TANDBERG GW
Dataport Command Interface User Guide

Software version G1.0

TANDBERG

D13202 Rev 01

Table of Contents

1. Introduction

The *TANDBERG GW Dataport Command Interface User Guide* contains guidelines on how to use the textual command interface supported by the GW. The Dataport Command Interface can be accessed through Telnet via the LAN interface or through RS-232 by connecting a serial cable to the serial interface connector, referred to as the *Dataport* (ref. chapter 2). Three Telnet sessions can be connected to the GW at the same time in addition to the RS-232 connection.

If, after reading this manual, you require additional information concerning the use of the *TANDBERG GW Dataport Command Interface*, please contact your local TANDBERG dealer who will be able to supply you with relevant information for special applications.

2. Connecting to the Dataport Command Interface through the RS-232 port.

The RS-232 port is a 9-pin, female, D-sub connector located on the back of the GW. The port is configured as a DCE (Data Communications Equipment). The RS-232 port is default set to 9600 baud, 8 databits, none parity and 1 stopbit from factory. The RS-232 port is also referred to as *the Dataport.*

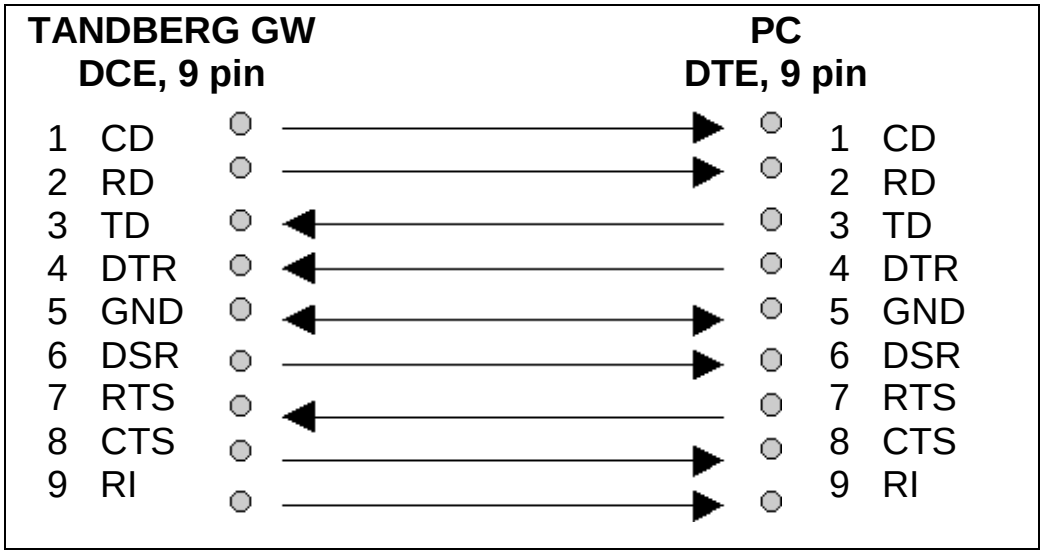
2.1. Hardware And Cabling

The pin outs for the RS-232 are defined in the following table (the DTE, Data Terminal Equipment, could be a PC or other device capable of serial communication).

Pin no	Signal	Description	Direction
1	CD	Carrier detect	To DTE
2	RD	Receive data	To DTE
3	TD	Transmit data	From DTE
4	DTR	Data terminal ready	From DTE
5		Ground	
6	DSR	Data set ready	To DTE
7	RTS	Ready to send	From DTE
8	CTS	Clear to send	To DTE
9	RI	Ring indicator	To DTE

NOTE! A straight through cable should be used between the TANDBERG GW's RS-232 port and the DTE.

The figure below illustrates the recommended cable-wiring scheme for connecting the GW to a PC through RS-232.



DTR and RTS are ignored. DSR, CD, and CTS are always asserted, while RI is not used.

2.2. Configuring The Dataport From The Web Interface

Click on *System Configuration* tab and then the *Dataport* button. The Dataport can be configured by setting baudrate, parity, databits and stopbits.

2.3. Troubleshooting

If communication cannot be established between the PC/terminal and the TANDBERG GW's Dataport the following should be checked:

- Verify that the serial cable is a straight through 9-pin to 9-pin cable
- Confirm that the configuration of the PC/terminal's serial RS-232 port is identical to the configuration of the TANDBERG GW RS-232 port.
- Verify that the PC/terminal's serial RS-232 port is working properly by connecting it back-to-back to another PC/terminal and send characters in both directions[1].

[1] It requires a null-modem cable to perform this test

3. Connecting to the Datport Command Interface using Telnet

The TANDBERG GW has two LAN ports. Connection to the Dataport Command Interface via Telnet should be done through LAN port 1.

