnt disp	69
6.51	ether driver status.....	70
6.52	ether driver config	71
6.53	ether driver wan2lan	72
6.54	wan adsl chandata	73
6.55	wan adsl close.....	74
6.56	wan adsl open.....	75
6.57	wan adsl linedata	76
6.58	wan adsl opencmd.....	77
6.59	wan adsl opmode.....	78
6.60	wan adsl perpdata	79

6.61	wan adsl reset.....	80
6.62	wan adsl status	81
6.63	wan adsl nearituid	82
6.64	wan adsl farituid	83
6.65	wan adsl diag.....	84
6.66	wan adsl fwversion	85
6.67	wan adsl uptime	86
6.68	wan hwsar disp	87
6.69	wan hwsar clear	88
6.70	wan node index	89
6.71	wan node display.....	90
6.72	wan node clear	91
6.73	wan node save	92
6.74	wan node ispname.....	93
6.75	wan node enable.....	94
6.76	wan node disable.....	95
6.77	wan node encap.....	96
6.78	wan node mux	97
6.79	wan node vpi	98
6.80	wan node vci.....	99
6.81	wan node qos.....	100
6.82	wan node pcr	101
6.83	wan node scr.....	102
6.84	wan node mbs.....	103
6.85	wan node cvdt	104

6.86	wan node wanip	105
6.87	wan node remoteip	106
6.88	wan node bridge.....	107
6.89	wan node routeip	108
6.90	wan node nat	109
6.91	wan node rip.....	110
6.92	wan node multicast	111
6.93	wan node service	112
6.94	wan node nailedup	113
6.95	wan node ppp idletime	114
6.96	wan node ppp authen	115
6.97	wan node ppp username.....	116
6.98	wan node ppp password	117
6.99	wan node mtu.....	118
6.100	wan node default_r	119
6.101	Example 1 for wan node.....	120
6.102	Example 2 for wan node.....	121
6.103	Example 3 for wan node.....	122
6.104	lan.....	123
6.105	rtwlan rtdisp.....	124
6.106	rtwlan enableap	125
6.107	rtwlan disableap.....	126
6.108	rtwlan ssid	127
6.109	rtwlan channel	128
6.110	rtwlan hidessid	129

6.111	rtwlan authmode.....	130
6.112	rtwlan encryptype.....	131
6.113	rtwlan key1.....	132
6.114	rtwlan wpapsk.....	133
6.115	rtwlan defaultkeyid.....	134
6.116	rtwlan setbssidnum.....	135
6.117	rtwlan wirelessmode.....	136
6.118	rtwlan accesspolicy.....	137
6.119	rtwlan aclist.....	138
6.120	rtwlan noforwarding.....	139
6.121	rtwlan isolatebtbnsses.....	140
6.122	rtwlan aclist.....	141
6.123	rtwlan fragthreshold.....	142
6.124	rtwlan rtsthreshold.....	143
6.125	rtwlan dtimperiod.....	144
6.126	rtwlan beaconperiod.....	145
6.127	Example 1 for WLAN setting.....	146
6.128	Example 2 for WLAN setting.....	147
6.129	Example 3 for WLAN setting.....	148
6.130	Example 4 for WLAN setting.....	149
6.131	ftp.....	150
6.132	sys cwmp switch.....	151
6.133	sys cwmp disp.....	152
6.134	sys cwmp acsurl.....	153
6.135	sys cwmp acspath.....	154

6.136	sys cwmp acsport	155
6.137	sys cwmp acsusername	156
6.138	sys cwmp acspassword	157
6.139	sys cwmp cpepath	158
6.140	sys cwmp cpeport.....	159
6.141	sys cwmp connreqauth	160
6.142	sys cwmp cpeusername	161
6.143	sys cwmp cpepassword.....	162
6.144	sys cwmp prdinterval	163
6.145	sys cwmp prdenable.....	164
6.146	sys cwmp oui	165
6.147	sys cwmp prvcode	166
6.148	sys cwmp manufacturer	167
6.149	sys cwmp modelname	168
6.150	sys cwmp productclass	169

1 Revision History

Date	Release	Description
April 8, 2003	1.0	File creation
July 8, 2003	1.1	Release version after review
March 4, 2009	1.2	Revision
March 20, 2009	1.3	Add some commands
April 28, 2009	1.4	Add TR069 configuration commands

2 References

- [1] TrendChip, “WireExpress Product Brief, version 0.2”, October 2002
- [2] ITU-T Recommendation G.992.1 “Asymmetrical Digital Subscriber Line (ADSL) Transceivers”
- [3] ITU-T Recommendation G.994.1 “Handshake Procedures for Digital Subscriber Line (DSL) Transceivers”
- [4] ITU-T Recommendation G.997.1 “Physical Layer Management for Digital Subscriber Line (DSL) Transceivers”
- [5] ITU-T Recommendation I.361: “B-ISDN ATM Layer Specification”.
- [6] ITU-T Recommendation I.363.5 (1996): “B-ISDN ATM Adaptation Layer Specification: Type 5 AAL”.
- [7] ITU-T Recommendation I.432.5: “B-ISDN User-Network Interface – Physical Layer Specification: 25600 kbit/s Operation”.
- [8] ITU-T Recommendation I.610 (1998): “B-ISDN Operation and Maintenance Principles and Functions Abstract”.
- [9] Internet Engineering Task Force RFC 2684, “Multiprotocol Encapsulation over ATM Adaptation Layer 5”, D. Grossman, J. Heinanen, September 1999

