

# **Internet Telephony Gateway**

**VIP-000/200/400**

**Command Line Reference Guide**

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## **Revision**

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# Preface

VIP has a built-in command line interpreter and is a simple line-at-a-time prompt and response scheme, provides users a Command Line Interface (CLI) for detail, powerful administration. VIP can be driven for configuration control and operational management via VT-100 terminal or terminal emulator, accessed through the 9-pin RS232 female console (the RS-232 port) or remotely through a Telnet session.

Due to the power of CLI, any wrong configuration might cause VIP system instability, it is primarily intended for use by experienced engineers or VIP system administrator; it is not intended to be a polished, user-friendly tool that would be expected in a production end-user usage

## CLI Commands

VIP offers two operation modes. In most circumstances, VIP operates in Gateway Mode. When system upgrade required, VIP may be operated in firmware upgrade mode. In firmware upgrade mode, the CLI supports limited commands allowing users to read new revision codes from a remote TFTP server and write it to the built-in flash memory storage.

This section provides two tables (Table 1 and Table 2) that list all CLI commands supported by VIP in alphabetical order, and all characters must be entered in lower case. Respective commands are shown in **bold** in this document for clarity and the page number where you can find detailed information.

Table 1 lists CLI commands supported under Gateway Mode. Table 2 lists CLI commands supported under firmware Upgrade Mode. The *port* in the **set port** command and *profile\_id* in the **set coding** command in Table 1 stands for port ID and coding profile ID respectively.

Table 1 Gateway Mode Commands

Command	Description
<b>arp</b>	ARP table management
<b>clrscr</b>	Clears screen

<b>config</b>	Manages configuration parameters
<b>download</b>	Enters firmware upgrade mode
<b>help</b>	Display top level commands
<b>net</b>	Network related management
<b>reset</b>	ReSet (reboot) VIP
<b>set gateway</b>	Configure default gateway' address
<b>set http</b>	Enable/Disable HTTP interface
<b>set ip</b>	Set IP address
<b>set ip_preced</b>	Set IP Service Type (Priority)
<b>set mask</b>	Set subnet mask
<b>set speed</b>	Set link speed for Ethernet interface
<b>set telnet</b>	Enable/Disable Telnet server
<b>set user_pw</b>	Set password for Telnet and HTTP server login
<b>show</b>	Display network parameters
<b>show hwstat</b>	Display hardware configuration
<b>ping</b>	Pings a remote IP host
<b>set coding profile_id</b>	Configure a coding profile
<b>adaptive_playout</b>	Enable/Disable adaptive voice playback
<b>coding_type</b>	Set voice coder type
<b>copyof</b>	Copy parameters for a coding profile to another
<b>cp_tone_detect</b>	Enable/Disable CP tone detection for a coding profile
<b>dtmf_relay</b>	Enable/Disable DTMF relay
<b>fax_hs_pkt_rate</b>	Set the rate at which high-speed data will be sent for a fax coding profile
<b>fax_hs_redundancy</b>	Specify packet-level redundancy for high-speed data transmissions for a fax coding profile
<b>fax_ls_redundancy</b>	Specify packet-level redundancy for low-speed data transmissions for a fax coding profile.
<b>fax_relay_features</b>	Enable/Disable specific fax processing capabilities

	for a fax coder
<b>fax_t30_features</b>	Enable/Disable use of specific fax capabilities.
<b>fax_tcf_method</b>	Set T.38 TCF method
<b>fax_tone_detect</b>	Enable/Disable V.21 fax tone detection
<b>fax_tx_net_timeout</b>	Set timeout period for declaring fax clear-down
<b>max_delay</b>	Set size of jitter buffer for a voice coding profile
<b>min_delay</b>	Set minimum time each voice packet stays in jitter buffer
<b>nom_delay</b>	Set average delay each voice packet stays in jitter buffer
<b>usage</b>	Set allowed usage for a coding profile
<b>vad</b>	Enable/Disable voice activity detection
<b>vad_thresh</b>	Set threshold level for voice activity detection
<b>vif</b>	Set the size of the voice packet
<b>set cp_tone_det</b>	Enable/Disable CP tone detection
<b>set cp_tone_det_cfg</b>	Configure the CP tone detection filter
<b>set h323</b>	Configure H.323 parameters
<b>alias</b>	Add or delete H.323 alias
<b>allow_calls_wo_gk</b>	Enable/Disable call establishment if ITG failed registering to a H.323 gatekeeper
<b>alt_dtmf</b>	Maintains the list of remote gateways to which VIP conveys the DTMF tones using the alternate DTMF relay technique.
<b>auto_answer</b>	Enable/Disable H.323 auto answer mode.
<b>call_name</b>	Specify the string ITG encapsulates in the H.323 Setup message it sends to a remote gateway when initiating a call.
<b>cisco_t38</b>	Enable/Disable interoperability with Cisco T.38 fax
<b>default_dtmf</b>	Select default DTMF relay technique
<b>display_name</b>	Set display name information that is carried in the H.323 Setup messages

<b>dns_ip</b>	Specify DNS server and default domain name
<b>dtmf_duration</b>	Specify duration the gateway plays out a DTMF tone
<b>endpoint_prefix</b>	Specify the H.323 prefix that VIP uses when registering to an H.323 gatekeeper.
<b>endpoint_reg_type</b>	Set the H.323 registration type
<b>gk_addr</b>	Specify IP address of gatekeeper
<b>gk_id</b>	Paul
<b>gk_max_tries</b>	Set number of times ITG attempts to register to gatekeeper
<b>gk_mode</b>	Specify H.323 gatekeeper mode
<b>h245_term_type</b>	Specify H.323 terminal type.
<b>h245_timeout</b>	Set H.245 timeout value
<b>h245_tunneling</b>	Enable/Disable H.245 tunneling
<b>in_fast_start</b>	Enable/Disable accepting incoming H.323 fast start calls
<b>master_delay</b>	Specify if VIP should delay sending H.323 open logical channel message to remote gateway after completing master/slave determination
<b>nat_call</b>	Enable/Disable VIP to connect to remote gateways connecting to WAN via NAT capable router
<b>out_fast_start</b>	Select H.323 Faststart mode for outgoing calls.
<b>rtp_port_base</b>	Selects starting port number for assignment of RTP ports
<b>set port port_id</b>	Configure a telephony interface port
<b>ans_wait</b>	Set a wait-for-answer time limit
<b>call_limit</b>	Set a call length limit for calls
<b>cid name</b>	Set Caller ID Name
<b>cid number</b>	Set Caller ID Number
<b>copyof</b>	Copy configuration parameters for a port to another port
<b>cp_tone_det_cfg</b>	Selects call progress tone detection configuration

<b>cp_tone_det_ctrl</b>	Controls detection of call progress tone
<b>dial_in_plar</b>	Configure number to be dialed in automatically when a telephony port goes off-hook
<b>em clear_conf_detect</b>	Set minimum duration of on-hook response on the M-lead that is required for clear confirm to be detected
<b>em clear_conf_wait_max</b>	Set maximum duration to wait for an on-hook response on the M-lead after going on-hook on the E-lead
<b>em clear_detect</b>	Specify period of time M-lead needs to be on-hook before call clearing is declared
<b>em connected_min</b>	Specify minimum period of time that a connection will be maintained
<b>em dial_tone</b>	Specify if dial tone should be generated on incoming calls
<b>em disable_hangup</b>	Specify time period a port will wait after hanging up a call before signaling that it is in a disabled state
<b>em guard_all</b>	Set period after an aborted call when no incoming/outgoing calls
<b>em guard_out</b>	Set an additional period of time after guard_all when incoming calls will be accepted.
<b>em offhook_db</b>	Set off-hook debounce interval
<b>em onhook_db</b>	Set on-hook debounce interval
<b>em size_detect</b>	Specify period of time the M-lead needs to be off-hook before an incoming call is declared
<b>emd in_delay_max</b>	Set maximum duration of the delay signal response to the Seize Detect on the M-lead
<b>emd in_delay_min</b>	Set minimum duration of the delay signal response to the seize detect on the M-lead
<b>emd in_digit_ign</b>	Set period of time, after completing the delay signal, before the digits will be accepted on incoming calls

<b>emd out_delay_check</b>	Set period of time after going off-hook on the E-lead before checking the M-lead for the delay signal response
<b>emd out_delay_dur_max</b>	Set maximum duration of the delay signal response on the M-lead for it to be detected on outgoing calls
<b>emd out_delay_dur_min</b>	Set minimum duration of the delay signal response on the M-lead for it to be detected on outgoing calls
<b>emd out_intg_check</b>	Set Integrity Check mode.
<b>emi glare_report</b>	Set a time period during which, if glare is detected, the interface will stay off-hook and generate congestion tone
<b>emi wait_dsp_ready</b>	Set a time period to wait for the DSP software to be ready before digit collection can be enabled
<b>emw in_wink_digit_ignore</b>	Specify the period of time that will be ignored after completing the wink and before digits will be accepted for incoming calls
<b>emw in_wink_dur</b>	Specify the duration of the wink signal on the E-lead for incoming calls
<b>emw in_wink_wait_max</b>	Set the maximum delay before beginning the wink on the E-lead after detecting a line seizure on the M-lead for an incoming call
<b>emw in_wink_wait_min</b>	Set minimum delay before beginning the wink on the E-lead after detecting a line seizure on the M-lead for an incoming call
<b>emw out_wink_dur_max</b>	Set maximum duration of the wink response on the M-lead for it to be detected
<b>emw out_wink_dur_min</b>	Set minimum duration of the wink response on the M-lead for it to be detected
<b>emw out_wink_wait_max</b>	Specify maximum time to wait for a wink response on the M-lead after going offhook on the E-lead
<b>enable_user_cid</b>	Selects which Caller ID information VIP should be conveyed to the called party
<b>fax_holdover</b>	Set fax holdover delay



<b>fax_prof</b>	Selects preferred fax coder
<b>fax_tone_det_ctrl</b>	Specify if V.21 fax tone should be detected
<b>fxo answer_after</b>	Specify number of rings to elapse before a FXO port answering an incoming call
<b>fxo batt_rev_times</b>	Specify number of times the battery reversal signal must be detected before shutting down a FXO port
<b>fxo caller_id</b>	Enable/Disable Caller ID detection on a FXO port
<b>fxo cpc_detect</b>	Specify expected duration of the loss of loop current before shutting down a FXO port
<b>fxo guard_out</b>	Specify time, after completing a call over a FXO port and before another call can be originated.
<b>fxo loop_det_db</b>	Specify time for debouncing the loop current detector
<b>fxo ringing_db</b>	Specify time for debouncing the ring-on signal
<b>fxo ringing_inter_cycle</b>	Specify duration of ring-off signal
<b>fxo ringing_inter_pulse</b>	Specify time between consecutive ring pulses in the same ring-on signal
<b>fxs answ_clear_detect</b>	Set minimum time to wait, when the answering party drops the line before declaring on-hook
<b>fxs caller_id</b>	Specify if Caller ID will be generated on a FXS port
<b>fxs cpc_dur</b>	Set duration, of the loop current shutdown
<b>fxs cpc_wait</b>	Set time to wait, after a FXS port shutting down loop current and before checking for on-hook
<b>fxs offhook_db</b>	Specify time for debouncing the off-hook signal
<b>fxs offhook_detect</b>	Set time to wait, before an off-hook condition is declared
<b>fxs onhook_db</b>	Specify time for debouncing the on-hook signal
<b>fxs onhook_detect</b>	Set time to wait, before an on-hook condition is declared.
<b>fxs ring_id</b>	Selects ringing signal
<b>hangup_wait</b>	Set wait-for-hangup time limit for a telephony port

<b>out_type</b>	Select tone-dial or pulse-dial
<b>out_wait</b>	Specify time to delay after going off-hook before generating outbound dial digits.
<b>prof_bit</b>	Selects which coding profiles will be available to a telephony port
<b>proto</b>	Select signaling protocol
<b>rxgain</b>	Adjust gain level of PCM signal received from a telephony port
<b>tone_out_off</b>	Set off duration for DTMF tones
<b>tone_out_on</b>	Set on duration for DTMF tones
<b>tone_out_pwr</b>	Set power level for DTMF tones
<b>tone_table</b>	Select tone table for a telephony port
<b>txgain</b>	Adjust gain level of signal ITG sends to a telephony port
<b>voice_prof</b>	Select preferred coding profile for voice
<b>set tone</b>	Configure on/off cadence for a CP tone
<b>show</b>	Display configuration
<b>call_record</b>	Display information about the current call or latest call
<b>coding</b>	Display configuration of a coding profile
<b>cp_tone_det</b>	Display on/off cadence for a CP tone
<b>cp_tone_det_cfg</b>	Display parameters for the CP tone detection filter
<b>h323</b>	Display H.323 configuration
<b>port</b>	Display configuration of a telephony port
<b>rxtsstat</b>	Display statistic information about the voice packets a telephony port has received/transmitted
<b>tlevels</b>	Display power level of signals for a telephony port
<b>tone</b>	Display each element of a CP tone
<b>tstat</b>	Display telephony interface statistics for a telephony port