The GW's Telnet server provides access to the Dataport Command Interface through a 10/100 base T network interface supporting the TCP/IP protocol.

When connected to the GW, the Telnet client will receive a welcome message similar to the following:

```
Welcome to TANDBERG
TANDBERG GW Release G1.0
SW Release Date: 2003-07-01
```

NOTE! If the TANDBERG GW is protected by an IP password you will be prompted to enter this password before you can access the Dataport Command Interface via Telnet.

4. The TANDBERG GW Commands

4.1. Introduction

Typing '**?**' or '**help**' when connected to the Dataport Command Interface will return a list of valid *commands.* The commands are used to control the functions of the GW. A command may be followed by a set of *parameters* and *sub-commands*. This chapter gives a description of the valid commands for the GW.

4.1.1. Command format

Typing '**?**' or '**help**' after a command will result in a *usage text* being displayed. Usage text gives information about the command format, i.e. valid parameters, sub-commands etc. An example is shown below (the user input is shown in bold).

```
prichan ?
```

```
usage: prichan <PRI interface> max <number>
or:    prichan <PRI interface> high <number>
or:    prichan <PRI interface> low <number>
or:    prichan <PRI interface> search <high/low>
-
PRI interface - a/b/c/d
number : 1..23
```

Parameters are arguments upon which the command will operate. Required parameters are denoted by: < >, while optional parameters are denoted by: [ ]. The possible values for a given parameter are separated with slashes (/). For some parameters, only the parameter name is supplied within the brackets. In these cases a specific parameter value is to be substituted for the parameter name. The possible values to be substituted for a parameter name are often supplied below if it is not obvious what the possible values are.

Sub-commands are commands grouped together within a command. Different sub-commands within a command may have different parameter sets. In the example above: **max**, **high**, **low**, **search** are sub-commands to the command **prichan**.

NOTE! The Dataport Command Interface is not case sensitive.

4.1.2. Command types

The commands can be divided into three major classes:

- System Commands
- Parameter Setting Commands
- Status Commands

System Commands are commands that initiate processes in the GW. E.g.: The command **calltransfer** initiates the process of transferring a call.

If the command is not syntactically correct, the GW returns **ERROR**. If the command is syntactically correct, but the system is not accepting the command, **R response feedback* is issued followed by **ERROR**. If the command is syntactically correct and the command is accepted, the GW returns **OK**. An example of **R response feedback* is shown below in the

case where the user is trying to transfer a call from an inactive GW port (the user input is shown in bold).

```
calltransfer 1 999999
```

```
*R Invalid gateway id

ERROR
```

Parameter Setting Commands are commands that set a system parameter to a specific value. E.g.: The command **ippassword** sets the valid password needed to establish an IP connection with the GW to a specific value.

If the command is syntactically correct the GW returns **OK**, otherwise the GW returns **ERROR**. If **P parameter feedback* is activated (ref. command **feedback)**, and the parameter is successfully changed, the GW will return the command with the new value. An example of **P parameter feedback* is shown below (the user input is shown in bold).

```
pardial on
```

```
OK

*P pardial on
```

When issuing a Parameter Setting Command with no parameter, the GW will return the command with the current setting. E.g.:

```
pardial
```

```
*P pardial on

OK
```

Status Commands are commands that list different sets of system parameters. If **S status feedback* is activated (ref. command **feedback**), status commands are automatically called when corresponding parameters are being changed.

4.2. The commands

The commands are divided into five groups: System Configuration Commands, General GW Commands, System Status Commands, Debug Commands and Special Commands.

4.2.1. System Configuration Commands

Command:	Description:
defvalues set	This command is used to restore factory default settings. Issuing this command with no parameters will restore all settings except network settings and option key. To reset all values to factory defaults the optional parameter **all** or ***factory** should be added. Please download the parameter file, or write down the optionkey before you execute this command (issue the command **optionkey** to view the current value of the optionkey)**.** **defvalues set [all/factory]** ***** Adding the optional parameter *factory*, the eeprom will be erased and the flash disk will be formated.
h323gatekeeper	Sets gatekeeper parameters. *NOTE! H.323 services must be set before the GW can be registered to a gatekeeper, ref. command gwh323service.* **h323gatekeeper <on/off>** or **h323gatekeeper address <ipaddress>** --- sub-commands: • **address:** Sets the IP address of the gatekeeper Example of **h323gatekeeper** feedback: **P h323gatekeeper on* **P h323gatekeeper address 10.0.0.30*
ipaddress	Configures the LAN interfaces when static IP address allocation is used (the command **ipassignment** is used to select between DHCP and static IP address allocation). *NOTE! The GW needs to reboot before the changes will apply*. **ipaddress [LAN interface] static <ipaddress>** or **ipaddress [LAN interface] subnetmask <ipaddress>** or **ipaddress [LAN interface] gateway <ipaddress>** --- parameters: • **LAN interface: 1.** Number identifying the LAN interface. If this parameter is omitted the command applies to all interfaces (only interface **1** is in use). sub-commands: • **static:** Sets the static IP address for the given LAN interface. • **subnetmask:** Sets the subnet mask variable for the given LAN interface. Subnet mask defines the network class. If the setting is 255.255.255.0 the local network will support up to 256 nodes, denoting a class C network. If the setting is 255.255.0.0 the local network is a class B network with 65536 addressable nodes. • **gateway:** Sets the gateway IP address for the given LAN interface. If a gateway is located on the LAN and the GW needs to reach nodes through this gateway, the gateway address can be set using the gateway variable (the IP address of the gateway will be set automatically if the GW is in DHCP mode)