3 Abbreviations

AAL	ATM Adaptation Layer
ADSL	Asymmetric Digital Subscriber Line
AN-IWF	Access Network Interworking Function
ATM	Asynchronous Transfer Mode
ATU-C	ADSL Terminal Unit – Central
ATU-R	ADSL Terminal Unit – Remote
BLES	Broadband Loop Emulation Service
B-NT	Broadband Network Termination
CLASS	Custom Local Area Signaling Service
CO	Central Office
CO-IWF	Central Office Interworking Function
CPE	Customer Premises Equipment
CP-IWF	Customer Premises Interworking Function
DSL	Digital Subscriber Line
DSLAM	DSL Access Multiplexer
DTMF	Dual-Tone Multifrequency
E&M	Ear and Mouth
FXO	Foreign Exchange Office
FXS	Foreign Exchange Station
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
IWF	Interworking Function
LAN	Local Area Network
MIB	Management Information Base
NT	Network Termination
NTBBA	Network Termination Broadband Access
PBX	Private Branch Exchange
POTS	Plain Old Telephony Service
PPP	Point-to-Point Protocol
PSTN	Public Switched Telephone Network
PVC	Permanent Virtual Circuit
QoS	Quality of Service
SNMP	Simple Network Management Protocol
VAD	Voice Activity Detection
VC	Virtual Circuit
WAN	Wide Area Network
VMOA	Voice and Multimedia over ATM

4 General Description

This reference manual contains the descriptions of commands on Command Interpreter (CI) interface built-in on TrendChip's ADSL CPE chipset solution.

On the management interface, TrendChip ADSL router provides a console interface which can be accessed through terminal emulator program on RS-232 serial interface or through telnet protocol on LAN/WAN physical interfaces. TrendChip Router also provides the web page configuration through HTTP protocol. In this manual, we describe the command interface on the console port in details.

5 CI Command Reference

5.1 Command Interpreter Mode

The CI Commands can be divided into seven different categories:

- ♦ System Related Commands
- ♦ TCP/IP Protocol Commands
- ♦ Ether Debug Commands
- ♦ WAN ADSL Commands
- ♦ WAN PVC Commands
- ♦ LAN Commands
- ♦ WLAN Commands
- ♦ Other command

5.1.1. Command Syntax and General User Interface

CI has the following command syntax:

command <*iface* | *device*> **subcommand** [*param*]
command subcommand [*param*]

General user interface:

exit Use this command to exit from the CI Command environment

5.1.2. System Related Commands

sys adjtime
sys countrycode
sys cpu display
sys date
sys edit
sys feature
sys hostname
sys log clear
sys log disp
sys log online
sys socket
sys stdio
sys time
sys version
sys view
sys wdog switch
sys wdog cnt

sys romreset
sys atsh
sys password
sys reboot
sys cwpmp disp
show channel display
show channel clear
show all
show wan node
show lan

5.1.3. TCP/IP Protocol Commands

ip address
ip dns stats disp
ip ifconfig
ip ping
ip route status
ip route add
ip route addiface
ip route addprivate
ip route drop
ip status
ip udp status
ip tcp status
ip igmp debug
ip igmp forwarda
ip igmp querier
ip igmp iface
ip igmp robustness
ip igmp status
ip igmpsnoop active
ip igmpsnoop debug
ip igmpsnoop disp

5.1.4. Ether debug Commands

ether config
ether driver cnt disp
ether driver status
ether driver config
ether driver wan2lan

5.1.5. WAN ADSL Commands

wan adsl chandata
wan adsl close
wan adsl open
wan adsl linedata
wan adsl opencmd
wan adsl opmode
wan adsl perfdata
wan adsl reset
wan adsl status
wan adsl nearituid
wan adsl farituid
wan adsl diag
wan adsl fwversion
wan adsl uptime

5.1.6. WAN PVC Commands

wan hwsar disp
wan hwsar clear
wan node index
wan node display
wan node clear
wan node save
wan node ispname
wan node enable
wan node disable
wan node encap
wan node mux
wan node vpi
wan node vci
wan node qos
wan node pcr
wan node scr
wan node mbs
wan node cvdt
wan node wanip
wan node remoteip
wan node bridge
wan node routeip
wan node nat
wan node rip
wan node multicast
wan node service
wan node nailedup
wan node ppp idletime
wan node ppp authen
wan node ppp username

wan node ppp password
wan node mtu
wan node default_r
Example 1 for wan node
Example 2 for wan node
Example 3 for wan node

5.1.7. LAN Commands

lan

5.1.8. WLAN Commands

rtwlan rtdisp
rtwlan enableap
rtwlan disableap
rtwlan ssid
rtwlan channel
rtwlan hidessid
rtwlan authmode
rtwlan encryptype
rtwlan key1
rtwlan wpapsk
rtwlan defaultkeyid
rtwlan setbssidnum
rtwlan wirelessmode
rtwlan accesspolicy
rtwlan aclist
rtwlan noforwarding
rtwlan isolatebtnbs
rtwlan aclist
rtwlan fragthreshold
rtwlan rtsthreshold
rtwlan dtimperiod
rtwlan beaconperiod
Example 1 for WLAN setting
Example 2 for WLAN setting
Example 3 for WLAN setting
Example 4 for WLAN setting

5.1.9. Other Commands

ftp

5.1.10. CWMP (TR069) Commands

sys cwmp switch
sys cwmp disp
sys cwmp acsurl
sys cwmp acspath
sys cwmp acsport
sys cwmp acsusername
sys cwmp acspassword
sys cwmp cpepath
sys cwmp cpeport
sys cwmp connreqauth
sys cwmp cpeusername
sys cwmp cpepassword
sys cwmp prdinterval
sys cwmp prdenable
sys cwmp oui
sys cwmp prvcode
sys cwmp manufacturer
sys cwmp modelname
sys cwmp productclass

6 Command Listing

6.1 *sys adjtime*

Description There is no Real Time Chip (RTC) in the router, so there is a software mechanism to set the time manually or get the current time and date from an external server when you turn on your Router. So you can enter the time manually but each time the system is booted, the time and date will be reset to 2000/01/01 00:00:00.

Command Syntax `sys adjtime`

6.2 *sys countrycode*

Description In voice communications, the 1,2 or 3-digit number that precedes the national terminal number in the network user address (for public networks). Use this command to show and set the country code according to each local code.