<b>version</b>	Display information that identifies the versions of various software components
<b>vpstat</b>	Display statistic information about the voice packets played out by a telephony port
<b>spy</b>	Set filtering level for a specific spy key
<b>spy dump</b>	Display trace buffer
<b>spy flush</b>	Flush trace buffer
<b>tel erase_ivr</b>	Erase greeting message
<b>tel set pcm_gain_level</b>	Adjust gain level of signal ITG sends to FXO ports
<b>tel set ring_freq</b>	Set the frequency of ringing that VIP generates
<b>tel show pcm_gain_level</b>	Display setting of gain level for FXO ports.
<b>tel show port</b>	Display status of a telephony port
<b>tel show ring_freq</b>	Display frequency of ringing signal that VIP-FXS generates

Table 2 Upgrade Mode Commands

<b>Command</b>	<b>Description</b>
<b>help</b>	Display upgrade mode related commands
<b>ping</b>	Pings a remote IP host
<b>quit</b>	Quit firmware upgrade mode
<b>set gateway</b>	Set default gateway' address
<b>set ip</b>	Set IP address
<b>set mask</b>	Set subnet mask
<b>show</b>	Display network parameters
<b>start</b>	Starts downloading code image from TFTP server

CLI Commands.....	3
2. Utility Commands.....	18
clrscr.....	18
download.....	18
help.....	18
ping.....	18
tel erase_ivr.....	19
tel set pcm_gain_level.....	19
tel set ring_freq.....	19
tel show pcm_gain_level.....	20
tel show port.....	20
tel show ring_freq.....	20
3. IP Configuration Commands.....	21
arp.....	21
net reset.....	21
net set gateway.....	21
net set ip.....	22
net set ip_preced.....	22
net set mask.....	23
net set speed.....	23
net set telnet.....	24
net set user_pw.....	24
net show.....	24
net show hwstat.....	25
4. Telephony Interface Port Configuration Commands.....	26
4.1 Common Telephony Port Configuration Commands.....	26
set port port ans_wait.....	26
set port <i>port</i> call_limit.....	26
set port <i>port</i> cid name.....	27
set port <i>port</i> cid number.....	27
set port <i>port</i> copyof.....	27
set port <i>port</i> cp_tone_det_cfg.....	28
set port <i>port</i> cp_tone_det_ctrl.....	28
set port <i>port</i> dial_in_plar.....	29
set port <i>port</i> fax_holdover.....	29
set port <i>port</i> fax_tone_det_ctrl.....	30
set port <i>port</i> fax_prof.....	30

set port <i>port</i> hangup_wait .....	30
set port <i>port</i> out_type .....	31
set port <i>port</i> out_wait .....	31
set port <i>port</i> prof_bit .....	31
set port <i>port</i> proto .....	32
set port <i>port</i> rxgain .....	32
set port <i>port</i> tone_out_off .....	33
set port <i>port</i> tone_out_on .....	33
set port <i>port</i> tone_out_pwr .....	33
set port <i>port</i> tone_table .....	34
set port <i>port</i> txgain .....	34
set port <i>port</i> voice_prof .....	34
<b>E&amp;M Common Signaling Configuration Commands</b> .....	<b>35</b>
set port <i>port</i> em clear_conf_detect .....	35
set port <i>port</i> em clear_conf_wait_max .....	35
set port <i>port</i> em clear_detect .....	35
set port <i>port</i> em connected_min .....	36
set port <i>port</i> em dial_tone .....	36
set port <i>port</i> em disable_hangup .....	36
set port <i>port</i> em guard_all .....	37
set port <i>port</i> em guard_out .....	37
set port <i>port</i> em offhook_db .....	37
set port <i>port</i> em onhook_db .....	37
set port <i>port</i> em size_detect .....	38
<b>E&amp;M Immediate Start Signaling Configuration Commands</b> .....	<b>38</b>
set port <i>port</i> emi glare_report .....	38
set port <i>port</i> emi wait_dsp_ready .....	38
<b>E&amp;M Delay Start Signaling Configuration Commands</b> .....	<b>39</b>
set port <i>port</i> emd in_delay_max .....	39
set port <i>port</i> emd in_delay_min .....	39
set port <i>port</i> emd in_digit_ign .....	39
set port <i>port</i> emd out_delay_check .....	40
set port <i>port</i> emd out_delay_dur_max .....	40
set port <i>port</i> emd out_delay_dur_min .....	40
set port <i>port</i> emd out_intg_check .....	41
<b>E&amp;M Wink Start Signaling Configuration Commands</b> .....	<b>41</b>
set port <i>port</i> emw in_wink_digit_ignore .....	41

set port <i>port</i> emw in_wink_dur.....	41
set port <i>port</i> emw in_wink_wait_max .....	42
set port <i>port</i> emw in_wink_wait_min .....	42
set port <i>port</i> emw out_wink_dur_max .....	42
set port <i>port</i> emw out_wink_dur_min.....	43
set port <i>port</i> emw out_wink_wait_max .....	43
<b>FXO Signaling Configuration Commands .....</b>	<b>44</b>
set port <i>port</i> fxo answer_after .....	44
set port <i>port</i> fxo batt_rev_times .....	44
set port <i>port</i> fxo caller_id.....	44
set port <i>port</i> fxo cpc_detect.....	45
set port <i>port</i> fxo guard_out .....	45
set port <i>port</i> fxo loop_det_db.....	45
set port <i>port</i> fxo ringing_db .....	46
set port <i>port</i> fxo ringing_inter_cycle .....	46
set port <i>port</i> fxo ringing_inter_pulse .....	47
set port <i>port</i> enable_user_cid.....	47
<b>FXS Signaling Configuration Commands .....</b>	<b>48</b>
set port <i>port</i> fxs answ_clear_detect.....	48
set port <i>port</i> fxs caller_id .....	48
set port <i>port</i> fxs cpc_dur .....	48
set port <i>port</i> fxs cpc_wait.....	49
set port <i>port</i> fxs offhook_db .....	49
set port <i>port</i> fxs offhook_detect.....	49
set port <i>port</i> fxs onhook_db .....	50
set port <i>port</i> fxs onhook_detect.....	50
set port <i>port</i> fxs ring_id.....	50
<b>5. Voice and Fax Coder Configuration Commands .....</b>	<b>52</b>
<b>Common Coding Profile Configuration Commands.....</b>	<b>53</b>
set coding <i>profile_id</i> coding_type.....	53
set coding <i>profile_id</i> cp_tone_detect .....	53
set coding <i>profile_id</i> copyof .....	53
set coding <i>profile_id</i> fax_tone_detect .....	54
set coding <i>profile_id</i> usage .....	54
<b>Voice Coding Profile Configuration Commands .....</b>	<b>55</b>
set coding <i>profile_id</i> adaptive_playout .....	55
set coding <i>profile_id</i> dtmf_relay .....	55

set coding <i>profile_id</i> max_delay .....	55
set coding <i>profile_id</i> min_delay .....	56
set coding <i>profile_id</i> nom_delay .....	57
set coding <i>profile_id</i> vad .....	57
set coding <i>profile_id</i> vad_thresh .....	57
set coding <i>profile_id</i> vif .....	57
<b>Fax Coding Profile Configuration Commands</b> .....	<b>59</b>
set coding <i>profile_id</i> fax_hs_pkt_rate .....	59
set coding <i>profile_id</i> fax_hs_redundancy .....	59
set coding <i>profile_id</i> fax_ls_redundancy .....	59
set coding <i>profile_id</i> fax_relay_features .....	59
set coding <i>profile_id</i> fax_t30_features .....	60
set coding <i>profile_id</i> fax_tcf_method .....	60
set coding <i>profile_id</i> fax_tx_net_timeout .....	61
<b>6. Call Progress Tone Configuration Commands</b> .....	<b>62</b>
<b>Configuring CP Tones</b> .....	<b>62</b>
set tone .....	63
<b>Configuring CP Tone Detector</b> .....	<b>66</b>
set cp_tone_det .....	66
set cp_tone_det_cfg .....	68
<b>7. H323 Configuration Commands</b> .....	<b>70</b>
set h323 alias .....	70
set h323 allow_calls_wo_gk .....	70
set h323 alt_dtmf .....	70
set h323 auto_answer .....	71
set h323 call_name .....	71
set h323 cisco_t38 .....	72
set h323 default_dtmf .....	72
set h323 display_name .....	72
set h323 dns_ip .....	73
set h323 dtmf_duration .....	73
set h323 endpoint_prefix .....	73
set h323 endpoint_reg_type .....	74
set h323 gk_addr .....	74
set h323 gk_id .....	74
set h323 gk_max_tries .....	75
set h323 gk_mode .....	75

set h323 h245_term_type .....	75
set h323 h245_timeout .....	76
set h323 h245_tunneling .....	76
set h323 in_fast_start .....	76
set h323 master_delay .....	77
set h323 nat_call .....	77
set h323 out_fast_start .....	77
set h323 rtp_port_base .....	78
set h323 term_id .....	78
set h323 time_to_live .....	78
8. Configuration Management Command .....	79
config .....	80
9. The Show Command .....	81
show coding .....	81
show cp_tone_det .....	81
show cp_tone_det_cfg .....	82
show h323 .....	82
show port .....	83
show rtxstat .....	83
show tlevels .....	84
show tone .....	84
show tstat .....	85
show version .....	86
show vpstat .....	86
10. Dial Plan Management Commands .....	88
Database Update Control Commands .....	88
atpm done .....	88
atpm erase .....	88
atpm purge .....	88
atpm req .....	89
atpm restore .....	89
atpm store .....	89
Destination Table Management Commands .....	90
atpm dadd .....	90
atpm ddel .....	90
atpm dfind .....	91
atpm dlist .....	91



Hunt Group Table Management Commands.....	91
atpm hadd.....	91
atpm hdel.....	92
atpm hfind.....	92
atpm hlist.....	92
Address Table Management Commands.....	92
atpm aadd.....	92
atpm adel.....	93
atpm afind.....	93
atpm alist.....	94
Dialing Control Commands.....	94
atpm slist.....	94
atpm sys.....	94
11. Software Upgrade Utility Commands.....	95
help.....	95
ping.....	95
quit.....	95
set gateway.....	96
set ip.....	96
set mask.....	96
show.....	96
start.....	97

## 2. Utility Commands

This chapter describes the general-purpose utility commands.

### clrscr

Command for cleaning screen

```
clrscr
```

### download

Use the **download** command to enter download mode for reading code image from a TFTP server and program it to flash NVS.

```
download
```

### help

The **help** command lists the top-level commands.

```
help
```

### ping

**ping** command sends ICMP echo request packets to another host on the network.

```
ping host_ip_address
```

```
ping -s host_ip_address [count/timeout]
```

#### Syntax description

<b>-s</b>	Causes ping to send one datagram per second, printing one line of output for every response received.
<b>host_ip_addr</b>	The IP address or IP alias of the host.
<b>count</b>	Number of echo request packets to send. This option takes effect only if option <b>-s</b> is specified.
<b>timeout</b>	Timeout value for the ping in millisecond

## tel erase\_ivr

This command erases the greeting message recorded in VIP.

```
tel erase_ivr
```

## tel set pcm\_gain\_level

The gain control of the FXO interface ports adjust the power level of the analog signal that VIP sends to all FXO ports and the gain level is configurable.

```
tel set pcm_gain_level {1 | 2 | 3 | 4 | 5}
```

### Syntax description

1	Setting gain level to -1 dB
2	Setting gain level to 0 dB
3	Setting gain level to 1 dB
4	Setting gain level to 2 dB
5	Setting gain level to 3 dB

**Note: This command is for setting this gain level for all FXO ports.**

### Default

1- -1 dB

## tel set ring\_freq

VIP rings FXS port for signaling an incoming call, and provide 4 types of ringing signal, each having a unique frequency. This command is for selecting the frequency of the ringing signal that VIP sends to FXS ports.

```
tel set ring_freq {1 | 2 | 3 | 4}
```

### Syntax description

1	Setting ring frequency to 17 Hz
2	Setting ring frequency to 20 Hz
3	Setting ring frequency to 25 Hz
4	Setting ring frequency to 50 Hz

## Default

1- 17 Hz

## tel show pcm\_gain\_level

The command displays the gain level, which was set by command **tel set pcm\_gain\_level**.

```
tel show pcm_gain_level
```

## tel show port

This command displays the hook status of a telephony port.

```
tel show port [port]
```

### Syntax description

<i>port</i>	ID of the telephony port. If not specified, hook status for all telephony ports available will be displayed.
-------------	--

## tel show ring\_freq

This command displays the ringing frequency that was configured by the **tel set ring\_freq** command.

```
tel show ring_freq
```

# 3. IP Configuration Commands

This chapter describes the commands to configure and monitor the LAN and IP interface for VIP.

## arp

Use the `arp -a` command to display contents of the ARP cache in VIP.

`arp -a`

`arp -d ip_addr`

### Syntax description

<code>-a</code>	Display contents of ARP cache
<code>-d</code>	Delete an entry from the ARP cache
<code>ip_addr</code>	IP address of the ARP entry to be deleted.