	Example of **ipaddress** feedback: **P ipaddress 1 static 10.0.5.98* **P ipaddress 1 subnetmask 255.255.0.0* **P ipaddress 1 gateway 10.0.0.1*
ipassignment	Selects between DHCP (Dynamic Host Configuration Protocol) or static IP address allocation. When DHCP is selected the GW will automatically receive all the necessary information from the DHCP server. This function should be used when the GW is connected to a LAN using DHCP. When using this mode, IP-address and IP-subnet mask are not used because the DHCP server supplies these parameters. **ipassignment [LAN interface] <dhcp/static>** --- parameters: • **LAN interface: 1.** Number identifying the LAN interface. If this parameter is omitted the command applies to all interfaces (only interface **1** is in use). Example of **ipassignment** feedback: **P ipassignment 1 static*
ipmtu	Sets the maximum IP packet size to be used for H.323 calls. It can be useful to reduce the packet size when packets are transmitted over links that add overlay (f.ex. VPN). Reducing the packetsize will prevent the packets from being fragmented. **ipmtu <1200-1400>** Example of **ipmtu** feedback: **P ipmtu 1400*
ippassword	Sets a password to restrict access to the GW's webserver, telnet and ftp resources. **ippassword [LAN interface] <password>** --- parameters: • **LAN interface: 1.** Number identifying the LAN interface. If this parameter is omitted the given value is set for all interfaces (only interface **1** is in use). • **password:** Textstring of maximum 16 characters. If the password is forgotten it can be deleted using the command **ippassword "”** through the RS-232 port. *NOTE! The default password is "TANDBERG".*
ipspeed	Sets LAN port speed. *NOTE! The GW needs to reboot before the changes will apply*. **ipspeed [LAN interface] <speed>** --- parameters: • **LAN interface: 1.** Number identifying the LAN interface. If this parameter is omitted the given value is set for all interfaces (only interface **1** is in use). • **speed: auto/10half/10full/100half/100full.** The speed is either set to auto or manually from 10mb half duplex to 100mb full duplex. When set to auto the GW will automatically negotiate with the network and use the

	best available setting. Example of **ipspeed** feedback: **P ipspeed 1 auto*
ipqos	Configures the different Quality of Service (QoS) algorithms supported by the TANDBERG GW. QoS are used to set priority on QoS enabled IP networks. **ipqos prectlph <chantype tlph> <precvalue>** or **ipqos diffstlph <chantype tlph> <diffsvalue>** or **ipqos precvtlph <chantype vtlph> <precvalue>** or **ipqos diffsvtlph <chantype vtlph> <diffsvalue>** or **ipqos mode <precedence/diffserv/off>** or **ipqos tos <delay/throughput/reliable/cost/off>** or **ipqos rsvp <auto/off>** --- parameters: • **chantype tlph: audio/signalling.** Indicates which channel type the setting applies to. • **chantype vtlph: audio/video/data/signalling.** Indicates which channel type the setting applies to. • **precvalue: 1-7/auto/off.** The priority value to be used for IP Precedence. When set to auto the system will use the Cisco recommended values. For video telephony calls this value is 6 for signalling channels and 4 for audio channels and video channels. • **diffsvalue: 0-63.** The priority value to be used for Differentiated Services (DiffServ). • **modevalue: ipprecedence/diffserv/off.** Possible priority algorithms. • **tosvalue: delay/throughput/reliable/cost/off.** Possible routing priority values. sub-commands: • **prectlp:** Sets IP Precedence value to be used for voice over IP calls. • **diffstlph:** Sets the Differentiated Services (DiffServ) value to be used for voice over IP calls. DiffServ is an extension of IP Precedence and enables division of IP traffic into 63 classes with different priority. Should be used instead of IP Precedence if possible. • **precvtlph:** Sets IP Precedence value to be used for video over IP calls. • **diffsvtlph:** Sets the Differentiated Services (DiffServ) value to be used for video over IP calls. • **mode:** Sets which priority algorithm to be used. • **tos:** Sets the routing policy the router should use when routing a call. If supported by the router, the endpoint can signal to the router to select a route that gives: "Minimum **delay**, maximum **throughput**, maximum **reliable** or minimum **cost**. • **rsvp:** Sets the Resource Reservation Protocol (RSVP) to on or off. When RSVP is set to on, the TANDBERG GW will signal to the network the minimum bandwidth and minimum delay required to make a call. RSVP will try to reserve the resources required. If granted, Quality of Service will be ensured during the whole call. *NOTE! The network has to be RSVP enabled to use this protocol*