Command Syntax *sys countrycode [countrycode]*

Parameters

Country	Country Code
Austria	233
Australia	244
Belgium	248
Czech Republic	246
Denmark	252
Finland	240
Germany	237
Greece	247
Holland	253
Hong Kong	242
Hungary	229
Japan	234
Malaysia	241
New Zealand	243
North America	255
Norway	245
Poland	231
Singapore	241
Slovakia	228
South Africa	254
Sweden	250
Switzerland	251
United Kingdom	249

Field	Description
Country code ()	shows the defined country code

6.3 *sys cpu display*

Description Use this command to display the percentage of cpu utilization

Command Syntax *sys cpu display*

6.4 *sys date*

Description Use this description to show the current date

Command Syntax *sys date [year month date]*

Parameters

Name	Description
Year	shows current system year
Month	shows current system month
Date	shows current system date

6.5 *sys edit*

Description Use this command to edit and setup the configuration file `autoexec.net` that runs as the system started. The `autoexec.net` file contains the command that user can configure and wish to execute when the system started.

Command Syntax `sys edit autoexec.net`

Parameters

Command	Description
q(uit)	close the editor without saving
x(save & exit)	close the editor after saving
i(nsert after)	insert a line command
d(etele)	delete a certain command line
r(eplace)	replace a certain command line
n(ext)	view next command line

6.6 *sys feature*

Description Use this command to display router's Feature-Bit Information

Command Syntax *sys feature*

6.7 *sys hostname*

Description Use this command display the system hostname

Command Syntax *sys hostname*

6.8 *sys log clear*

Description The router would record any errors happened in the system with extra information. Use this command to clear or delete the error logs recorded in the system

Command Syntax *sys log clear*

6.9 *sys log disp*

Description The router would record any errors happened in the system with extra information. Use this command to display the error logs recorded in the system

Command Syntax *sys log disp*

6.10 *sys log online*

Description Use this command to display or set error log online display switch

Command Syntax *sys log online [0|1]*

Parameters

Name	Description
0	Switch off the errorlog online
1	Switch on the errorlog online

6.11 *sys socket*

Description Use this command to display system socket information

Command Syntax *sys socket*

6.12 *sys stdio*

Description The system automatically log out if idle for five minutes (default setting). Use this command to set the system idle timeout in minutes.

Command Syntax *sys stdio [minutes]*

Parameters

Name	Description
[minutes]	Input idle timeout

6.13 *sys time*

Description Use this command to set and display system time.

Command Syntax *sys time [hour[min[sec]]]*

Parameters

Name	Description
[hour[min[sec]]]	Set hour : min : sec

6.14 *sys version*

Description Use this command to show the system firmware version, including RAS version, romRasSize, system up time, bootbase version, RAS CODE, RomFile Checksum

Command Syntax *sys version*

6.15 sys view

Description Use this command to view the configuration file autoexec.net content that run as the system started. The autoexec.net file contains the command that user can configure and wish to execute when the system started.

Command Syntax `sys view autoexec.net`

6.16 *sys wdog switch*

Description Many network protocols use "watchdog" traffic to periodically check the availability of a DSL-to-LAN connection. This traffic can keep a connection open even when there is no other traffic, negating the benefits of on-demand dialing and bandwidth. Spoofing lets the router ignore the watchdog traffic and open a connection only when there is data to be transferred, thus saving thousands of dollars a month, especially over long-distance connections.
Use this command to switch on/off the watchdog function.

Command Syntax *sys wdog switch [on|off]*
sys wdog switch [1|0]

Parameters

Name	Description
On ; 1	Switch on the watchdog function
Off ; 0	Switch off the watchdogfunction

6.17 *sys wdog cnt*

Description When a user logs onto the computer, the internal timer in WatchDog starts counting down the user's time available. When the user runs out of time, WatchDog can either restart the system. Use this command to set and display the system watchdog counter value.

Command Syntax *sys wdog cnt [value]*

Parameters

Name	Description
Value	Wdog counter value (0~34463) Default : 180

6.18 *sys romreset*

Description Use this command to restore default romfile /configuration file. Current setting will be erased.

Command Syntax *sys romreset*

6.19 *sys atsh*

Description Use this command to display the debug information and hardware configuration

Command Syntax `sys atsh`

6.20 *sys password*

Description Use this command to configure CPE login password.

Command Syntax *sys password [value]*

Parameters

Name	Description
Value	Password you want to set.

6.21 *sys reboot*

Description Use this command to reboot CPE without reset to default.

Command Syntax *sys reboot*

6.22 *sys cwmp disp*

Description Use this command to display the settings of TR069.

Command Syntax `sys cwmp disp`

6.23 show channel display

Description Use this command to show the channel status, configuration and counter.

Command Syntax *show channel display <parameters>*

Parameters

Parameters	Description
vc_index:0~7	Input the number of PVC

6.24 show channel clear

Description Use this command to show the channel status, configuration and clear the counter.

Command Syntax *show channel clear <parameters>*

Parameters

Parameters	Description
vc_index:0~7	Input the number of PVC

6.25 *show all*

Description Use this command to show all information about the system.

Command Syntax *show all*

6.26 show wan node

Description Use this command to show the status of wan in specific PVCs.

Command Syntax `show wan node <vc_index:0~7>`

Parameters

Name	Description
vc_index:0~7	Input the number of PVC

6.27 *show lan*

Description Use this command to show the lan configuration status

Command Syntax *show lan*

6.28 ip address

Description Where you obtain your network number depends on your particular situation. If the ISP or your network administrator assigns you a block of registered IP addresses, follow their instructions in selecting the IP addresses and the subnet mask. If the ISP did not explicitly give you an IP network number, then most likely you have a single user account and the ISP will assign you a dynamic IP address when the connection is established.
In CI command, user can also have the chance to view the IP address. Use this command to display and set the IP address.