## net reset

**net reset** command is used to reset machine. VIP will prompt you to confirm the command before resetting.

`net reset`

## net set gateway

Use the **net set gateway** command to assign a default gateway (router) for VIP. The default gateway routes packet data outside of the IP subnet that VIP resides.

`net set gateway ip_addr`

### Syntax description

<code>ip_addr</code>	The IP address of the default gateway.
----------------------	--

### Default

0.0.0.0

**Note: This modification will not take effect until VIP is reset.**

## net set http

VIP allows you to enable or disable its built-in HTTP server. This command is used to enable or disable the HTTP server.

```
net set http {on | off}
```

### Syntax description

<i>on</i>	Enable HTTP server. This allows users to manage VIP from web browser.
<i>off</i>	Disable HTTP server.

### Default

on

**Note: This modification will not take effect until VIP is reset.**

## net set ip

This command is used to assign a static IP address to VIP.

```
net set ip ip_addr
```

### Syntax description

<i>ip_addr</i>	The IP address of VIP.
----------------	------------------------

### Default

192.168.0.1

**Note: This modification will not take effect until VIP is reset.**

## net set ip\_preced

VIP has support of Layer 3 QoS--- ToS, allows you to set the 8-bit Service Type field in the IP header for all the voice packets before sending out. Service Type field is broken down into five subfields, among which four subfields are user configurable. This command is used to set these subfields.

```
net set ip_preced ip_preced [d] [t] [r]
```

### Syntax description

<i>Ip_preced</i>	The 3-bit PRECEDENCE subfield ranging from 0 through 7.
<i>d</i>	The <i>D</i> bit subfield, either 0 or 1.

<i>t</i>	The <i>T</i> bit subfield, either 0 or 1.
<i>r</i>	The <i>R</i> bit subfield, either 0 or 1.

### Default

*ip\_preced*: 0

*d*: 0

*t*: 0

*r*: 0

**Note: This modification will not take effect till VIP is reset.**

## net set mask

This command is used to set IP subnet mask for VIP.

**net set mask** *ip\_mask*

### Syntax description

<i>ip_mask</i>	The subnet mask of your network.
----------------	----------------------------------

### Default

255.255.255.0

**Note: This modification will not take effect till VIP is reset.**

## net set speed

VIP allows you set the link speed for its Ethernet interface. This command is used to set the Ethernet link speed.

**net set mask** {**10** | **100** | **auto**}

### Syntax description

<i>10</i>	Fixed the Ethernet speed at 10 Mbps
<i>100</i>	Fixed the Ethernet speed at 100 Mbps
<i>Auto</i>	Enable the 10/100 Mbps auto-negotiation capability.

### Default

auto

## net set telnet

VIP allows its built-in Telnet server to be enabled or disabled. This command is used to enable or disable the Telnet server.

```
net set telnet {on | off}
```

### Syntax description

<i>on</i>	Enable Telnet server. This allows users to access VIP from Telnet client.
<i>off</i>	Disable Telnet server.

### Default

on

**Note: This modification will not take effect till VIP is reset.**

## net set user\_pw

This command is used to change the password for Telnet client and web browser login.

```
net set user_pw password password
```

### Syntax description

<i>password</i>	The new password. <b>The password must be equal to or less than 7 alphanumeric characters.</b> It must be identically typed twice for VIP to be certain about the new password.
-----------------	---

### Default

123

## net show

This command displays all the network settings.

```
net show
```

### Example

Following example shows how to display network settings:



```

ITG>net show
***** Net Parameters *****
PPPoE =                disabled
DYN DNS =              disabled
DHCP client =         disabled
Configured IP address = 192.168.0.1.
Configured IP subnet mask = 255.255.255.0.
Default gateway IP address = 192.168.0.254.
Current active IP address = 192.168.0.1.
Current active subnet mask = 255.255.255.0.
IP precedence =       0 0 0 0
Ethernet MAC address = 00-30-4f-00-29-20
Ethernet speed setting = 10/100 Mbps auto-negotiation
USER password =       123
HTTP server =         enabled
Telnet server =       enabled
*****
ITG>

```

## net show hwstat

This command displays the hardware configuration of VIP.

### net show hwstat

#### Example

The following example shows how to display hardware configuration:

```

ITG>net show hwstat
***** Hardware Configuration *****
Flash:    type-MX29L1611 32 sectors 64 KB/sector
RAM:      8 MB 512K x 16
LAN:      100 Mbps half duplex. Link UP
TIM slot A: type-FX02S2 DSP-C5409 codec-PEB2466 Diag-OK
*****
ITG>

```

# 4. Telephony Interface Port Configuration Commands

This chapter describes commands for configuring the telephony interface ports of VIP. All command in this chapter share the same syntax as follows:

```
set port {port | all} option [option] . . .
```

**Syntax for the *port* is as follows:**

<i>port</i>	ID of the telephony port to which the command applies.
<i>all</i>	The command apply to all the telephony ports

## 4.1 Common Telephony Port Configuration Commands

Following sections describe commands that apply to all types of telephony interface port.

### set port port ans\_wait

This command is used to set a wait-for-answer time limit on a telephony port. If the call destination does not answer within this period, the call is automatically terminated.

```
set port port ans_wait seconds
```

#### Syntax description

<i>seconds</i>	Value in seconds, ranging from 0 to 65534, or -1 or 65535 for forever.
----------------	--

#### Default

-1

### set port port call\_limit

This command is used to set a call length limit for calls on a telephony port. If the call length is exceeded, the call is automatically terminated.

```
set port port call_limit seconds
```

#### Syntax description

<i>seconds</i>	Value in seconds, ranging from 0 to 65534, or -1 or 65535 for forever.
----------------	--

#### Default

-1

### set port *port* cid name

This command is used to set the Caller ID Name for a telephony port.

**set port *port* cid name {*name* | **O**}**

#### Syntax description

<i>name</i>	Caller ID name, 1 to 10 characters. Use '-' to represent spaces in the name.
<b>O</b>	Caller ID is name is not available

#### Default

No caller ID name

### set port *port* cid number

This command is used to set the Caller ID Number for a telephony port.

**set port *port* cid number {*name* | **O**}**

#### Syntax description

<i>name</i>	Caller ID number, 1 to 15 digits. Use '-' to represent spaces in the name.
<b>O</b>	Call ID is number is not available

#### Default

No caller ID number

### set port *port* copyof

This command is used to copy the settings of a telephony port to another telephony port.

**set port *port* copyof *src\_port***

#### Syntax description

<i>src_port</i>	ID of the telephony port which the settings will be copied from.
-----------------	--

## set port *port* cp\_tone\_det\_cfg

VIP series implements two call progress tone detection configurations; **default** and **alternate**, and allows users to specify which configuration will be used for call progress tone detection. A configuration includes filter information, and a table containing cadence information of all the call progress tones that are to be detected. The default configuration allows for the detection of the following tones

- busy
- ringback
- congestion
- disconnect
- disc1
- disc2
- disc3
- disc4
- disc5

The alternate configuration allows for the detection of the following tones

- busy
- ringback
- congestion
- disconnect

This commands allows the selection of which configuration for call progress tone detection.

```
set port port cp_tone_det_cfg {default | alternate}
```

### Syntax description

<i>default</i>	Select the default call progress tone detection configuration
<i>alternate</i>	Select the alternate call progress tone detection configuration

### Default

Default

## set port *port* cp\_tone\_det\_ctrl

This command is used to control the detection of call progress tones.

```
set port port cp_tone_det_ctrl {0 | 1 | 2}
```

#### Syntax description

0	Disable call progress tone detection.
1	Enable call progress tone detection.
2	Enable/Disable call progress detection according to the cp_tone_detect parameter in the coding profile that is currently loaded. Please refer to command "set coding profile_id cp_tone_detect" for details about setting the call progress tone detection option for a coding profile.

#### Default

1

### set port *port* dial\_in plar

This command is used to specify the number to be dialed automatically (automatic ring-down) when a telephony port goes off-hook. If no number is entered, this feature will be disabled.

```
set port port dial_in plar number
```

#### Syntax description

<i>number</i>	The phone number to be dialed automatically upon detecting off-hook.
---------------	--

#### Default

None

### set port *port* fax\_holdover

This command is used to set the fax holdover delay for a telephony port. This is the time VIP will delay after detecting on-hook during fax mode operation before generating a call clear.

```
set port port fax_holdover milliseconds
```

#### Syntax description

<i>milliseconds</i>	Value in milliseconds, ranging from 0 to 65535.
---------------------	---

#### Default

2000

## set port *port* fax\_tone\_det\_ctrl

This command is used to control the detection of the V.21 fax tones.

```
set port port fax_tone_det_ctrl {0 | 1 | 2}
```

### Syntax description

0	Disable fax tone detection.
1	Enable fax tone detection.
2	Enable/Disable fax tone detection according to the fax_tone_detect parameter in the coding profile that is currently loaded. Please refer to command " <a href="#">set coding profile_id fax_tone_detect</a> " for details about setting the fax tone detection option for a coding profile.

### Default

1

## set port *port* fax\_prof

This command is used to select the preferred fax coding profile for a telephony port.

```
set port port fax_prof prof#
```

### Syntax description

<i>prof#</i>	Preferred coding profile ID for fax
--------------	-------------------------------------

### Default

The factory default preferred fax coding profile for all the telephony ports is coding profile number 5.

## set port *port* hangup\_wait

This command is used to set a wait-for-hangup time limit on a telephony port. If the call originator does not hang up within this time period after the destination has hung up, the call is automatically terminated.

```
set port port hangup_wait seconds
```

### Syntax description

<i>seconds</i>	Value in seconds, ranging from 0 to 65534, or -1 or 65535 for forever.
----------------	--

**Default**

5

**set port *port* out\_type**

VIP supports tone-dial and pulse-dial. This command is used to select the dial-out characteristic of a telephony port.

**set port *port* out\_type {tone | pulse}**

**Syntax description**

<i>tone</i>	Tone dial
<i>pulse</i>	Pulse dial

**Default**

tone

**set port *port* out\_wait**

This command is used to specify the time to delay after going off-hook before generating outbound dial digits.

**set port *port* out\_wait *milliseconds***

**Syntax description**

<i>milliseconds</i>	Value is milliseconds, ranging from 0 to 65535.
---------------------	---

**Default**

400

**set port *port* prof\_bit**

This command is used to select which coding profiles will be available to the telephony port.

**set port *port* prof\_bit {*prof\_num* | all} {0 | 1}**

**Syntax description**

<b>prof_num</b>	<b>The ID of the coding profile.</b>
<b><i>all</i></b>	All coding profiles

<b>0</b>	Coding profile number <i>prof_num</i> is not available to the telephony port designated by <i>port</i>
<b>1</b>	Coding profile number <i>prof_num</i> is available to the telephony port designated by <i>port</i>

**Default**

By factory default, all available coding profiles are available to all telephony ports.

**set port *port* proto**

This command is used to select the signaling protocol for a telephony port. VIP detects its hardware and configures the signaling protocol for all the telephony ports automatically. You may change the signaling protocol for a port using this command.

**set port *port* proto { fxs | fxo | emi | emd | emw }**

**Syntax description**

<i>fxs</i>	Loop start FXS protocol
<i>fxo</i>	Loop start FXO protocol
<i>emi</i>	E&M immediate start
<i>emd</i>	E&M delay start
<i>emw</i>	E&M wink start

**Default**

VIP detects the hardware of all the telephony ports and automatically sets the signaling protocol for each port according to the type of telephony interface port as shown in the following table:

Type of Telephony Interface Port	Signaling Protocol
FXS	fxs
FXO	fxo
E&M	emi

**set port *port* rxgain**

VIP adjusts power level of the PCM signal coming in from the telephony ports



before feeding it to the voice processor for further processing. This command allows user to specify the gain level for PCM signal received from telephony port.

**set port *port* rxgain *db***

#### Syntax description

<i>db</i>	Gain level in dB, ranging from -14 to 14.
-----------	---

#### Default

0

### set port *port* tone\_out\_off

This command is used to set the off time for DTMF dial tones from a telephony port.

**set port *port* tone\_out\_off *milliseconds***

#### Syntax description

<i>milliseconds</i>	Value is milliseconds, ranging from 0 to 65535.
---------------------	---

#### Default

200 ms

### set port *port* tone\_out\_on

This command is used to set the on time for DTMF dial tones from a telephony port.

**set port *port* tone\_out\_on *milliseconds***

#### Syntax description

<i>milliseconds</i>	Value is milliseconds, ranging from 0 to 65535.
---------------------	---

#### Default

200 ms

### set port *port* tone\_out\_pwr

This command is used to set the power level for DTMF dial tones generated by VIP.