	Example of **ipqos** feedback: **P ipqos prectlph audio auto* **P ipqos diffstlph audio 0* **P ipqos precvtlph audio auto* **P ipqos precvtlph signalling auto* **P ipqos precvtlph video auto* **P ipqos precvtlph data auto* **P ipqos diffsvtlph audio 0* **P ipqos diffsvtlph signalling 0* **P ipqos diffsvtlph video 0* **P ipqos diffsvtlph data 0* **P ipqos mode precedence* **P ipqos tos off* **P ipqos rsvp off*
isdnprot	Defines various ISDN protocol settings. **isdnprot nsftel <number>** or **isdnprot nsfvid <number>** or **isdnprot sendcomplete <on/off>** or **isdnprot restart <on/off>** or **isdnprot alert <on/off>** or **isdnprot hlc <on/off>** --- sub-commands: • **nsftel / nsfvid:** Selects Network Service Facility for videophony or telephony on PRI-T1.The NSF can be configured as **“”** (no value) or any **number** between **0-31** to describe the service facility on your PRI-T1 line. To enter the NSF value you must know the profile used for your line. • **sendcomplete:** The Q.931 message "Sending complete" can be turned **off**. This is only applicable for some Australian switches, which stop outgoing calls when the message “send complete” is sent to the switch. • **restart:** When restart is set to **on** the PRI interfaces will be reinitialized after boot. • **alert:** If set to **on,** the system will respond with an alert message to all incoming setup messages. If set to **off,** the system will respond with an alert message only to the incoming setup message related to the initial channel. • **hlc:** Turns sending of HLC information element in setup message **on** or **off** (video calls only)**.** Example of **isdnprot** feedback: **P isdnprot nsftel ""* **P isdnprot nsfvid ""* **P isdnprot sendcomplete off* **P isdnprot restart on* **P isdnprot alert on* **P isdnprot hlct on*
netprofile	Network profiles are used to predefine a set of call prefixes to be used by directory entries. **netprofile <profile number> <call prefix> [profile name] [network]**

	--- parameters: • **profile number: p1/p2/p3/p4/p5/p6**. The GW can hold as many as six profiles (**p1**, **p2** and **p3** are predefined and can not be changed). • **call prefix:** The prefix number for this profile. • **profile name:** The profile's name. Textstring of maximum 8 characters. • **network: auto/h320/h323** *NOTE! This parameter will be overridden by the GW, ref. command calltransfer.* Example of **netprofile** feedback: **P netprofile p1 "" Auto auto* **P netprofile p2 "" ISDN h320* **P netprofile p3 "" H323 h323* **P netprofile p4 0 Ext auto* **P netprofile p5 1 test auto* **P netprofile p6 2 test2 auto*
pardial	Sets parallel dial mode for BONDING calls. If **pardial** is set to **off** the GW will set-up BONDING calls by dialling all channels in a sequential manner, i.e. the system will wait for a connection on the current channel before attempting to connect the next. **pardial <on/off>** --- Example of **pardial** feedback: **P pardial off*
pricable	Sets PRI interface cable lengths. **pricable [PRI interface] <cablelength>** --- parameters: • **PRI interface: a/b/c/d.** Letters identifying the different PRI interfaces. If this parameter is omitted the given value is set for all interfaces. o **a**: PRI interface 1 o **b**: PRI interface 2 o **c**: PRI interface 3 o **d**: PRI interface 4 • **cablelength: 1/2/3/4/5.** o **1**: 0-133 ft (0-40 m) o **2**: 133-266 ft (40-81 m) o **3**: 266-399 ft (81-122 m) o **4**: 399-533 ft (122-162 m) o **5**: 533-655 ft (162-200 m) Example of **pricable** feedback: **P pricable a 1* **P pricable b 1* **P pricable c 1* **P pricable d 1*
prichan	This command is used to configure the channel hunting strategy for the PRI interfaces. **prichan <PRI interface> max <1..23/30>** or