Command Syntax *ip address [addr]*

Parameters

Name	Description
Addr	Enter new IP address to be set

6.29 *ip dns stats disp*

Description Use this command to display or clear dns statistic counters

Command Syntax *ip dns stats disp*

6.30 *ip ifconfig*

Description Use this command to show the network interface

Command Syntax *ip ifconfig*

6.31 ip ping

Description Use this command to ping any machine (with an IP address) on LAN or WAN.

Command Syntax *ip ping <host id>*

Parameters

Name	Description
host id	Remote machine IP address

6.32 ip route status

Description Use the ip route status command to display IP routing table series.

Command Syntax *ip route status [iface]*

Parameters

Name	Description
iface	Driver interface (enif0, enif0:1,...)

6.33 ip route add

Description The router using IP configuration information (eg., subnets, gateways) to automatically create a routing table that dictates how the system will send IP packets to other host systems. Use this command to add a new IP routing configuration in the routing table.

Command Syntax *ip route add <dest addr>[/<bits>] <gateway> [<metric>]*

Parameters

Name	Description
dest addr	Destination address of routing
bits	Value of bits
gateway	IP address acts as gateway in routing
metric	Hop count to measure the distance between the source and a destination network. Each hop in a path from source to destination is assigned a hop count value, which is typically 1

6.34 ip route addiface

Description Use this command to add an interface to a routing table.

Command Syntax `ip route addiface <dest addr>[/<bits>] <iface> [<metric>]`

Parameters

Name	Description
dest addr	Destination address of routing
bits	Value of bits
iface	Input the interface name to add in routing
metric	Hop count to measure the distance between the source and a destination network. Each hop in a path from source to destination is assigned a hop count value, which is typically 1

6.35 *ip route addprivate*

Description Though it may seem obvious that the NAT can talk on its connected networks, it is nevertheless necessary to add routes for those. Use this command if you want to add some private entries that you don't want broadcast to the outside world.

Command Syntax *ip route addprivate <dest addr>[/<bits>] <gateway> [<metric>]*

Parameters

Name	Description
dest addr	Destination address of routing
bits	Value of bits
gateway	IP address acts as gateway in routing
metric	Hop count to measure the distance between the source and a destination network. Each hop in a path from source to destination is assigned a hop count value, which is typically 1

6.36 ip route drop

Description Use this command to drop the routing gateway.

Command Syntax *ip route drop <host addr> [/<bits>]*

Parameters

Name	Description
host addr	Enter the host address to drop
bits	Bits value

6.37 *ip status*

Description Use this command to show the ip statistics counters

Command Syntax *ip status*

6.38 *ip udp status*

Description Use this command to display udp status or statistic counters and control blocks

Command Syntax *ip status udp*

6.39 *ip tcp status*

Description Use this command to display ip status and counters

Command Syntax *ip tcp status*

6.40 ip igmp debug

Description Use this command to display or set IGMP debug level.

Command Syntax *ip igmp debug [level]*

Parameters

Name	Description
level	1,2,3...

6.41 ip igmp forwardall

Description Use this command to display or set IGMP forwarding to all interfaces switch

Command Syntax *ip igmp forwardall [0|1]*

Parameters

Name	Description
0	Disable ip igmp forwardall
1	Enable ip igmp forwardall

6.42 ip igmp querier

Description Use this command to display or set IGMP becoming a non-querier switch

Command Syntax *ip igmp querier [0|1]*

Parameters

Name	Description
0	Disable ip igmp querier
1	Enable ip igmp querier

6.43 ip igmp iface

Description Use this command to set or change the configuration of the interface.

Command Syntax *ip igmp iface <iface>sub commands*

Sub commands&Parameters **<iface> group *tm* <timeout>**
- set igmp group timeout

Name	Description
iface	Name of the interface
timeout	Timeout value

<iface> interval <interval>
- set igmp query interval

Name	Description
iface	Name of the interface
interval	Interval value

<iface> join <group>
- join a group on iface

Name	Description
iface	Name of the interface
group	Group address

<iface> leave <group>
- leave a group on iface

Name	Description
iface	Name of the interface
group	Group address

<iface> query
- send query on iface

Name	Description
iface	Name of the interface

<iface> rsptime [time]
- set igmp response time

Name	Description
iface	Name of the interface
time	IGMP maximum response time value

<iface> start
- turn on igmp on iface

Name	Description
iface	Name of the interface

<iface> stop

- turn off igmp on iface

Name	Description
iface	Name of the interface

<iface> ttl <threshold>

- set ttl threshold

Name	Description
iface	Name of the interface
threshold	Multicast TTL threshold value

<iface> v1compat [0/1]

turn off/on v1compat on iface

Name	Description
iface	Name of the interface
0/1	Off/on value

6.44 ip igmp robustness

Description The IGMP robustness variable provides fine-tuning to allow for expected packet loss on a subnet. By default, the robustness variable is set to 2. You might want to increase this value if you expect a subnet to be loss. Use this command to change the value of the robustness variable. The minimum value of the variable is 2. If there is no variable input, this command displays the current igmp robustness variable.

Command Syntax `ip igmp robustness [<variable>]`

Parameters

Name	Description
variable	Numeric (2,3,4,..)

6.45 *ip igmp status*

Description Use this command to display IGMP settings on all interfaces.

Command Syntax *ip igmp status*

6.46 ip igmpsnoop active

Description Use this command to enable or disable IGMPsnooping.

Command Syntax *ip igmpsnoop active [yes/no]*

Parameters

Name	Description
Yes	Enable igmpsnoop
No	Disable igmpsnoop

6.47 ip igmpsnoop debug

Description Use this command to display or set IGMPsnooping debug level.

Command Syntax *ip igmpsnoop debug [level]*

Parameters

Name	Description
level	1,2,3...

6.48 *ip igmpsnoop disp*

Description Use this command to disp IGMPsnooping table

Command Syntax *ip igmpsnoop disp*

6.49 ether config

Description Use this command to display the current Ethernet configuration.