**set port *port* tone\_out\_pwr *power***

#### Syntax description

<i>power</i>	Power level of DTMF tones in 0.1 dBm.
--------------	---------------------------------------

#### Default

-60. The factory setting for DTMF tone power for all telephony ports is -6.0 dBm.  
(power range:-800 to 30)

## set port *port* tone\_table

VIP has two built-in tone tables. This command is used to select the tone table for a telephony port.

```
set port port tone_table {default | alternate}
```

### Syntax description

<i>Default</i>	Select the default tone table
<i>alternate</i>	Select the alternate tone table

### Default

default

## set port *port* txgain

After decompressing a voice packet, VIP adjusts the signal level of the voice stream before sending the signal toward the telephony port. This command allows user to specify the gain level for PCM signal before feeding the signal to a telephony port.

```
set port port txgain db
```

### Syntax description

<i>db</i>	Gain level in dB, ranging from -14 to 14.
-----------	---

### Default

0

## set port *port* voice\_prof

This command is used to set the preferred voice coding profile for a telephony port.

```
set port port voice_prof prof#
```

### Syntax description

<i>prof#</i>	Preferred coding profile ID for voice
--------------	---------------------------------------

### Default

The factory default preferred voice coding profile for all the telephony ports is coding profile number 0, which is the coder for G.723 6.3 kbps.

## E&M Common Signaling Configuration Commands

The E&M common signaling configuration commands are used to define common parameters used on all E&M interfaces, regardless of their mode of operation (Wink Start, Delay Start, or Immediate Start).

### **set port *port* em clear\_conf\_detect**

This command is used to set the minimum duration of on-hook response on the M-lead that is required for clear confirm to be detected.

**set port *port* em clear\_conf\_detect *milliseconds***

#### **Syntax description**

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

#### **Default**

5000

### **set port *port* em clear\_conf\_wait\_max**

This command is used to set the maximum duration to wait for an on-hook response on the M-lead after going on-hook on the E-lead.

**set port *port* em clear\_conf\_wait\_max *milliseconds***

#### **Syntax description**

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

#### **Default**

10000

### **set port *port* em clear\_detect**

This command is used to specify the period of time M-lead needs to be on-hook before call clearing is declared.

**set port *port* em clear\_detect *milliseconds***

#### **Syntax description**

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

**Default**

400

**set port *port* em connected\_min**

This command is used to determine the minimum period of time (in milliseconds) that a connection will be maintained. If the remote end disconnects during this interval, it will be acknowledged only at the end of this interval.

**set port *port* em connected\_min *milliseconds***

**Syntax description**

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

**Default**

2000

**set port *port* em dial\_tone**

This command is used to determine if dial tone should be generated on incoming calls.

**set port *port* em dial\_tone [on | off]**

**Syntax description**

<i>on</i>	Generate dial tone.
<i>off</i>	Do not generate dial tone

**Default**

on

**set port *port* em disable\_hangup**

This command is used to determine the time period (in milliseconds) a port will wait after hanging up a call before signaling that it is in a disabled state.

**set port *port* em disable\_hangup *milliseconds***

**Syntax description**

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

**Default**

2000

## set port *port* em guard\_all

This command is used to set the period after an aborted call when no incoming calls will be neither accepted nor outgoing calls initiated.

**set port *port* em guard\_all *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

### Default

400

## set port *port* em guard\_out

This command is used to set an additional period of time after guard\_all when incoming calls will be accepted but outgoing calls will not be initiated for aborted call.

**set port *port* em guard\_out *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

### Default

400

## set port *port* em offhook\_db

This command is used to set the off-hook debounce interval, in milliseconds.

**set port *port* em offhook\_db *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

### Default

50

## set port *port* em onhook\_db

This command is used to set the on-hook debounce interval, in milliseconds.

**set port *port* em onhook\_db *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

### Default

50

## set port *port* em size\_detect

This command is used to specify the period of time the M-lead needs to be off-hook before an incoming call is declared.

**set port *port* em size\_detect *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

### Default

150

## E&M Immediate Start Signaling Configuration Commands

The E&M immediate start signaling configuration commands are used to define parameters specific to E&M immediate start interface. These commands apply to E&M Immediate Start signaling protocol only.

## set port *port* emi glare\_report

This command is used to set a time period during which, if glare is detected, the interface will stay off-hook and generate congestion tone.

**set port *port* emi glare\_report *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

### Default

5000

## set port *port* emi wait\_dsp\_ready

This command is used to set a time period (in milliseconds) to wait for the DSP software to be ready before digit collection can be enabled. If glare is detected during this period, the interface will stay offhook and generate congestion tone.

**set port *port* emi glare\_report *milliseconds***

#### Syntax description

***milliseconds*** Time in milliseconds, ranging from 0 to 65535.

#### Default

200

## E&M Delay Start Signaling Configuration Commands

The E&M delay start signaling configuration commands are used to define parameters specific to E&M delay start interface. These commands apply to E&M Delay Start signaling protocol only.

### set port *port* emd in\_delay\_max

This command is used to set the maximum duration of the delay signal response to the Seize Detect (of incoming calls) on the M-lead.

**set port *port* emd in\_delay\_max *milliseconds***

#### Syntax description

***milliseconds*** Time in milliseconds, ranging from 0 to 65535.

#### Default

2500

### set port *port* emd in\_delay\_min

This command is used to set the minimum duration of the delay signal response to the seize detect (of incoming calls) on the M-lead.

**set port *port* emd in\_delay\_min *milliseconds***

#### Syntax description

**Milliseconds** Time in milliseconds, ranging from 0 to 65535.

#### Default

200

### set port *port* emd in\_digit\_ign

This command is used to set the period of time, after completing the delay signal, before the digits will be accepted on incoming calls.

**set port** *port emd in\_digit\_ign milliseconds*

#### Syntax description

*milliseconds* Time in milliseconds, ranging from 0 to 65535.

#### Default

30

### set port *port emd out\_delay\_check*

This command is used to set the period of time after going off-hook on the E-lead before checking the M-lead for the delay signal response. If the response is not seen at this time, the call setup process will continue immediately.

**set port** *port emd out\_delay\_check milliseconds*

#### Syntax description

*milliseconds* Time in milliseconds, ranging from 0 to 65535.

#### Default

170

### set port *port emd out\_delay\_dur\_max*

This command is used to set the maximum duration of the delay signal response on the M-lead for it to be detected on outgoing calls.

**set port** *port emd out\_delay\_dur\_max milliseconds*

#### Syntax description

*milliseconds* Time in milliseconds, ranging from 0 to 65535.

#### Default

8000

### set port *port emd out\_delay\_dur\_min*

This command is used to set the minimum duration of the delay signal response on the M-lead for it to be detected on outgoing calls.

**set port** *port emd out\_delay\_dur\_min milliseconds*

#### Syntax description



*milliseconds*

Time in milliseconds, ranging from 0 to 65535.

#### Default

100

### set port *port* emd out\_intg\_check

This command is used to set the Integrity Check mode. If On, the delay signal response is required from the PBX for outgoing calls. If Off, no Integrity Check is performed.

**set port *port* emd in\_digit\_ign [on | off]**

#### Syntax description

**on** Perform Integrity Check

**off** No Integrity Check is performed

#### Default

off

## E&M Wink Start Signaling Configuration Commands

The E&M wink start signaling configuration commands are used to define parameters specific to E&M wink start interface. These commands apply to E&M Wink Start signaling protocol only.

### set port *port* emw in\_wink\_digit\_ignore

This command is used to specify the period of time that will be ignored after completing the wink and before digits will be accepted for incoming calls.

**set port *port* emw in\_wink\_digit\_ignore *milliseconds***

#### Syntax description

*milliseconds*

Time in milliseconds, ranging from 0 to 65535.

#### Default

30

### set port *port* emw in\_wink\_dur

This command is used to specify the duration of the wink signal on the E-lead for incoming calls.

**set port *port* emw in\_wink\_dur *milliseconds***

### Syntax description

*milliseconds* Time in milliseconds, ranging from 0 to 65535.

### Default

200

## set port *port* emw in\_wink\_wait\_max

This command is used to set the maximum delay before beginning the wink on the E-lead after detecting a line seizure on the M-lead for an incoming call.

**set port** *port* **emw in\_wink\_wait\_max** *milliseconds*

### Syntax description

*milliseconds* Time in milliseconds, ranging from 0 to 65535.

### Default

3000

## set port *port* emw in\_wink\_wait\_min

This command is used to set the minimum delay before beginning the wink on the E-lead after detecting a line seizure on the M-lead for an incoming call.

**set port** *port* **emw in\_wink\_wait\_min** *milliseconds*

### Syntax description

*milliseconds* Time in milliseconds, ranging from 0 to 65535.

### Default

150

## set port *port* emw out\_wink\_dur\_max

This command is used to set the maximum duration of the wink response on the M-lead for it to be detected.

**set port** *port* **emw out\_wink\_dur\_max** *milliseconds*

### Syntax description

*milliseconds* Time in milliseconds, ranging from 0 to 65535.

### Default

800

## set port *port* emw out\_wink\_dur\_min

This command is used to set the minimum duration of the wink response on the M-lead for it to be detected.

**set port *port* emw out\_wink\_dur\_min *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

### Default

100

## set port *port* emw out\_wink\_wait\_max

This command is used to specify the maximum time to wait for a wink response on the M-lead after going offhook on the E-lead. If the period is exceeded, the interface will declare an error condition and abort the (outgoing) call attempt.

**set port *port* emw out\_wink\_wait\_max *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 0 to 65535.
---------------------	--

### Default

8000

## FXO Signaling Configuration Commands

The FXO Signaling Configuration Commands are used to define parameters specific to FXO interface. These command apply to Loop Start FXO signaling protocol only.

### set port *port* fxo answer\_after

This command specifies the number of rings to elapse before a FXO port answering an incoming call.

```
set port port fxo answer_after rings
```

#### Syntax description

<i>Rings</i>	Number of rings.
--------------	------------------

#### Default

2

### set port *port* fxo batt\_rev\_times

VIP incorporates battery reversal detector on the FXO interface. After detecting battery reversal signal on a FXO port for certain times, VIP shuts down the port. This command is used to specify the number of times the battery reversal signal must be detected before VIP shutting down a FXO port.

```
set port port fxo batt_rev_times count
```

#### Syntax description

<i>Counts</i>	Number of time of battery reversal signal before shutting down the port, ranging from 0 to 65535.
---------------	---

#### Default

2

#### Notes:

**The battery reversal detector functions only under the condition that the CPC detector is enabled. Refer to command "set port *port* fxo cpc\_detect" for information about enabling/disabling the CPC detector.**

### set port *port* fxo caller\_id

This command selects if Caller ID will be detected on the FXO port.

```
set port port fxo caller_id {on | off}
```

### Syntax description

<i>on</i>	Enable Caller ID detection
<i>off</i>	Disable Caller ID detection

### Default

on

## set port *port* fxo cpc\_detect

VIP incorporates loop current and battery reversal detectors on the FXO interface. Upon detecting loss of loop current on a FXO port for a specific duration, VIP shuts down the port. This command is used to specify the expected duration of the loss of loop current (CPC supervisory disconnect signal) in milliseconds. If the loop current on a FXO port drops for a time period greater than this duration, it is regarded as a supervisory disconnect and VIP shuts down the port.

**set port *port* fxo cpc\_detect *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 60000. -1 stands for no loop current and battery reversal detection
---------------------	---

### Default

-1. Do not detect loop current loss and battery reversal.

## set port *port* fxo guard\_out

After completing a call over a FXO port, there a short time interval VIP does not allow originating outgoing calls, however, incoming calls will be received. This command is used to set this time interval in milliseconds.

**set port *port* fxo guard\_out *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 60000.
---------------------	--

### Default

2000

## set port *port* fxo loop\_det\_db

VIP incorporates loop current detector on the FXO interface. This command

specifies the time in milliseconds to use as a debouncer interval for debouncing the loop current detector. When VIP detects loss of loop current on a FXO port, the duration of the loss must be greater than this debouncer interval, otherwise it is not regarded as loss of loop current.

**set port *port* fxo loop\_det\_db *milliseconds***

#### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 1000.
---------------------	---

#### Default

20

### set port *port* fxo ringing\_db

This command specifies the time in milliseconds to use as a debouncer interval for debouncing the ring-on signal. For preventing from mistakenly interpreting noise signal as ring-on, VIP incorporates this debouncer. When VIP detect ring on signal on a FXO port, the signal must sustain for at least the debouncer time, otherwise it is not regarded as a ring-on.

**set port *port* fxo ringing\_db *milliseconds***

#### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 1000.
---------------------	---

#### Default

50

### set port *port* fxo ringing\_inter\_cycle

The FXO port detects ringing for signifying an incoming call. A ring is a cycle of ring-on and ring-off signals. This command is used to specify the time between consecutive ring-on signals, that is, the duration of the ring-off signal, in milliseconds. It is used to detect ringing.

**set port *port* fxo ringing\_inter\_cycle *milliseconds***

#### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 6000.
---------------------	---

## Default

4000

## set port *port* fxo ringing\_inter\_pulse

The FXO port detects ringing for signifying an incoming call. A ring is a cycle of ring-on and ring-off signals. The ring-on signal is comprised of a sequence of pulses. This command is used to specify the time between consecutive ring pulses in the same ring-on signal in milliseconds (that is, one half the inverse of ring frequency). For instance, if the ring frequency is 25 Hz, then the period of a ring-on signal is 40 ms, and the ringing\_inter\_pulse is 20 ms. It is used to detect ring-on.