	prichan <PRI interface> low <1..23/31> or **prichan <PRI interface> high <1..23/31>** or **prichan <PRI interface> search <high/low>** --- parameters: • **PRI interface: a/b/c/d.** Letters identifying the different PRI interfaces. o **a**: PRI interface 1 o **b**: PRI interface 2 o **c**: PRI interface 3 o **d**: PRI interface 4 sub-commands: • **max:** Sets a limit on the number of channels that will be available for incoming and outgoing calls. Values: 1-23 for T1 PRI, 1-30 for E1 PRI. • **low:** Used together with **high** to define the line hunting strategy. The GW will search for available channels between **low** and **high.** This allows other devices to reserve channels outside this range Values: 1-23 for T1 PRI, 1-31 for E1 PRI. • **high:** ref. low • **search:** Specifies if the search for available channels are to start from the lower or higher limit. Example of **prichan** feedback: **P prichan a max 23* **P prichan a low 1* **P prichan a high 23* **P prichan a search high*
pricrc4	Turns the the CRC check for PRI-E1 **on/off**. CRC is default on and should stay on in most cases. **pricrc4 [PRI interface] <on/off>** --- parameters: • **PRI interface: a/b/c/d.** Letters identifying the different PRI interfaces. If this parameter is omitted the given value is set for all interfaces. o **a**: PRI interface 1 o **b**: PRI interface 2 o **c**: PRI interface 3 o **d**: PRI interface 4 Example of **pricrc4** feedback: **P pricrc4 a on* **P pricrc4 b on* **P pricrc4 c on* **P pricrc4 d on*
prinet	Selects ISDN PRI protocol. **prinet <protocol>** --- parameters: • **protocol: ni/att/euro.** o **ni** - National ISDN (North America) o **att** – AT&T ISDN (North America)

	○ **euro** - Euro ISDN Example of **prinet** feedback: **P prinet att*
prinumbrange	Defines the PRI number range for the various PRI interfaces. **prinumbrange <PRI interface> <lowest number> <highest number>** --- parameters: • **PRI interface: a/b/c/d.** Letters identifying the different PRI interfaces. ○ **a**: PRI interface 1 ○ **b**: PRI interface 2 ○ **c**: PRI interface 3 ○ **d**: PRI interface 4
prinumbtrunk	Enables or disables the use of PRI trunk groups. When trunk groups are enabled, the PRI number range defined for PRI interface 1 applies to all PRI interfaces. **prinumbtrunk <on/off>**
services	Enables or disables access to various system services. *NOTE! Changes become effective after reboot.* **services ftp <on/off>** or **services telnet <on/off>** or **services telnetchallenge <on/off> [23/57]** or **services http <on/off>** or **services https <on/off>** or **services snmp <on/off/read-only/traps-only>** sub-commands • **ftp:** Sets access to the internal FTP server of the GW on or off • **telnet:** Sets access to the internal telnet server of the GW on or off. *NOTE! When set to off, telnet can only be re-enabled through RS-232* • **telnetchallenge:** Telnet challenge can be enabled on either ip port 23 or ip port 57. When connecting to an ip port that has telnetchallenge set to on, an MD5 encryption challenge string are being issued instead of a password prompt. An encrypted password based on the challenge string must then be generated by an MD5 encryptor and sent back to the system as a response in order to get access to the system. *NOTE! Regular Telnet are using ip port 23. When Telnetchallenge are set to ip port 23, this will override regular Telnet.* • **http:** Sets access to the internal web server, via HTTP, on or off. • **https:** Sets access to the internal web server, via HTTPS, on or off. • **snmp:** Sets access to the SNMP mib to on, off, read-only or traps-only. *NOTE! To obtain a high level of security the services FTP, telnet, HTTP and SNMP should be set to off, while HTTPS is set to on. In addition an IP password should be set, ref. command **ippassword**.* Example of **services** feedback: **P services telnet on* *P services telnetchallenge on 57

	**P services http on* **P services https on* **P services snmp on* **P services ftp on*
sendnum	Enables/disables broadcast of the local unit's number during H.320 call setup. *NOTE! The transfer of the local number to a remote system or the prevention thereof is dependent on the feature set supported by the network or networks between the GW and the endpoint.* **sendnum <on/off>** --- Example of **sendnum** feedback: **P sendnum on*
snmp	Configures the snmp mib. *Note! For more information about SNMP please read the TANDBERG SNMP application note.* **snmp cn <community name>** or **snmp sc <system contact name>** or **snmp sl <system location name>** or **snmp hi <host ip address.> [host ip address] [host ip address]** --- parameters: • **community name:** Textstring of maximum 16 characters. • **system contact name:** Textstring of maximum 50 characters • **system location name:** Textstring of maximum 50 characters • **host ip address:** ip address sub-commands: • **cn:** Used to set the **community name** parameter. • **sc:** Used to set the **system contact name** parameter. • **sl:** Used to set the **system location name** parameter. • **hi:** Used to set the **host ip address** parameters. Example of **snmp** feedback: **P snmp hi 10.0.2.255 "" ""* **P snmp sl ""* **P snmp sc TANDBERG* **P snmp cn public*
sport	This command is used to configure the serial port by setting baudrate, parity, databits and stopbits. **sport [baudrate] [parity] [databits] [stopbits]** --- parameters: • **baudrate: 1200/2400/4800/9600/19200/38400/57600/115200** • **parity: n/o/e** • **databits: 7/8** • **stopbits: 1/2**