Command Syntax *ether config*

6.50 ether driver cnt disp

Description Use this command to display the ether driver/statistics on the Ethernet driver.

Command Syntax `ether driver cnt disp enet0`

6.51 ether driver status

Description Use this command to display LAN Status

Command Syntax `ether driver status enet0`

6.52 ether driver config

Description Use this command to set the Ethernet driver configuration

Command Syntax *ether driver config <parameters>*

Parameters

Name	Description
Auto/Normal	0=auto sense 1=normal
10/100	0=10Mbps 1=100Mbps
Half/Full Dup	0=half duplex 1=full duplex
Ch-name	enet0

6.53 ether driver wan2lan

Description Use this command to map traffic of WAN interface to Ethernet.

Command Syntax *ether driver wan2lan [on|off] <number>*

Parameters

Name	Description
On/off	On=enable, off=disable
number	It means port number of Ethernet, 1=port1, 2=port2, 4=port3, 8=port4, 15=all ports.

6.54 wan adsl chandata

Description Some useful information about your connection can then be viewed. Use this command to display the adsl channel data or line rate to determine if you're on fast channel or interleave channel mode.

Command Syntax `wan adsl chandata`

6.55 wan adsl close

Description User can disconnect the adsl connection through CI command. Use this command to close or interrupt adsl connection.

Command Syntax `wan adsl close`

6.56 wan adsl open

Description Use this command to open the adsl connection

Command Syntax `wan adsl open`

6.57 wan adsl linedata

Description Type wan adsl line far or wan adsl line near to get your upstream or downstream line noise margin and attenuation.

Command Syntax `wan adsl linedata [far|near]`

Parameters

Name	Description
far	Show adsl far-end linedata (carrier load)
near	Show adsl near-end linedata (noise margin)

6.58 wan adsl opencmd

Description Use this command to set mode of adsl operation. After changing the connection mode, the adsl must be reset by typing wan adsl reset.

Command Syntax `wan adsl opencmd
[gdmt|glite|t1.413|multimode|adsl2|adsl2plus]`

Parameters

Name	Description
gdmt	Set adsl mode to g.dmt
glite	Set adsl mode to g.lite
t1.413	Set adsl mode to t1.413
multimode	Set adsl mode to all mode
adsl2	Set adsl mode to adsl2
adsl2plus	Set adsl mode to adsl2+

6.59 wan adsl opmode

Description	Use this command to display adsl mode standard (operational mode) your modem is using.
Command Syntax	<i>wan adsl opmode</i>

6.60 wan adsl perfddata

Description Use this command to display details of adsl line statistics or adsl performance data.

Command Syntax `wan adsl perfddata`

6.61 wan adsl reset

Description Use this command to reset the adsl connection.

Command Syntax `wan adsl reset`

6.62 wan adsl status

Description Use this command to check and display current adsl line status

Command Syntax `wan adsl status`

6.63 wan adsl nearituid

Description Use this command to show adsl G.DMT/G.lite near-end ITU id.

Command Syntax *wan adsl nearituid*

6.64 wan adsl farituid

Description Use this command to show adsl G.DMT/G.lite far-end ITU id.

Command Syntax *wan adsl farituid*

6.65 wan adsl diag

Description Use this command to show the features related to the system and adsl connection on wan interface. This command displays the information that includes sys date, version, ip arp status, firmware version, opmode, status, dmt rates etc. For the complete reference please refer to the below description.

Command Syntax `wan adsl diag`

6.66 wan adsl fwversion

Description Use this command to display the current firmware version.

Command Syntax `wan adsl fwversion`

6.67 wan adsl uptime

Description Use this command to display the adsl uptime information

Command Syntax `wan adsl uptime`

6.68 wan hwsar disp

Description Use this command to display the SAR driver counters.

Command Syntax `wan hwsar disp`

6.69 *wan hwsar clear*

Description Use this command to clear the SAR driver counters.

Command Syntax *wan hwsar clear*

6.70 wan node index

- Description** Use this command to select certain PVC. You should set this command before you use any command like “wan node <>”.
- Command Syntax**
- Parameters** *wan node index <pvc_index:1~8>*

Name	Description
vc_index:1~8	Input the number of PVC, 1~8 means PVC-0 to PVC-7

6.71 wan node display

Description Use this command to display the setting certain PVC.

Command Syntax *wan node display*

6.72 wan node clear

Description Use this command to clear the setting of certain PVC.

Command Syntax *wan node clear*

6.73 wan node save

Description Use this command to clear the setting of certain PVC.

Command Syntax `wan node save`

6.74 wan node ispname

Description Use this command to set the name of certain PVC.

Command Syntax `wan node ispname [name]`

6.75 wan node enable

Description Use this command to enable the certain PVC.

Command Syntax *wan node enable*

6.76 wan node disable

Description Use this command to disable the certain PVC.

Command Syntax *wan node disable*

6.77 wan node encap

Description Use this command to set the encapsulation mode of certain PVC.

Command Syntax *wan node encap <1483|pppoe|pppoe|enet>*

Parameters

Name	Description
pppoe	Set PPPoE mode
1483	Set RFC1483 mode
pppoa	Set PPPoA mode
enet	Set MER mode

6.78 wan node mux

Description Use this command to set the multiplex mode of certain PVC.

Command Syntax *wan node mux <llc|vc>*

Parameters

Name	Description
llc	Set multiplex to LLC mode
vc	Set multiplex to VC-Mux mode

6.79 wan node vpi

Description Use this command to set the VPI of certain PVC.

Command Syntax `wan node vpi [number]`

6.80 wan node vci

Description Use this command to set the VCI of certain PVC.

Command Syntax *wan node vci [number]*

6.81 wan node qos

Description Use this command to set the ATM QoS type of certain PVC.