**set port *port* fxo ringing\_inter\_pulse *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 6000.
---------------------	---

## Default

20

## set port *port* enable\_user\_cid

Though FXO ports can detect Caller ID and convey the detected Caller ID information to the called party. VIP allows conveying the Caller ID information users configured to a FXO port, instead of conveying Caller ID information detected from the port. This command is used to select which Caller ID information VIP should convey to the called party.

**set port *port* enable\_user\_cid {on | off}**

### Syntax description

<i>on</i>	Conveying Caller ID information user configured.
<i>off</i>	Conveying Caller ID information the port detected.

## Default

off

## FXS Signaling Configuration Commands

The FXS Signaling Configuration Commands are used to define parameters specific to FXS interface. These commands apply to Loop Start FXS signaling protocol only.

### set port port fxs answ\_clear\_detect

This command is used to set the minimum time to wait, in milliseconds, when the answering party drops the line before declaring on-hook.

```
set port port fxs answ_clear milliseconds
```

#### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 60000.
---------------------	--

#### Default

2000

### set port port fxs caller\_id

This command selects if Caller ID will be generated on a FXS port.

```
set port port fxs caller_id {on | off}
```

#### Syntax description

<i>on</i>	Enable Caller ID generation
<i>off</i>	Disable Caller ID generation

#### Default

on

### set port port fxs cpc\_dur

VIP implements loop current shutdown feature on FXS port. It shuts down the current feeding toward a FXS port upon detecting a call is being terminated by the other party participated in the call. This command is used to set the duration, in milliseconds, of the loop current shutdown (CPC supervisory disconnect).

```
set port port fxs cpc_dur milliseconds
```

#### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 60000. 0 stands for never shutting down loop current
---------------------	--



## Default

0

## set port *port* fxs cpc\_wait

This command is used to set the time to wait, in milliseconds, after a FXS port shutting down loop current and before checking for on-hook.

**set port *port* fxs cpc\_wait *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 60000.
---------------------	--

## Default

20

## set port *port* fxs offhook\_db

This command specifies the time in milliseconds to use as a debouncer interval for debouncing the off-hook signal. For preventing from mistakenly interpreting noise signal as off-hook, VIP incorporates this debouncer. When VIP detect off-hook signal on a FXS port, the signal must sustain for at least the debouncer time, otherwise it no regarded as a off-hook.

**set port *port* fxs offhook\_db *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 1000.
---------------------	---

## Default

50

## set port *port* fxs offhook\_detect

This command is used to set the time to wait, in milliseconds, before an off-hook condition is declared.

**set port *port* fxs offhook\_detect *milliseconds***

### Syntax description

<i>milliseconds</i>	Time in milliseconds, ranging from 1 to 1000.
---------------------	---

## Default

150

## set port port fxs onhook\_db

This command specifies the time in milliseconds to use as a debouncer interval for debouncing the on-hook signal. When VIP detect on-hook signal on a FXS port, the signal must sustain for at least the debouncer time, otherwise it no regarded as a on-hook.

**set port port fxs onhook\_db milliseconds**

### Syntax description

**milliseconds** Time in milliseconds, ranging from 1 to 1000.

### Default

50

## set port port fxs onhook\_detect

This command is used to set the time to wait, in milliseconds, before an on-hook condition is declared.

**set port port fxs onhook\_detect milliseconds**

### Syntax description

**milliseconds** Time in milliseconds, ranging from 1 to 1000.

### Default

800

## set port port fxs ring\_id

A ringing signal is a repetition of ring-on and ring-off cycles (the so-called cadence). VIP can generate 11 types of ring cadence, each having a unique ID, on/off cadence and total ringing duration. Types of ringing cadence and their IDs are shown in the following table.

ID	Ring-On/Off Cycle						Ringing Duration
	On	Off	On	Off	On	Off	
0 2.0	4.0						Forever
1 1.0	3.0					3	minutes
2	0.8	0.4	0.8	4.0			3 minutes
3	0.4	0.2	0.4	0.2	0.8	4.0 3	minutes

4	0.3	0.2	1.0	0.2	0.3	4.0 3	minutes
5 0.5	0.1					0.6	seconds
6	0.5	0.2	0.3	0.2	0.5	3.0 3	minutes
7 2.0	4.0					3	minutes
8 3.0	5.0					3	minutes
9 0.5	1.					0.6	seconds
10 1.0	3.0					3	minutes

This command is used to select which ring ID is to use on a FXS port.

**set port** *port* **fxs** *ring\_id* *ring\_id*

### Syntax description

<i>ring_id</i>	Ring ID, ranging from 0 to 10.
----------------	--------------------------------

### Default

0

# 5. Voice and Fax Coder Configuration Commands

Coding profile is used to store coding parameters for voice and fax coders that can be used by any telephony port on VIP. VIP has 11 built-in coding profiles, each having a unique profile ID and parameters for a specific voice, fax or modem coder. Among these 11 coding profiles, 5 may be used for voice or fax applications. The following table summarizes coding profiles available for voice and fax applications.

Coding profile ID	Coder
0	G.723 6.3 kbps voice coder
1	G.729AB voice coder
2	G723 5.3 kbps voice coder
5	Proprietary fax coder
6	G.711 $\mu$ -law voice coder
10	Standard T.38 fax coder

This chapter describes the commands for setting the parameters for a particular coding profile. All the commands in this chapter are of the same syntax as follows:

**set coding** *profile\_id* *option* [*option*] . . .

**Syntax** for the *profile\_id* is as follows:

<i>profile_id</i>	ID of the coding profile to be modified.
-------------------	--

## Common Coding Profile Configuration Commands

The following sections describe commands that apply to all types of coding profiles.

### set coding *profile\_id* coding\_type

This command is used to define the codec type for a coding profile.

**set coding *profile\_id* coding\_type coding\_type**

#### Syntax description

<i>coding_type</i>	Type of the codcc as defined in the following table.
--------------------	--

Parameter	Description
g711_mu	G.711 PCM u-law coding
g723_53	G.723.1 5.3 kbps coding
g723_63	G.723.1 6.3 kbps coding
g729ab	G.729 annex A, annex B 8kbps coding
fax_t38	Fax Relay in T.38 mode

### set coding *profile\_id* cp\_tone\_detect

This command is used to specify a secondary level of control of call progress tone detection. If the call progress detection control for a telephony port is set to "As per coding profile" (refer to command "set port *port* cp\_tone\_det\_ctrl" on page 24), this parameter determines if detection is to be enabled or not.

**set coding *profile\_id* cp\_tone\_detect {on | off}**

#### Syntax description

<i>on</i>	Enable call progress tone detection.
<i>off</i>	Disable call progress tone detection.

### set coding *profile\_id* copyof

This command is used to copy the settings of the coding profile to another coding profile.

**set coding *profile\_id* copyof src\_profile\_id**

#### Syntax description

*src\_profile\_id*

ID of the coding profile which the setting will be copied from

## set coding *profile\_id* fax\_tone\_detect

This command is used to specify a secondary level of control of V.21 fax tone detection. If the fax tone detection control for a telephony port is set to "As per coding profile" (refer to command "`set port port fax_tone_det_ctrl`"), this parameter determines if detection is to be enabled or not. For a voice coder, fax tone detection has to be enabled, otherwise, a telephony port never switches to fax mode while the voice coder is active. For a fax profile it does not matter if the fax tone detection is enabled or disabled.

`set coding profile_id fax_tone_detect {on | off}`

### Syntax description

<b>on</b>	Enable V.21 fax tone detection.
<b>off</b>	Disable V.21 fax tone detection.

## set coding *profile\_id* usage

This command is used to set allowed usage for a coding profile.

`set coding profile_id usage {voice | fax} {on | off}`

### Syntax description

<b>Voice</b>	The coding profile is allowed, if the parameter that follows is "on", for being used as voice coder.
	The coding profile is not allowed, if the parameter that follows is "off", for being used as voice coder.
<b>Fax</b>	The coding profile is allowed, if the parameter that follows is "on", for being used as fax coder.
	The coding profile is not allowed, if the parameter that follows is "off", for being used as fax coder.

## Voice Coding Profile Configuration Commands

The following sections describe commands that apply to coding profiles for voice coder.

### set coding *profile\_id* adaptive\_playout

VIP has a built-in voice packet buffer, which allows VIP to remove the packet jitter from the incoming packet stream. VIP also implements an adaptive voice packet playback algorithm, which automatically adjust the time each voice packet is buffered in the voice packet buffer before being played out. This command is used to enable/disable the adaptive playback function for a voice coding profile.

```
set coding profile_id adaptive_playout {on | off}
```

#### Syntax description

<i>on</i>	Enable adaptive playback.
<i>off</i>	Disable adaptive playback.

### set coding *profile\_id* dtmf\_relay

VIP supports DTMF Relay, in which DTMF tones are detected during voice processing, encoded into H323-UserInformation packets and conveyed to the remote ITG via the H.323 call control band. This command is used to enable or disable the DTMF Relay feature.

```
set coding profile_id dtmf_relay {on | off}
```

#### Syntax description

<i>on</i>	Detect DTMF tones while voice session is on-going, and send detected DTMF digits to remote gateway via the H.323 call control band.
<i>off</i>	Do not detect DTMF tones. DTMF tones are compressed and send to remote gateway the same as regular voice frame.

### set coding *profile\_id* max\_delay

VIP has a built-in voice packet buffer, which stores voice packets received from the network. Voice packets from network may have traversed variable path and each packets have experienced different propagation delay. The effect of non-uniform

delay among packets is known as jitter. The voice buffer allows VIP to remove the packet jitter from the incoming packet stream before decompressing and sending the packet to telephony port for playing out. This command is used to set the size of the voice buffer.

**set coding *profile\_id* max\_delay delay**

#### Syntax description

<i>delay</i>	Value in milliseconds.
--------------	------------------------

#### Notes:

1. **The maximum delay should be at least 2 packet times greater than the nominal delay. Refer to command “set coding *profile\_id* nom\_delay” for details about setting nominal delay.**
2. **The maximum delay for each coder is shown in the following table:**

Coding Type	Maximum Delay
G.711 <i>μ-law</i>	145 ms
G.723	500 ms
G.729AB	500 ms

#### set coding *profile\_id* min\_delay

This command is used to set the time each voice packet is stored in the voice packet buffer before VIP playing out the packet. It is only meaningful when the adaptive playback feature is disabled. Refer to command, “set coding *profile\_id* adaptive\_playout” for details about adaptive playback feature.

**set coding *profile\_id* min\_delay delay**

#### Syntax description

<i>delay</i>	Value in milliseconds.
--------------	------------------------



## set coding *profile\_id* nom\_delay

While the “**set coding *profile\_id* max\_delay**” command sets the size of the voice packet buffer, this command sets the average time in milliseconds each voice packet is stored in the buffer.

**set coding *profile\_id* nom\_delay *delay***

### Syntax description

<i>delay</i>	Value in milliseconds.
--------------	------------------------

### Note:

The nominal delay should be at least twice the packet time. Refer to command “**set coding *profile\_id* vif**” for details about setting the packet time.

## set coding *profile\_id* vad

This command is used to enable/disable the Voice Activity Detector (VAD) for a coding profile.

**set coding *profile\_id* vad {on | off}**

### Syntax description

<i>On</i>	Enable VAD.
<i>Off</i>	Disable VAD.

## set coding *profile\_id* vad\_thresh

This command is used to set threshold level for the VAD for a coding profile.

**set coding *profile\_id* vad\_thresh *threshold***

### Syntax description

<i>threshold</i>	Value in dBm, ranging from -20 to +10.
------------------	--

## set coding *profile\_id* vif

This command is used to set the size of the Voice Information Field (VIF), in bits, for a voice coder.

**set coding *profile\_id* vif *no\_of\_bits***

## Syntax description

Number of bits	Size of the Voice Information Field (VIF), in bits. The appropriate VIF sizes to use are related to the coding type and the rate the voice coder samples a voice frame (the packet time), as shown in the following table.			
	Coding type	Sampling time	VIF	
	G.711 $\mu$ -law	10 ms	640	
		20 ms	1,280	
		30 ms	1,920	
	G.723	30 ms	192	
		60 ms	384	
	G.729AB	10 ms	80	
		20 ms	160	
		30 ms	240	
		40 ms	320	
		50 ms	400	
		60 ms	480	

**Note: VIF sizes of a coder of values other than those shown in the table are not valid.**

## Fax Coding Profile Configuration Commands

The following sections describe commands that apply to coding profiles for fax.

### set coding *profile\_id* fax\_hs\_pkt\_rate

This T-38 mode command is used to set the rate at which high-speed data will be sent across the network, for a fax coder (i.e., determines the size of the high-speed IFPs).

**set coding *profile\_id* fax\_hs\_pkt\_rate *milliseconds***

#### Syntax description

<i>milliseconds</i>	Value in milliseconds
---------------------	-----------------------

### set coding *profile\_id* fax\_hs\_redundancy

The T-38 mode command is used to specify the packet-level redundancy for high-speed data transmissions (i.e., T.4 image data) for a fax coder profile.