	Example of **sport** feedback: **P sport 9600 n 8 1*
systemname	Sets the GW name. **systemname <name>** --- Parameters: • **name:** Textstring of maximum 16 characters. Example of **systemname** feedback: **P systemname TANDBERG*

4.2.2. General GW Commands

Command:	Description:
calltransfer	Disconnects the h323 terminal of a GW call and reconnects to another h323 terminal, by either specifying a telephone number or by referring to a directory entry. **calltransfer <gwid> <number>** or **calltransfer <gwid> <11..l99> - (get number from directory)** --- parameters: • **gwid: 1..16.** Identifier referring to a GW call. *NOTE! When referring to a directory entry the GW will override the calltype specified by the directory entry and the network type specified by the netprofile command.*
directory	Creates a directory entry in the directory list. The directory entry list can hold as many as 99 directory entries. The directory are used together with the *calltransfer* command. **directory <entry no> [number[**2ndNumber]] [calltype[r]] [profile] [name]** or **directory add [number[**2ndNumber]] [calltype[r]] [profile] [name]** or **directory all** or **directory delete <entry no>** --- parameters: • **entry no: 1..99.** Specifies an entry number where to add or retrieve a directory entry (only supplying the entry number will retrieve the given entry). *NOTE! The user should be aware not to overwrite existing entries.* • **number:** The phone number to be stored for this entry. If the destination is a unit using H221, two numbers can be supplied separated by ******. • **calltype: tlph/2xh221/2b/3b/4b/5b/6b/8b/12b/18b/23b/30b/h0/auto**. An optional **r** can be added after the calltype parameter to denote a *restricted* call. *NOTE! This parameter will be overridden when using calltransfer.* • **profile: p1/p2/p3/p4/p5/p6**. Selects one of the predefined netprofiles, ref. command **netprofile**. • **name:** The contacts name. *NOTE! If the name contains spaces the name has to be embraced by quotes, e.g. "John Johnsen"* sub-commands: • **add:** Adds the specified directory entry to the first vacant entry in the directory list. • **all:** Lists all nonempty directory entries • **delete:** Deletes a specified entry. Example of **directory** feedback: **P directory 99 123456789 auto p1 TANDBERG*
disc	Disconnects a GW call.

	disc <gwid> --- parameters: • **gwid: 1..16.** Identifier referring to a GW call.
gwdid	Sets ISDN DID (Direct Inwards Dialling) parameters. When DID is enabled the GW will strip of the last digits in the ISDN incoming number and use this extracted number to dial the h323 terminal. The number of digits to strip of the incoming number and use as h323 number can be specified. **gwdid mode <on/off>** or **gwdid numbofdigits <numbofdigits>** or **gwdid maxbw <bw>** or **gwdid h323callprefix <callprefix>** --- parameters: • **bw: 64/128/192/256/320/384/512/768/1152/1472/1920** sub-commands: • **mode:** Enables or disables DID. • **numbofdigits:** Sets the number of digits to extract from the ISDN incoming number and use as h323 number. • **maxbw:** Sets the maximum bandwidth to be used when setting up a GW call using DID. • **h323callprefix:** Defines an h323 dial prefix to add to the h323 number extracted from the incoming ISDN number.
gwextdialin	Defines the ISDN extension dial in mode and corresponding ISDN number. When the extension dial in number is being called the GW will request an extension number to connect to the h323 terminal. **gwextdialin [id] mode <off/ivr/ivrtcs4>** or **gwextdialin [id] isdnnumber <isdnnumber>** or **gwextdialin [id] maxbw <bw>** or **gwextdialin [id] description <description>** parameters: • **id: 1** • **bw: 64/128/192/256/320/384/512/768/1152/1472/1920** sub-commands: • **mode:** Sets the extension dial in mode to off, ivr or ivr/tcs-4. • **isdnnumber:** Defines the ISDN number the GW will use as ISDN extension dial in number. • **maxbw:** Sets the maximum bandwidth to be used when setting up a GW call using extension dial in. • **description:** To set an informative text.
gwh323service	Defines h323 services. H323 service prefixes are being registered at the gatekeeper. When dialing from an h323 terminal, one of the GW's service prefixes must be dialed followed by the ISDN number to connect to.