Command Syntax

wan node qos [type]

Parameters

Name	Description
ubr	Set ATM QoS to UBR
cbr	Set ATM QoS to CBR
rtvbr	Set ATM QoS to RT-VBR
nrtvbr	Set ATM QoS to nRT-VBR
gfr	Set ATM QoS to GFR

6.82 wan node pcr

Description Use this command to set the PCR value of certain PVC.

Command Syntax *wan node pcr [value]*

6.83 wan node scr

Description Use this command to set the SCR value of certain PVC.

Command Syntax `wan node scr [value]`

6.84 wan node mbs

Description Use this command to set the MBS value of certain PVC.

Command Syntax *wan node mbs [value]*

6.85 wan node cvdt

Description Use this command to set the CVDT value of certain PVC.

Command Syntax *wan node cvdt [value]*

6.86 wan node wanip

Description Use this command to set the IP address of certain PVC. You can set dynamic mode that PVC obtains IP from WAN server, or set static mode.

Command Syntax *wan node wanip <static> <ip address>*
wan node wanip <dynamic>

Parameters

Name	Description
static	Set PVC as static mode
ip address	Set IP of PVC
dynamic	Set PVC as dynamic mode

6.87 wan node remoteip

Description Use this command to set the gateway and mask of certain PVC.

Command Syntax `wan node remoteip <address> <mask>`

6.88 wan node bridge

Description Use this command to set PVC as bridge mode.

Command Syntax *wan node bridge <on/off>*

Parameters

Name	Description
On	Enable bridge mode
Off	Disable bridge mode

6.89 wan node routeip

Description Use this command to set PVC as route mode.

Command Syntax *wan node route <on/off>*

Parameters

Name	Description
On	Enable route mode
Off	Disable route mode

6.90 wan node nat

Description Use this command to set PVC as route mode.

Command Syntax `wan node nat <none|sua>`

Parameters

Name	Description
none	Disable NAT
sua	Enable NAT

6.91 wan node rip

Description Use this command to set RIP of certain PVC.

Command Syntax `wan node rip <none|in|out|both> <rip1|rip2b|rip2m>`

Parameters

Name	Description
none	Disable RIP
in	Set RIP direction as in
out	Set RIP direction as out
both	Set RIP direction as both direction
rip1	Set RIP version as v1
rip2b	Set RIP version as v2 broadcast
rip2m	Set RIP version as v2 multicase

6.92 wan node multicast

Description Use this command to set igmp proxy of certain PVC.

Command Syntax `wan node multicast <none|igmpv1|igmpv2>`

Parameters

Name	Description
none	Disable IGMP
igmpv1	Set IGMP proxy version as v1
igmpv2	Set IGMP proxy version as v2

6.93 wan node service

Description Use this command to set service of certain PVC, it's just for PPPoE mode.

Command Syntax `wan node service <name>`

6.94 wan node nailedup

Description Use this command to set the connection mode as nailed-up or not, it's just for PPP mode.

Command Syntax `wan node nailedup <on|off>`

Parameters

Name	Description
On	Enable Nailed-up mode, means always on
Off	Disable Nailed-up mode

6.95 wan node ppp idletime

Description Use this command to set the idletime of PPP when nailedup mode off.

Command Syntax

wan node ppp idletime <0-65535(secs)>

6.96 wan node ppp authen

Description Use this command to set the authentication mode of PPP.

Command Syntax `wan node ppp authen <pap|chap|both>`

Parameters

Name	Description
pap	Set as pap
chap	Set as chap
both	Set as auto

6.97 wan node ppp username

Description Use this command to set the username of PPP.

Command Syntax `wan node ppp username <username>`

6.98 wan node ppp password

Description Use this command to set the password of PPP.

Command Syntax *wan node ppp password <password>*

6.99 wan node mtu

Description Use this command to set the MTU of PPP, the range is 100 to 1492 for PPP mode, and 100 to 1500 for other mode.

Command Syntax `wan node mtu <value>`

6.100 wan node default_r

Description Use this command to enable default route of certain PVC, it just can be set for one PVC.

Command Syntax `wan node default_r`

6.101 Example 1 for wan node

Description Example for setting PVC-0 as PPPoE mode.

Command list

```
wan node index 1
wan node ispname ISP-0
wan node enable
wan node encap pppoe
wan node mux llc
wan node vpi 0
wan node vci 88
wan node qos ubr
wan node wanip dynamic
wan node bridge off
wan node routeip on
wan node nat sua
wan node rip none
wan node multicast none
wan node nailedup on
wan node ppp authen both
wan node ppp username 1234
wan node ppp password 1234
wan node default_r
wan node save
```

6.102 Example 2 for wan node

Description Example for setting PVC-0 as bridge mode.

Command list

```
wan node index 1
wan node ispname ISP-0
wan node enable
wan node encap 1483
wan node mux llc
wan node vpi 0
wan node vci 88
wan node qos ubr
wan node bridge on
wan node routeip off
wan node nat none
wan node rip none
wan node multicast none
wan node save
```

6.103 Example 3 for wan node

Description Example for show setting of PVC-0.

Command list

```
HG520s> wan node index 1
HG520b> wan node disp
WAN node index = 1
Active = yes
Route IP = on
Bridge = off
Name = ISP-0
Encapsulation <2:PPPoE|3:RFC1483|4:PPPoA|5:Enet Encap> = 2
Mux <1:LLC|2:VC> = 1
VPI/VCI = 0 / 88
PPPoE service name =
PPP username = 1234
PPP Password = ****
PPP authentication <1:PAP|2:CHAP|3:BOTH> = 3
SUA/NAT is enabled, NAT lookupset = 255
Dynamic IP address
WAN IP address      = 0.0.0.0
Remote IP address   = 0.0.0.0
Remote IP subnet mask = 0.0.0.0
Idle timeout = 0
Call scheduling set = 0 0 0 0
Nailed-up connection = on
QOS Type <2:CBR|3:UBR|4:rtVBR|5:nrtVBR|6:GFR> = 3
QOS PCR/SCR/MBS/CDVT = 0, 0, 0, 0
RIP direction <0:none|1:both|2:in|3:out>= 0
RIP version <0:RIP-1|1:RIP-2B|2:RIP-2M> = 0
Multicast <0:IGMP-v2|1:IGMP-v1|2:none> = 2
Incoming protocol filter set = 0 0 0 0
Incoming device filter set = 0 0 0 0
Outgoing protocol filter set = 0 0 0 0
Outgoing device filter set = 0 0 0 0
HG520b>
```