**set coding *profile\_id* fax\_hs\_redundancy *pkt***

#### Syntax description

<i>pkt</i>	Number of prior primary packets to be encapsulated in each fax payload, ranging from 0 to 2.
------------	--

### set coding *profile\_id* fax\_ls\_redundancy

This T-38 mode command is used to specify the packet-level redundancy for low-speed data transmissions (i.e., T.30 handshaking information), for a fax coder.

**set coding *profile\_id* fax\_ls\_redundancy *pkt***

#### Syntax description

<i>pkt</i>	Number of prior primary packets to be encapsulated in each fax payload, ranging from 0 to 5.
------------	--

### set coding *profile\_id* fax\_relay\_features

This command is used to enable or disable specific fax processing capabilities for a fax coder.

**set coding** *profile\_id* **fax\_relay\_features** {scanlon | scanloff} {fdison | fdisoff} {nfson | nfsoff}

#### Syntax description

<i>scanlon</i>	Enable concealment of page data errors due to network packet loss.
<i>scanloff</i>	Disable concealment of page data errors due to network packet loss.
<i>fdison</i>	Enable prolonging of the second Digital Identification Signal (DIS) retransmission.
<i>fdisoff</i>	Disable prolonging of the second DIS retransmission.
<i>nfson</i>	Enable overriding of Non-standard Facility (NSF) data and prevent end fax devices from employing proprietary capabilities.
<i>nfsoff</i>	Disable overriding of NSF data.

### set coding *profile\_id* fax\_t30\_features

This command is used to enable or disable the use of specific fax capabilities between two end fax devices.

**set coding** *profile\_id* **fax\_t30\_features** {ecmon | ecmooff}

#### Syntax description

<i>ecmon</i>	Enable Error Correction Mode (ECM).
<i>ecmooff</i>	Disable ECM. Disabling ECM improves call success rates

### set coding *profile\_id* fax\_tcf\_method

This T-38 mode command is used to control the method with which data is handled over the network, for a fax coding profile. Method 1 (Local) requires that the TCF training signal be generated and checked locally by the gateway and is not forwarded over the network. In Method 2 (Network), TCF data is sent over the network. These correspond to Data Management methods 1 and 2 in specification T.38.

**set coding** *profile\_id* **fax\_tcf\_method** {1 | 2}

#### Syntax description

1	TCF method 1
2	TCF data is sent over the network.

## **set coding *profile\_id* fax\_tx\_net\_timeout**

This command sets the timeout period after which VIP will declare a fax clear-down event, if no data is received from the IP network while the gateway is in a local transmit state. It is a safeguard to ensure the channel is not left in a fax relay state in a transparent signaling environment.

**set coding *profile\_id* fax\_tx\_net\_timeout *seconds***

### **Syntax description**

<i>seconds</i>	Value in seconds, ranging from 10 to 32000.
----------------	---

# 6. Call Progress Tone Configuration Commands

Call Progress (CP) tones such as ring-back, busy, congestion and disconnect tone are signaling tones PBXs and CO switches present at various stage of a call. Telephony device, or user operating it, must act upon the CP tones generated by device connected to it for completing a call. VIP implements a CP generator for generating CP tones and a detector for detecting CP tones. Since the frequency specifications and on/off cadence of CP tones are not uniform over all telephone administrations globally, VIP implements user configurable CP tone generator/detector allowing user to customize the CP tone generator and detector. This chapter describes commands for configuring the CP tone generator and detector.

## Configuring CP Tones

A CP tone is a sequence of tones of up to 6 elements, and each tone element is characterized by a composition of up to 4 mono-frequency tones and a duration that the tone generator plays out these tones. Once configured, the CP tone generator plays these tone elements, in sequence, repeatedly. VIP allows users to define the tone elements and duration for the following CP tones:

**Dial tone**

**Busy tone**

**Congestion tone**

**Disconnect tone**

This section describes the command for configuring these tones.

## set tone

This interactive command is used to configure the each of the element of the CP tones that VIP generates.

**set tone {dial | busy | congest | disconnect}**

### Syntax description

<i>dial</i>	Dial tone
<i>busy</i>	Busy tone
<i>congest</i>	Congestion tone
<i>disconnect</i>	Disconnect tone

After entering the command, the CLI first prompts you to enter the number of tone elements, then prompts you to enter each tone element in sequence. For each tone element, you'll need to specify the following parameters:

Number of mono-frequency tone components, up to 4, that comprise the tone.

Frequency (in Hz) and power level (in unit of 0.1 dBm) for all the mono-frequency tone components. Since a tone may be comprised of up to 4 mono-frequency tone components, you need to provide the frequency and power level of all the 4 tone components. If a tone element is comprised of less than 4 mono-frequency tone components, you need to specify frequency of 0 Hz and power level of 0 dBm to the components that do not exist.

Duration (in milliseconds) of the tone. The duration of -1 specifies playing out the tone forever.

### Example

Assuming you want to define a congestion tone, which is a repetition of two tone elements as shown in the following table:

Tone Element	Tone Composition					Duration (ms)	Remark
	No. of	Tone 1		Tone 2			
	mono-freq. tones	Freq (Hz)	Power (dBm)	Freq (Hz)	Power (dBm)		
<b>1</b>	<b>2</b>	<b>480</b>	<b>-24.0</b>	<b>620</b>	<b>-24.0</b>	<b>250</b>	The first tone element is a composition of a 420 Hz tone of power level -24.0 dBm and a 620 Hz tone of power level -24.0 dBm of duration 250 milliseconds.
<b>2 0</b>							The 2nd tone element is a silence of duration 250 ms.

The following example explains how this interactive command is used to define this tone. Command and keywords user entered are designated in **boldface**.



ITG>**set tone congest** <Enter>

How many sets of tone do you want the whole tone to be? (1~6)

**2** <Enter>

Please enter set 1 parameters in the following order:

num\_freq freq1 amp1 freq2 amp2 freq3 amp3 freq4 amp4 duration (**-1: forever**)

**2 480 -240 620 -240 0 0 0 0 250** <Enter>

Please enter set 2 parameters in the following order:

num\_freq freq1 amp1 freq2 amp2 freq3 amp3 freq4 amp4 duration (**-1: forever**)

**0 0 0 0 0 0 0 0 250** <Enter>

OK

Use '**config store**' cmd to save all the tone generation settings you've made.

ITG>

The following example explains how to define a dial tone, which is a continuous playing out of a 400 Hz tone of power level –20 dBm.

```
Console>set tone dial <Enter>
How many sets of tone do you want the whole tone to be? (1~6)
1 <Enter>
Please enter set 1 parameters in the following order:
num_freq freq1 amp1 freq2 amp2 freq3 amp3 freq4 amp4 duration (-1: forever)
1 400 -200 0 0 0 0 0 0 -1 <Enter>
OK
Use 'config store' cmd to save all the tone generation settings you've made.
Console>
```

## Configuring CP Tone Detector

The CP tones that VIP can detect include busy, ring-back, congestion and 6 types of disconnect tones. VIP allows user to configure its CP tone detection configuration. The CP tone detection configuration includes tone filter information, and a table containing cadence information of all the CP tones that are to be detected. The CP tone filter is a band-pass filter, which filters all the tones present on the telephony ports. After filtering, if a tone is regarded as a CP tone, VIP matches the on/off cadence of the tone against the cadence table users configured. If a match is found, VIP regards it as a specific tone. This section describes command for configuring the tone detection filter and the tone on/off cadence for all the CP tone VIP can detect.

### set cp\_tone\_det

This command is used to configure the on/off cadence for all the CP tones VIP can detect.

```
set cp_tone_det {busy | ringback | congestion | disconnect | disc1 | disc2 | disc2 | disc4 | disc5}
```

#### Syntax description

*busy*

Busy tone

<i>ringback</i>	Ring-back tone
<i>congestion</i>	Congestion tone
<i>disconnect</i>	Disconnect tone type 1
<i>disc1</i>	Disconnect tone type 2
<i>disc2</i>	Disconnect tone type 3
<i>disc3</i>	Disconnect tone type 4
<i>disc4</i>	Disconnect tone type 5
<i>disc5</i>	Disconnect tone type 6

The cadence of a CP tone that user may configure include a sequence of tone-on and tone-off duration and the number or repetition of the sequence. For each CP tone, user may define up to 8 tone-on and tone-off duration, each is defined by a minimum and maximum duration.

After entering the command, the CLI first prompts you to enter the number of on/off cadence elements, then prompts you to enter each cadence element in sequence. For each cadence element, you'll need to specify the following parameters:

Tone on or tone off.

Minimum duration (in milliseconds) of the tone.

Maximum duration (in milliseconds) of the tone.

### Example

Assuming you want to define a busy tone, which is a sequence of the following tone-on and tone-off:

<b>Tone</b>	<b>Minimum Duration</b>	<b>Maximum Duration</b>
<b>On</b>	450 ms	550 ms
<b>Off</b>	350 ms	450 ms
<b>On</b>	450 ms	550 ms
<b>Off</b>	350 ms	450 ms

The following example explains how this interactive command is used to define the cadence. Command and keywords user entered are designated in **boldface**.

```

ITG>set cp_tone_det busy <Enter>
How many sets of elements do you want the whole CP tone to be detected? (1~8)
2 <Enter>
Please enter set 1 parameters in the following order:
on/off min.-duration max.-duration
on 450 550 <Enter>
Please enter set 2 parameters in the following order:
on/off min.-duration max.-duration
off 350 450 <Enter>
Please enter the repeat count now (1~10):
2 <Enter>
OK
Use 'config store' cmd to save all the CPtone detection settings you've made.
ITG>

```

## set cp\_tone\_det\_cfg

This command is used to configure the CP tone detection filter for the default CP tone detection configuration.

```

set cp_tone_det_dfg on_frac [threshold|0|-] [hold_over_time|0|-]
[low_freq|0|-] [high_freq|0|-]

```

### Syntax description

<i>on_frac</i>	Percentage of tone on fraction ranging from 10 to 95. If the ratio between the tone energy and total energy is below this fraction, the call progress tone is ignored. "0" specifies the default of 50%. "-" specifies using the original setting.
<i>threshold</i>	Tone detection threshold, in dBm, ranging from -35 to -20. "0" specifies the default of -37 dBm. "-" specifies using the original setting.

---

<i>hold_over_time</i>	Minimum time duration in millisecond, ranging from 5 to 32767 for the call progress tone to be detected. "0" specifies the default of 200 ms. "-" specifies using the original setting.
<i>low_freq</i>	Low cutoff frequency, ranging from 150 to 500 Hz. "0" specifies the default of 300. "-" specifies using the original setting.
<i>high_freq</i>	High cutoff frequency, ranging from 400 to 1200 Hz. "0" specifies the default of 550. "-" specifies using the original setting.

# 7. H323 Configuration Commands

VIP employs ITU-T H.323 protocol for call signaling and call control. This chapter describes commands for configuring the H.323 protocol.

## set h323 alias

This command is used to create and delete aliases that are registered with the Gatekeeper.

```
set h323 alias {add | del} {alias | all}
```

### Syntax description

<i>add</i>	Create an alias <i>alias</i>
<i>del</i>	Delete a previously created alias <i>alias</i> or all previously created aliases, if the parameter that follows is <i>all</i> .
<i>alias</i>	Alias to be created or deleted
<i>all</i>	Delete all previously created alias. This optional applies to <i>del</i> only

## set h323 allow\_calls\_wo\_gk

This command is used to inform the H.323 stack to allow incoming calls from a remote gateway which is not registered with a gatekeeper.

```
set h323 allow_calls_wo_gk {true | false}
```

### Syntax description

<i>True</i>	Allow calls from gateway that is not registered with a gatekeeper.
<i>False</i>	Do not allow calls from gateway that is not registered with a gatekeeper.

### Default

true

## set h323 alt\_dtmf

There are two ways VoIP gateway handles DTMF Relay, per H.323 and IMTC specifications. While the **set h323 default\_dtmf** command specifies the DTMF

relay technique VIP employs for conveying DTMF digits to remote VoIP devices over Internet. There is still a need for conveying DTMF digits using the alternate DTMF relay technique to certain remote VoIP devices. This command allows users to maintain a table of IP address of remote gateways to which VIP will convey the DTMF tones using the DTMF relay technique other than the one defined by CLI command **set h323 default\_dtmf**.

```
set h323 alt_dtmf {add | del} ip_addr
```

#### Syntax Description

<i>add</i>	Add an entry to the table of IP address of remote gateways to which VIP convey DTMF tone using the alternate DTMF relay technique.
<i>del</i>	Delete an entry from the table.
<i>ip_addr</i>	IP address of the remote gateway.

## set h323 auto\_answer

This command is used to enable or disable early call setup connection. If disabled, the call is not set up until the user initiates the connection.

```
set h323 auto_answer {on | off}
```

#### Syntax Description

<i>on</i>	Enable H323 early call setup connection.
<i>off</i>	Disable H323 early call setup connection.