	gwh323service <id> servprefix <e164prefix> or **gwh323service <id> maxbw <bw>** or **gwh323service <id> isdncallprefix <callprefix>** or **gwh323service <id> restrict <on/off>** or **gwh323service <id> description <description>** parameters: • **id: 1..20.** Identificator referring to a specific h323service. • **bw: 64/128/192/256/320/384/512/768/1152/1472/1920** sub-commands: • **servprefix:** Sets the service prefix for this h323 service. • **maxbw:** Sets the maximum bandwidth to be used when setting up a GW call using this h323 service. • **isdncallprefix:** Defines an isdn call prefix to be added to the ISDN number to dial. • **restrict:** Sets restrict to on or off. • **description:** To set an informative text for this h323 service.
gwhotline	Hotline numbers are used to map an incoming ISDN number to an h323 number. **gwhotline <id> isdnnumber <isdnnumber>** or **gwhotline <id> h323alias <E164alias>** or **gwhotline <id> maxbw <bw>** or **gwhotline <id> description <description>** parameters: • **id: 1.** Identificator referring to a specific hotline entry. • **bw: 64/128/192/256/320/384/512/768/1152/1472/1920** sub-commands: • **isdnnumber:** Defines the hotline ISDN number. • **h323alias**: Defines the corresponding h323 number for this hotline entry. • **maxbw:** Sets the maximum bandwidth to be used when setting up a GW call using this hotline. • **description:** To set an informative text for this hotline entry. *NOTE! Only one hotline entry is supported in this version of the TANDBERG GW.*
gwloadlimit	The GW will signal busy to the gatekeeper when the current load on the GW reaches this limit. The current system load can be monitored by the status command *systemload.* **gwloadlimit <0..100>**
gwsettings	To avoid interoperability problems, the GW can be configured to not support some features. **gwsettings natvid <on/off>** or **gwsettings customformats <on/off>**

	or **gwsettings duovideo <on/off>** or **gwsettings encryption <on/off>** sub-commands: • **natvid**: Sets natural video support to on or off. • **customformats**: Sets custom format support to on or off • **duovideo**: Sets duovideo support to on or off • **encryption**: Sets encryption support to on or off.

4.2.3. System Status Commands

Command:	Description:
callhistory	Used to list call related information for the last 20 calls. **callhistory [logid]** Status format: **callhistory <logid> <logtag> <gwlogtag> <remote numb.> <call-dir> <chan> <causecode> <time> <inc. restrict> <outg. restrict> <inc. encrypt. stat> <outg. encrypt. stat> <gwcallid>** --- Parameters: • **logid: 1..20.** Id referring to a disconnected call. The last disconnected call will have id 1. • **logtag:** Unique number identifying the disconnected call. • **gwlogtag:** Unique number identifying a GW call. • **remote numb:** The remote sites ISDN number. • **call-dir: incoming/outgoing.** • **chan: speech / h323-voip / h221-<chan> / bonding-<chan> / h0-384**, where **chan** indicates number of B channels. • **causecode:** Standard ISDN cause code. The cause codes can be used to find out why the call was disconnected (255 if no valid code). • **time:** Total calltime in seconds. • **inc. restrict: restrict / norestrict.** Indicates if the incoming call was restricted. Restricted calls only utilize 56kb out of an ISDN 64kb channel. • **outg. restrict: restrict / norestrict.** Indicates if the outgoing call was restricted. • **inc. encrypt. stat: off/idle/des/aes128/negotiate.** Indicates incoming encryption status. • **outg. encrypt. stat: off/idle/des/aes128/negotiate.** Indicates outgoing encryption status. • **gwcallid: 1..16** Example of **callhistory** feedback: **S callhistory 1 42 1 6090 outgoing bonding-2b 16 39Sec norestrict norestrict off off 1*
callstatus	Returns status of current calls. **callstatus [callid]** Status format: **callstatus <callid> <direction> <type> <status> <cause> <time>** --- Parameters: • **callid: 1..16/32.** Identifier referring to a call. • **direction: incoming/outgoing.** • **type: idle / speech / h323-voip / h221 / H0 / bonding** • **status: idle / answering / calling / connected / disconnecting / disconnected** • **cause:** Standard ISDN cause code. The cause codes can be used to find out why the call was disconnected (255 if no valid code). • **time:** connect time in seconds. Example of **callstatus** feedback: **S callstatus 1 outgoing bonding connected 255 2446Sec*