6.104 lan

Description Use this command to set the IP configuration

Command Syntax *lan <command>*

Parameters

Command	Description
index	set lan index, 1 is main IP, 2 is Alias IP lan index <1 2>
active	set lan active or not lan active <yes no>
ipaddr	set lan IP address lan ipaddr <IP Addr> <Mask>
rip	set RIP mode lan rip <none in out both> <rip1 rip2b rip2m>
multicast	set lan multicast mode lan multicast <none igmpv1 igmpv2>
dhcp mode	set lan dhcp mode, it's just for main IP lan dhcp mode <none server relay>
dhcp server	set lan dhcp pool lan dhcp server pool <startIP> <numIP> set lan dhcp server gateway lan dhcp server gateway <gatewayIP> set DNS server lan dhcp server dnserver <dnsIP1> [<dnsIP2>] set leasetime lan dhcp server leasetime leasetime <second>
save	Save the configuration
display	Display the configuration
clear	clear setting

6.105 *rtwlan rtdisp*

Description Use this command to display parameters of WLAN, every SSID can be displayed when you enable multi-SSID.

Command Syntax `rtwlan rtdisp [<1|2|3|4>]`

6.106 *rtwlan enableap*

Description Use this command to enable WLAN.

Command Syntax *rtwlan enableap*

6.107 *rtwlan disableap*

Description Use this command to disable WLAN.

Command Syntax *rtwlan disableap*

6.108 *rtwlan ssid*

Description Use this command to set ssid.

Command Syntax *rtwlan ssid <SSID name> [<SSID No.>]*

Parameters

Name	Description
SSID name	Set SSID number as 1-31 ASCII characters
SSID No.	Set SSID number when multi-SSID enabled

6.109 *rtwlan channel*

Description Use this command to set channel, channel can be set as 1~14 depend on different region.

Command Syntax `rtwlan ssid <channel id>`

6.110 *rtwlan hidessid*

Description Use this command to hide or broadcast SSID.

Command Syntax *rtwlan hidessid* <0|1>

6.111 *rtwlan authmode*

Description Use this command to set WLAN authentication type.

Command Syntax *rtwlan authmode* <open/shared/wpapsk/wpa2psk>

6.112 *rtwlan encryptype*

Description Use this command to set WLAN encryption type.

Command Syntax *rtwlan encryptype <none| wep| tkip | aes>*

6.113 *rtwlan key1*

Description Use this command to set WLAN key for WEP mode, key2, key3, key4 settings are the same as key1. Value=10 hexadecimal characters or 5 ASCII characters for WEP-64bits, Value=13 hexadecimal characters or 26 ASCII characters for WEP-128bits

Command Syntax *rtwlan key1 <value>*

6.114 *rtwlan wpapsk*

Description Use this command to set WLAN preshared-key for WPA mode, Value= 8 ~ 63 ASCII characters or 64 hexadecimal characters.

Command Syntax *rtwlan wpapsk <value>*

6.115 *rtwlan defaultkeyid*

Description Use this command to set defaultkeyid, which you want to use.

Command Syntax *rtwlan defaultkeyid <1|2|3|4>*

6.116 *rtwlan setbssidnum*

Description Use this command to set the number of ssid, CPE will reboot after setting.

Command Syntax *rtwlan setbssidnum <1|2|3|4>*

6.117 *rtwlan wirelessmode*

Description Use this command to Select Wi-Fi 802.11b, 802.11g or mixed mode.

Command Syntax *rtwlan wirelessmode <1|2|3|4>*

Parameters

Name	Description
1	B only
2	G only
3	A only
4	Mixed mode

6.118 *rtwlan accesspolicy*

Description Use this command to Wireless LAN MAC filter action.

Command Syntax *rtwlan accesspolicy* <0|1|2>

Parameters

Name	Description
0	Disable MAC filter
1	Allow the stations with certain MAC addresses access AP
2	Deny the stations with certain MAC addresses access AP

6.119 *rtwlan aclist*

Description Use this command to MAC addresses of Wireless LAN MAC filter.

Command Syntax *rtwlan aclist <MAC address>*

Parameters

Name	Description
MAC address	The format should be xx: xx: xx: xx: xx: xx

6.120 *rtwlan noforwarding*

Description Use this command to configure Wireless user isolation per SSID.

Command Syntax *rtwlan noforwarding* <SSID#> <0/1>

Parameters

Name	Description
SSID#	Select the certain SSID
0/1	0:disable , 1:enable

6.121 *rtwlan isolatebsses*

Description Use this command to configure Wireless isolation among different SSIDs.

Command Syntax *rtwlan noforwarding <0/1>*

Parameters

Name	Description
0/1	0:disable ,1:enable

6.122 *rtwlan aclist*

Description Use this command to Wireless LAN MAC filter action.

Command Syntax *rtwlan aclist* <MAC address>

Parameters

Name	Description
MAC address	The format should be xx: xx: xx: xx: xx: xx

6.123 *rtwlan fragthreshold*

Description Use this command to configure Fragmentation Threshold.

Command Syntax *rtwlan fragthreshold <value>*

6.124 *rtwlan rtsthreshold*

Description Use this command to configure RTS Threshold.

Command Syntax *rtwlan rtsthreshold <value>*

6.125 *rtwlan dtimperiod*

Description Use this command to configure DTIM interval.

Command Syntax *rtwlan dtimperiod <value>*

6.126 *rtwlan beaconperiod*

Description Use this command to configure beacon interval.