#### Default

off

## set h323 call\_name

This command is used to set a string that VIP will encapsulate in the H.323 Setup message it sends to a remote VoIP device when initiating a call.

```
set h323 call_name call_name
```

#### Syntax Description

<i>call_name</i>	Call name, up to 30 characters, to be encapsulated in the 3rd alias field of srcAddress field of the H.323 call setup message
------------------	---

## Default

Null

## set h323 cisco\_t38

Cisco FoIP solutions support standard T.38 fax. However, they expect their peer gateways initiating Open Logical Channel (OLC) request, when it determines itself as a H.323 Master. For VIP to be aware of initiating OLC request when interoperating with Cisco gateway, this command is provided.

```
set h323 cisco_t38 {on | off}
```

### Syntax Description

<i>on</i>	Initiates H.323 OLC under slave mode.
<i>off</i>	Waits for H.323 OLC from maser under slave mode.

## Default

off

## set h323 default\_dtmf

There are two ways VoIP gateway handles DTMF Relay, per H.323 and IMTC specifications. By default, VIP conveys DTMF digits in H.323 format. This command is used to specify how DTMF digits are to be conveyed to a remote VoIP device.

```
set h323 default_dtmf {imtc | h323v2}
```

### Syntax Description

<i>imtc</i>	Convey DTMF digits per H.323 specification.
<i>h323v2</i>	Convey DTMF digits per IMTC specification.

## Default

h323v2

## set h323 display\_name

This command is used to set the display name information that is carried in the H.323 setup messages.

```
set h323 display_name display_name
```

### Syntax Description



<i>display_name</i>	The string, up to 64 characters, to be is encapsulated in the Q.931 display information field and in the source Address field 2 of the H.323 setup-UUIE .
---------------------	---

#### Default

'customer'

## set h323 dns\_ip

When setting up a call with a remote gateway, VIP needs to know the IP address of the remote gateway. However, VIP allows designating a remote destination by an IP address or a host name in its dial plan. To be able to map a host name to an IP address, VIP needs to consult a Domain Name Service (DNS) server. This command is used to set the IP address of the default DNS server and the default domain name for VIP.

**set h323 dns\_ip** *ip\_addr domain\_name*

#### Syntax Description

<i>ip_addr</i>	IP address of the default DNS server
<i>domain_name</i>	Name of the domain for VIP.

## set h323 dtmf\_duration

When VIP employs IMTC relay mode, users may specify the duration the gateway plays out a DTMF tone. This command is used to set the duration of a DTMF tone, when IMTC DTMF relay technique is employed.

**set h323 dtmf\_duration** *milliseconds*

#### Syntax Description

<i>millisecond</i>	Duration for the DTMF tone in millisecond.
--------------------	--

#### Default

300

## set h323 endpoint\_prefix

This command is used to set the H.323 prefix that VIP uses when registering to an H.323 gatekeeper. After registering to a gatekeeper using the prefix, the gatekeeper will map all Admission Request with destination matching the prefix to

VIP.

**set h323 endpoint\_prefix** *alias*

#### Syntax Description

<i>alias</i>	H.323 alias of the prefix.
--------------	----------------------------

#### Default

Null

## set h323 endpoint\_reg\_type

This command is used to set the H.323 registration type. This should not be confused with the H.245 terminal type, although the two parameters should be programmed consistently. This parameter specifies how VIP will register itself with the gatekeeper, and has nothing to do with master/slave determination.

**set h323 endpoint\_reg\_type** {*gw* | *terminal*}

#### Syntax Description

<i>gw</i>	VIP registers itself to gatekeeper as a H.323 Gateway
<i>terminal</i>	VIP registers itself to gatekeeper as a H.323 Terminal

#### Default

gw

## set h323 gk\_addr

This command is used to specify the address of the gatekeeper when configured for manual mode.

**set h323 gk\_addr** *ip\_addr*

#### Syntax Description

<i>ip_addr</i>	IP address of the H.323 gatekeeper
----------------	------------------------------------

#### Default

0.0.0.0

## set h323 gk\_id

#### Default

Null

## set h323 gk\_max\_tries

This command is used to control how many registration attempts will be made before VIP considers itself to have failed registration. Once this number of unsuccessful attempts have been made, VIP will only be able to place calls if `allow_calls_wo_gk` is true.

```
set h323 gk_max_tries count
```

### Syntax Description

count	Number of registration attempt
-------	--------------------------------

### Default

2

## set h323 gk\_mode

The H.323 protocol allows calls to be established through H.323 gatekeeper. This command is used to specify if calls are established through a gatekeeper.

```
set h323 gk_mode {off | manual | auto}
```

### Syntax Description

<i>off</i>	Disables gatekeeper operation
<i>manual</i>	Enables gatekeeper in manual discovery mode. The <code>gk_addr</code> must be set appropriately.
<i>auto</i>	Enables auto-discovery of the gatekeeper

### Default

off

## set h323 h245\_term\_type

This command is used to set the H.245 terminal type. The terminal type is used as part of the master/slave determination process of H.245.

```
set h323 h245_term_type terminal_type
```

### Syntax Description

<i>termmal_type</i>	A numerical value designating the H245 terminal type. If setting the H.245 terminal type to a value less than 50 will force slave operation, and a value greater than 200 will force master operation
---------------------	---

## Default

60

## set h323 h245\_timeout

This command is used to set the timeout value, in milliseconds, for an outgoing H.245 packet.

**set h323 h245\_timeout** *milliseconds*

### Syntax Description

<i>milliseconds</i>	H.245 timeout value in milliseconds
---------------------	-------------------------------------

## Default

30000

## set h323 h245\_tunneling

In order to conserve resources, synchronize call signaling and control, and reduce call setup time, it may be desirable to convey H.245 messages within the Q.931 Call Signaling Channel instead of establishing a separate H.245 channel. This is so-called "tunneling". This command is used to set tunneling feature.

**set h323 h245\_tunneling** {on | off}

### Syntax Description

<i>on</i>	Turn on H.245 tunneling feature
<i>off</i>	Turn off H.245 tunneling feature

## Default

Off

## set h323 in\_fast\_start

This command is used to enable or disable accepting incoming call in H.323 Fast Start mode.

**set h323 in\_fast\_start** {on | off}

### Syntax Description

<i>on</i>	Accept incoming calls with H323 Faststart mode
<i>off</i>	Do not accept incoming calls with Set H323 Faststart mode

## Default

off

## set h323 master\_delay

To be able to interoperate with certain H.323 terminals, such as Microsoft NetMeeting, the gateway can not send out H.323 open logical channel message to its counter H.323 terminal immediately after completing H.323 maser slave determination phase. This command allows users to delay sending the H.323 Open Logical Channel message to its counter H.323 terminal.

```
set h323 master_delay {on | off}
```

### Syntax Description

<i>on</i>	Delays sending H.323 open logical channel message.
<i>off</i>	Sends H.323 open logical channel message upon completing H.323 maser slave determination.

## Default

off

## set h323 nat\_call

When VIP is installed in a network that connects to WAN via a router with Network Address Translation (NAT) feature, the NAT might block calls. This command is used to enable VIP to connect to remote gateways connecting to WAN via NAT capable router.

```
set h323 nat_call {on | off}
```

### Syntax Description

<i>on</i>	Enable.
<i>off</i>	Disable.

## Default

on

## set h323 out\_fast\_start

This command is used to select the H.323 mode for outgoing calls.

```
set h323 out_fast_start {on | off}
```

### Syntax Description

<i>on</i>	Initiating outgoing calls with H323 Fast Start mode
<i>off</i>	Initiating outgoing calls with H323 Non Fast Start mode off

### Default

off

## set h323 rtp\_port\_base

This command is used to select the starting port number for assignment of RTP ports. When calls are made to remote gateways, an RTP and RTCP ports are opened for each call. VIP uses the *port\_base* as the RTP port number and *port\_base* + 1 as the RTCP port for the first call, the next call uses the next two successive ports, and so on.

**set h323 rtp\_port\_base *port\_base***

### Syntax Description

<i>port_base</i>	The starting port number for the assignment of RTP port. If rtp_port_base is assigned a value of 0, the assignment of port number will be dynamic. The port number can be specified from 0 to 32767, and per H.323 Standard, it must be an even number. Typically, numbers from 0 to 1023 are reserved on most systems. The recommended value is 30000.
------------------	---

### Default

30000

## set h323 term\_id

**set h323 term\_id *alias***

### Default

Null

## set h323 time\_to\_live

**set h323 term\_id *milliseconds***

### Default

0

# 8. Configuration Management Command

The CLI maintains three areas where the parameters for telephony interface ports, voice and fax coders, and H.323 configuration are stored:

Temporary

Active

Non-volatile Storage (NVS)

When a **set** command is entered and processed, it changes the parameter value in the Temporary area. This does not affect current operation of VIP, which is using the values in the Active area. The **config activate** command moves configuration data from the Temporary area to the Active area, where it can actually be used. Thus a user can make multiple changes in the Temporary area using **set** commands, then put them into use with a single **config activate** command. (**Note: config activate command may only be used between calls, and will usually tear down any in-progress calls when invoked.**)

Configuration data in the Active area is only available while VIP remains in operation. If VIP is reset, the Active area is reloaded from the data stored in NVS. Data in the Active area may be saved to NVS by entering the **config store** command.

For **most of the H.323 parameter, settings won't take effect until VIP reset.** To ensure the H.323 setting to take effect, it is recommended to reset VIP after changing the settings using the **set h323** command.

In summary:

Use **set** commands to make configuration parameters changes in the Temporary area

Use the **config activate** command to move the new values into the Active area, available for use

Use the **config store** command to save the new Active values in NVS

Reset VIP after changing H.323 settings and storing the setting to NVS.

## config

This command is used to move data among Temporary, Active and NVS areas.

**config** {**activate** | **store** | **erase**}

### Syntax Description

<i>activate</i>	Move the configuration from temporary area to active area.
<i>store</i>	Store the active configuration data into non-volatile storage.
<i>erase</i>	Erase the configuration from non-volatile storage.



# 9. The Show Command

The show commands are used to display information about VIP. This chapter describes the show command.

## show coding

This command displays parameters of a coding profile.

```
show coding [profile_id]
```

### Syntax description

<code>profile_id</code>	ID of the coding profile. If not specified, parameters for all coding profile available will be displayed.
-------------------------	--

## show cp\_tone\_det

This command displays the on/off cadence of a CP tone that was configured using the `set cp_tone_det` command.

```
show cp_tone_det {busy | ringback | congestion | disconnect | disc1 | disc2 | disc2 | disc4 | disc5}
```

### Syntax description

<code>Busy</code>	Busy tone
<code>Ringback</code>	Ring-back tone
<code>Congestion</code>	Congestion tone
<code>Disconnect</code>	Disconnect tone type 1
<code>disc1</code>	Disconnect tone type 2
<code>disc2</code>	Disconnect tone type 3
<code>disc3</code>	Disconnect tone type 4
<code>disc4</code>	Disconnect tone type 5
<code>disc5</code>	Disconnect tone type 6

## Example

The following example shows how to display the on/off cadence for disconnect tone:

```
ITG>show cp_tone_det_disconnect <Enter>
The settings for CP detection are:
Number of on/off cadence elements: 2 for Disconnect-Tone
min. duration max. duration
Cadence ON for 270 330
Cadence OFF for 270 330
Repeat for 5 times.
OK
ITG>
```

## show cp\_tone\_det\_cfg

This command displays the CP tone detection filter for the default and alternate CP tone detection configurations.

```
show cp_tone_det_cfg
```

## Example

The following example shows how to display the on/off cadence for disconnect tone:

```
ITG>show cp_tone_det_cfg <Enter>
CP tone detection filter config
on_frac thresh ho_time lo_freq hi_freq
Default 39 % -37 dBm 200 ms 180 Hz 620 Hz
Alternate 50 % -37 dBm 200 ms 300 Hz 550 Hz
ITG>
```

## show h323

This command displays H.323 configuration parameters that users set using the set h323 command.

```
show h323
```

## Example

The following example shows how to display H.323 configuration:

```
ITG>show h323 <Enter>
h323 display_name = 'Customer'
h323 h245_term_type = 60
h323 rtp_port_base = 30000
h323 out_fast_start = off
h323 in_fast_start = off
h323 h245_tunneling = off
h323 master_delay = on
h323 cisco_t38 = on
h323 nat_call = on
h323 call_name =
h323 g723_frame_rate = 2
h323 default_dtmf = H323 V2 Signal
h323 dtmf_duration = 300 ms
No Alternate IP Defined!
h323 dns_ip = 0
h323 gk_mode = off
h323 h245_timeout = 30000
h323 term_id =
ITG>
```

## show port

This command displays the configuration of a telephony port.

```
show port [port]
```

### Syntax description

*Port*

ID of the telephony port. If not specified, parameters for all telephony ports available will be displayed.