Command Syntax *rtwlan beaconperiod* <value>

6.127 Example 1 for WLAN setting

Description Command combinations for WLAN authentication type setting.
 Note:
 1. The setting will take effect after the command entering.
 2. Some Security policy should be configured step by step, or it may not take effect. So the best way to configure AP is through WEB GUI

Command list

Command Setting	Web Authentication Type
rtwlan authmode open rtwlan encryptype none	OpenSystem
rtwlan authmode open/shared rtwlan encryptype wep rtwlan key1 abcde	WEP-64bits
rtwlan authmode open/shared rtwlan encryptype wep rtwlan key1 abcdefghij	WEP-128bits
rtwlan authmode wpapsk rtwlan encryptype tkip(aes)	WPA-PSK TKIP/AES
rtwlan authmode wpa2psk rtwlan encryptype tkip(aes)	WPA2-PSK TKIP/AES
Command Setting	Web Authentication Type
rtwlan authmode open rtwlan encryptype none	OpenSystem
rtwlan authmode open/shared rtwlan encryptype wep rtwlan key1 abcde	WEP-64bits

6.128 Example 2 for WLAN setting

Description On Step-by-Step setting of how to set AP using WPAPSK security mechanism with Encryption method TKIP. Please ensure to set SSID, before/after set WPAPSK.

Command list

```
rtwlan ssid myownssid  
rtwlan authmode wpapsk  
rtwlan encryptype tkip  
rtwlan ieee8021x 0  
rtwlan wpapsk myownpresharedkey  
rtwlan defaultkeyid 2  
rtwlan ssid myownssid
```

6.129 Example 3 for WLAN setting

Description On Step-by-Step setting of how to set AP using WEP security mechanism.

Command list

```
rtwlan ssid myownssid  
twlan authmode shared  
rtwlan encryptype wep  
rtwlan ieee8021x 0  
rtwlan key1 0123456789  
rtwlan defaultkeyid 1  
rtwlan ssid myownssid
```

6.130 Example 4 for WLAN setting

Description On Step-by-Step setting of how to set AP using OPEN security mechanism.

Command list

```
rtwlan ssid myownssid  
rtwlan authmode open  
rtwlan encryptype none  
rtwlan ieee8021x 0  
rtwlan ssid myownssid
```

6.131 ftp

Description This command is used for firmware and config file upgrading, also for config file backup. Please notice that it is the command on PC, CPE acts as FTP server.

Command Syntax

Firmware upgrading

1. Open "Command Prompt" on your PC.
2. ftp <ip>
3. put <source path> <source file> ras
4. CPE will upgrade automatically

Config file updating

1. Open "Command Prompt" on your PC.
2. ftp <ip>
3. put <source path> <[source file] rom-0
4. CPE will update setting automatically

Config file backup

1. Open "Command Prompt" on your PC.
2. ftp <ip>
3. get rom-0 <destination path> <destination file>
4. You can find config file under directory of "destination path"

6.132 *sys cwmp switch*

Description Use this command to enable or disable TR069 function.

Command Syntax *sys cwmp switch <0|1>*

Parameters

Name	Description
0	Switch off
1	Switch on

6.133 *sys cwmp disp*

Description Use this command to display the settings of TR069.

Command Syntax `sys cwmp disp`

6.134 *sys cwmp acsurl*

Description Use this command to configure TR069 ACS root URL without path and port.

Command Syntax `sys cwmp acsurl <value>`

6.135 *sys cwmp acspath*

Description Use this command to configure the path of TR069 ACS URL.

Command Syntax `sys cwmp acspath <value>`

6.136 *sys cwmp acsport*

Description Use this command to configure the port of TR069 ACS URL.

Command Syntax `sys cwmp acsport <value>`

6.137 *sys cwmp acsusername*

Description Use this command to configure the login username of TR069 ACS.

Command Syntax `sys cwmp acsusername <value>`

6.138 *sys cwmp acspassword*

Description Use this command to configure the login password of TR069 ACS.

Command Syntax `sys cwmp acspassword <value>`

6.139 *sys cwmp cpepath*

Description Use this command to configure the connection request path, we suggest to use "/tr069".

Command Syntax `sys cwmp cpepath <value>`

6.140 *sys cwmp cpeport*

Description Use this command to configure the connection request port, we suggest to use "7547".

Command Syntax `sys cwmp cpeport <value>`

6.141 *sys cwmp connreqauth*

Description Use this command to enable or disable digest authentication of connection request.

Command Syntax `sys cwmp connreqauth <0/1>`

Parameters

Name	Description
0	Disable
1	Enable

6.142 *sys cwmp cpeusername*

Description Use this command to configure the connection request username.

Command Syntax `sys cwmp cpeusername <value>`

6.143 *sys cwmp cpassword*

Description Use this command to configure the connection request password.

Command Syntax `sys cwmp cpassword <value>`

6.144 *sys cwmp prdinterval*

Description Use this command to configure the periodic inform interval with unit of second.

Command Syntax `sys cwmp prdinterval <value>`

6.145 *sys cwmp prdenable*

Description Use this command to enable or disable periodic inform.

Command Syntax *sys cwmp prdenable <0|1>*

Parameters

Name	Description
0	Switch off
1	Switch on

6.146 *sys cwmp oui*

Description Use this command to configure the OUI, we suggest to use "00E0FC".

Command Syntax `sys cwmp oui <value>`

6.147 *sys cwmp prvcode*

Description Use this command to configure the provision code.

Command Syntax `sys cwmp prvcode <value>`

6.148 *sys cwmp manufacturer*

Description Use this command to configure the company name.

Command Syntax `sys cwmp manufacturer <value>`

6.149 *sys cwmp modelname*

Description Use this command to configure the model name.

Command Syntax *sys cwmp manufacturer <value>*

6.150 *sys cwmp productclass*

Description Use this command to configure the product class.

Command Syntax *sys cwmp productclass <value>*