## show rtxstat

This command displays the statistic information about the voice packets that a telephony port has ever received and transmitted.

```
show rtxstat port [clear]
```

### Syntax description

<i>port</i>	ID of the telephony port whose voice packet information is to be displayed.
<i>clear</i>	Clear the original statistics after displaying

## show tlevels

This command displays the power level, in 0.1 dBm, of the following signals for a telephony port:

- Current receive signal level
- Current transmit signal level
- Average receive signal level
- Average transmit signal level
- Current background noise level

### show tlevels port

#### Syntax description

<i>port</i>	ID of the telephony port whose signal level is to be displayed.
-------------	---

#### Example

The following example shows how to display the power levels for signals for telephony port 0:

```
ITG> show tlevels 0 <Enter>
ITG>
Port 0, Tele Levels: (0.1 dBm)
rx_level = -220,
tx_level = -110,
rx_mean = 490,
tx_mean = 440.
Bkg noise = 0
ITG>
```

## show tone

This command displays each element of a CP tone that was configured using the set cp\_tone command.

### show tone [dial | busy | congest | disconnect]

## Syntax description

<i>Dial</i>	Dial tone
<i>Busy</i>	Busy tone
<i>congest</i>	Congestion tone
<i>disconnect</i>	Disconnect tone

## Example

The following example shows how to display information about the dial tone:

ITG> <b>show tone dial</b>									
The settings are:									
Number of tone elements: 1 for Dial-Tone									
num_freq	freq1	amp1	freq2	amp2	freq3	amp3	freq4	amp4	duration
2	350	-130	440	-130	0	0	0	0	-1
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
OK									
ITG>									

## show tstat

This command displays the telephony interface statistics for a telephony port, cumulative since VIP was powered up. Information displayed include:

Number of off-hooks detected.

Number of on-hooks detected.

Number of seizures detected

Number of DTMF tone digits detected

Number of pulse dial digits detected

**show tstat** *port*

### Syntax description

<i>port</i>	ID of the telephony port whose call record is to be displayed.
-------------	--

### Example

The following example shows how to display tstat for that telephony port 0:

```
ITG>show tstat 0 <Enter>
Port 0, Tele Stats
num_offhooks = 48
num_onhooks = 48
num_seizures = 48
num_tone_digits = 1028
num_pulse_digits = 0
ITG>
```

### show version

This command is used to display information that identifies the versions of various software components that implement VIP.

**show version**

### Example

The following example shows how to use the **show version** command

```
ITG>show version
Internet Telephony Gateway (PLA) Version: 3.13
Boot Loader Version: 4.12
RTOS Version: 2.5.0/BE
H.323 Stack Version: 3.0.9.0
DSP image Version: 8.1.2.1.
TSG Version: R8.0 Gateway (Build 4)
ITG>
```

### show vpstat

This command displays the statistic information about the voice packets played out by a telephony port.

**show vpstat *port* [*clear*]**

**Syntax description**

<i>Port</i>	ID of the telephony port whose voice packet information is to be displayed.
<i>Clear</i>	Clear the original statistics after displaying

# 10. Dial Plan Management Commands

The dial plan is a database, that the Address Translation and Parsing Manager (ATPM) of VIP looks up for translating a dial string to a destination. The dial plan management commands allow you to modify and display the dial plan. Commands that change the dial plan are only allowed when VIP is in the database update state. This chapter describes the dial plan management command.

This chapter is organized as follows:

- Database update control commands
- Destination table management commands
- Hunt group table management commands
- Address table management commands
- Dialling control commands

## Database Update Control Commands

### atpm done

This command ends the dial plan update session and re-enables the address translation.

```
atpm done
```

**Allowed only in database update mode**

No

### atpm erase

This command erases the dial plan database from the non-volatile memory.

```
atpm erase
```

**Allowed only in database update mode**

No

### atpm purge

This command deletes all entries from the dial plan database.



## **atpm purge {all | addr | dest | hunt}**

### **Syntax description**

<i>all</i>	Delete all entries from atpm address, destination and hunt group tables.
<i>addr</i>	Delete all entries from atpm address table.
<i>dest</i>	Delete all entries from atpm destination table.
<i>hunt</i>	Delete all entries from atpm hunt group table.

### **Allowed only in database update mode**

Yes

## **atpm req**

This command starts the dial plan database update session. Upon starting the database update session, the ATPM address translation is disabled; hence no phone call can be made, until a **atpm done** command is issued.

[atpm req](#)

### **Allowed only in database update mode**

No

## **atpm restore**

This command restores the whole dial plan from non-volatile storage to the ATPM address, destination and hunt group tables.

[atpm restore](#)

### **Allowed only in database update mode**

Yes

## **atpm store**

This command restores the whole dial plan from non-volatile storage to the ATPM address, destination and hunt group tables.

[atpm store \[erase\]](#)

### **Syntax description**

<i>erase</i>	Erase the non-volatile storage before storing the dial plan database. This option is not recommended except the very first time you use the atpm store command.
--------------	---

**Allowed only in database update mode**

No

## Destination Table Management Commands

### atpm dadd

This command adds a destination entry into the ATPM destination table. A local destination entry is one of the telephony ports on VIP.

**atpm dadd** *dest\_id* {**h323** *ip\_addr* | **dns** *host\_name* | **port** *port#*}

**Syntax description**

<i>dest_id</i>	Destination ID. For each destination, you need to assign it a unique identifier between 0 and 99.
<i>h323</i>	The destination is a remote gateway, whose IP address is <i>ip_addr</i> .
<i>ip_addr</i>	The IP address of the remote destination.
<i>dns</i>	The destination is a remote gateway, whose host name is <i>host_name</i> .
<i>host_name</i>	The host name of the remote destination.
<i>port</i>	The destination is a local telephony, whose port number is <i>port#</i> .
<i>port#</i>	The 0-based number of the telephony port.

**Allowed only in database update mode**

Yes

### atpm ddel

This command deletes an entry from the ATPM destination table.

**atpm ddel** *dest\_id*

**Syntax description**

<i>dest_id</i>	Deleted an existing destination entry from destination table.
----------------	---

### Allowed only in database update mode

Yes

## atpm dfind

This command finds and displays an entry in the destination table.

**atpm dfind** *dest\_id*

### Syntax description

<i>dest_id</i>	ID of a previously added destination entry to be displayed.
----------------	---

### Allowed only in database update mode

No

## atpm dlist

displays all entries in the destination table.

**atpm dlist**

### Allowed only in database update mode

No

## Hunt Group Table Management Commands

### atpm hadd

This command adds an entry into the ATPM hunt group table.

**atpm hadd** *id* {**1** | **2**} *dest\_id* [*dest\_id*] [*dest\_id*] . . .

### Syntax description

<i>id</i>	Hunt group ID. For each hunt group, you need to assign it a unique identifier between 0 and 99.
<b>1</b>	Hunt type 1. Hunt type 1 hunts destination within a hunt group starting from the destination member just after the last used member.
<b>2</b>	Hunt type 2. Hunt type 2 hunts destination within a hunt group starting from the first destination member.
<i>dest_id</i>	List of ID's of destination members in the hunt group

### Allowed only in database update mode

Yes

## atpm hdel

This command deletes an entry into the ATPM hunt group table.

**atpm hdel** *id*

### Syntax description

<i>id</i>	ID of the hunt group to be deleted from the hunt group table.
-----------	---

### Allowed only in database update mode

Yes

## atpm hfind

This command finds and displays an entry in the hunt group table.

**atpm hfind** *id*

### Syntax description

<i>id</i>	ID of the hunt group to be displayed.
-----------	---------------------------------------

### Allowed only in database update mode

No

## atpm hlist

This command displays all entries in the hunt group table.

**atpm hlist**

### Allowed only in database update mode

No

## Address Table Management Commands

### atpm aadd

Use the **atpm aadd** command to add an entry into the ATPM address table.

**atpm aadd** *tel# min\_digits max\_digits hunt\_group\_id prefix\_strip\_len [prefix#]*

### Syntax description

<i>tel#</i>	Telephone number to match. This is only part of the total dialed string.
<i>min_digits</i>	Minimum number of digits to be collected before the ATPM starting matching the dialed string with entries in the address table.
<i>max_digits</i>	Maximum number of digits to be collected before the ATPM starting matching the dialed string with entries in the address table.
<i>hunt_group_id</i>	Hung group ID for this telephone number
<i>prefix_strip_len</i>	The number of digits to be stripped at the beginning of the collected dial string before forwarding the string to the destination.
<i>prefix#</i>	Digit to be added before the beginning of the collected dial string before forwarding it to the destination.

### Allowed only in database update mode

Yes

## atpm adel

This command deletes an entry from the ATPM address table.

**atpm adel tel#**

### Syntax description

<i>tel#</i>	Number of a previously added entry to be deleted from the address table.
-------------	--

### Allowed only in database update mode

Yes

## atpm afind

This command finds and displays an entry in the address table.

**atpm afind tel#**

### Syntax description

<i>tel#</i>	Number of a previously added entry in thaddress table to be displayed.
-------------	--

### Allowed only in database update mode

No

## atpm alist

The **atpm alist** displays all entries in the address table.

**atpm alist**

### Allowed only in database update mode

No

## Dialing Control Commands

### atpm slist

This command displays the parameters that controls the dialing

**atpm slist**

### Allowed only in database update mode

No

### atpm sys

This command to sets the time constraints for collection of dial digits.

**atpm sys** *dial\_time 1st\_digit\_wait inter\_digit\_wait [dial\_term\_digit]*

#### Syntax description

<i>dial_time</i>	The maximum time, in millisecond, allowed for entry of the entire string of dial digits. At expiration, ATPM starts address lookup.
<i>1st_digit_wait</i>	The maximum time, in millisecond, allowed between off-hook and when the first dial digit is entered. At expiration, ATPM considers address lookup to fail.
<i>inter_digit_wait</i>	The maximum time allowed between entry of each digit after the previous digit. At expiration, ATPM starts address lookup.
<i>dial_term_digit</i>	End of the dial string is declared when the digit is entered.

### Allowed only in database update mode

Yes

# 11. Software Upgrade Utility Commands

VIP offers two operation modes. Under normal conditions, VIP operates in Gateway mode. When software upgrade is required, VIP may be operated in Software Upgrade mode. Under Software Upgrade mode, the CLI supports limited commands allowing users to read new revision codes from a remote TFTP server and write it to the built-in flash non-volatile storage. This chapter describes CLI commands available when VIP operates in software upgrade mode.

## help

The **help** command lists the top-level commands.

**help**

## ping

The **ping** command sends Internet Control Message Protocol (ICMP) echo request packets to another node on the network.

**ping** *host\_ip\_address*

**ping -s** *host\_ip\_address* [*count/timeout*]

### Syntax description

<i>-s</i>	Causes ping to send one datagram per second, printing one line of output for every response received.
<i>host_ip_addr</i>	The IP address or IP alias of the host.
<i>count</i>	Time of ICMP packets will be sent
<i>timeout</i>	Timeout value for the ping in millisecond

## quit

The **quit** command is used to terminate the download mode and return to normal operation mode.

**quit**

### Note

Switching mode from Telnet session will terminate current active session. You'll need to connect to ITG again to be able to access the CLI.

## set gateway

Use the **set gateway** command to assign a default gateway (router) for VIP. The default gateway routes packet data outside of your IP subnet.

**set gateway** *ip\_addr*

### Syntax description

*ip\_addr*

The IP address of the default gateway. IP address of 0.0.0.0 stands for no default gateway.

## set ip

Use the **set ip** command to assign a static IP address to VIP.

**set ip** *ip\_addr*

### Syntax description

*ip\_addr*

The IP address of VIP.

### Notes

The new IP address will not take effect until VIP is reset.

## set mask

Use the **set mask** command to set the IP subnet mask for VIP.

**set mask** *ip\_mask*

### Syntax description

*ip\_mask*

The subnet mask of your network.

### Notes

The new setting will not take effect until VIP is reset.

## show

The **show** command displays all the network settings.

**show**



## start

This interactive command is for downloading code from a TFTP server. VIP will prompt you for the IP address of the TFTP server and the file to download.

### start

#### Example

The following example explains how this interactive command is used to download a code image file `itgp315.img` from a TFTP server whose IP address is 192.168.0.253. Command and keywords user entered are designated in **boldface**.

```
EITGLoader>start
IP address of the TFTP server? [0.0.0.0] 192.168.0.253 <Enter>
File name? itgp315.img <Enter>
Starting download file: itgp315.img
Download complete, file size = 2278800
Application code (non-pkzip'd) downloaded successfully
Do you want to write downloaded image to flash EEPROM (y/n)? [y] y <Enter>
Press <Enter> to start flash EEPROM programming <Enter>
Flash EPROM programming on-going, BE CERTAIN NOT TO TURN POWER OFF...
Flash sector no. 4 write done
Flash sector no. 5 write done
Flash sector no. 6 write done
Flash sector no. 7 write done
Flash sector no. 8 write done
Flash sector no. 9 write done
Flash sector no. 10 write done
Flash sector no. 11 write done
Flash sector no. 12 write done
Flash sector no. 13 write done
Flash EEPROM programming completed
All sectors programmed successfully
Download another file (y/n)? [n] n <Enter>
EITGLoader>
```