chanstat	Used to list channel status information for the PRI interface. **chanstat [pri interface] [channel]** Status format: **chanstat <PRI interface> <channel> <channel-status> <calling-number> <causeLoc>:<chanCause> <connection-time(sec)>** --- Parameters: • **PRI interface: a/b/c/d.** Letters identifying the different PRI interfaces. o **a**: PRI interface 1 o **b**: PRI interface 2 o **c**: PRI interface 3 o **d**: PRI interface 4 • **channel: 1..31(E1-PRI), 1..24(T1-PRI)** • **channel-status: idle / answering / calling / connect / disconnecting / disconnected** • **calling-number:** Remote number. (“” if no valid number) • **causeLoc:** Standard ISDN cause location value (255 indicates no valid code). • **chanCause:** Standard ISDN cause value (255 indicates no valid code). • **connection-time(sec):** Connection time in seconds. Example of **chanstat** feedback: **S chanstat a 28 connect 123456789 255:255 334Sec*
encstatus	Returns encryption status for the active calls. **encstatus [callid]** Status format: **encstatus <callid> <incomingstat> <outgoingstat> <check-code>** --- Parameters: • **callid: 1..16/32.** Identifier referring to a call. • **incomstat: off/idle/des/aes128/negotiate** • **outgoingstat: off/idle/des/aes128/negotiate** • **check-code:** Key that can be manually presented by the participants to confirm secure connection Example of **encstatus** feedback: **S encstatus 11 des des 9FE389C8F664F3F5*
	Lists the active terminals in a GW call. **gwcalls [gwid]** Status format: **gwcalls <gwid> <isdn callid> <isdn termnumber> <h323 callid> <h323 termnumber>** --- Parameters: • **gwid: 1..16.** Identifier referring to a GW call. • **isdn callid:** The call id of the ISDN terminal • **isdn termnumber:** The number of the ISDN terminal

	• **h323 callid:** The call id of the h323 terminal • **h323 termnumber:** The number of the h323 terminal Example of **gwcalls** feedback: **S gwcalls 1 1 22222222 2 66666666*
h323gkstatus	Returns current gatekeeper status. **h323gkstatus** Status format: **h323gkstatus <ipaddress> <ip port> <status>** --- Parameters: • **ipaddress:** The IP address of the gatekeeper that the GW is currently registered to. • **port:** The IP port on the gatekeeper used to connect to the GW. • **status: registered/unregistered/regfailed** Example of **h323gkstatus** feedback: **P h323gkstatus 10.0.0.30 1719 registered*
ipcallchanstatus	Returns IP static information for all active ip calls. **ipcallchanstatus** Status format: **ipcallchanstatus <callid> <protocol> <chantype> <direction> <remoteip:remoteport> <localip:localport> <encryption> <rsvp> <rsvp rate>** … Parameters: • **callid: 1..16/32.** Identifier referring to a call. • **protocol: h323.** • **chantype: audio/video/data/duo.** • **direction: incoming/outgoing.** • **remoteip:** Remote IP address. • **remoteport:** Remote IP port. • **localip:** Local IP address. • **localport:** Local IP port. • **encryption: on/off/des/aes128** • **rsvp: on/off.** Indicates if resource reservation (RSVP) protocol is turned on or off Example of **ipcallchanstatus** feedback: **P ipcallchanstatus 1 h323 audio incoming 10.0.4.191 10.0.5.222:2326 off off 0* **P ipcallchanstatus 1 h323 audio outgoing 10.0.4.191:49170 10.0.5.222:2334 off off 0* **P ipcallchanstatus 1 h323 video incoming 10.0.4.191 10.0.5.222:2328 off off 0* **P ipcallchanstatus 1 h323 video outgoing 10.0.4.191:49172 10.0.5.222:2336 off off 0* **P ipcallchanstatus 1 h323 data incoming unknown:unknown unknown:unknown off off 0* **P ipcallchanstatus 1 h323 data outgoing unknown:unknown unknown:unknown off off 0* **P ipcallchanstatus 1 h323 duo incoming unknown:unknown unknown:unknown off off 0* **P ipcallchanstatus 1 h323 duo outgoing unknown:unknown unknown:unknown off*

	off 0
ipcallstatistics	Returns IP dynamic information for all active ip calls. **ipcallstatistics** Status format: **ipcallstatistics <callid> <protocol> <chantype> <direction> <rate> <sent|received> <loss> <jitterms>** --- Parameters: • **callid: 1..16/32.** Identifier referring to a call. • **protocol: h323.** • **chantype: audio/video/data/duo.** • **direction: incoming/outgoing.** • **rate:** Actual call rate in kilobits. • **sent:** Number of IP packets sent. • **received:** Number of IP packets received. • **loss:** Number of IP packets lost. • **jitterms:** Jitter in milliseconds. Example of **ipcallstatistics** feedback: **P ipcallstatistics 2 h323 audio incoming 640 2736 0 1* **P ipcallstatistics 2 h323 audio outgoing 640 2713 0 0* **P ipcallstatistics 2 h323 video incoming 560 1346 0 26* **P ipcallstatistics 2 h323 video outgoing 2290 1830 0 0* **P ipcallstatistics 2 h323 data incoming 0 0 0 0* **P ipcallstatistics 2 h323 data outgoing 3 0 0 0*
ipstat	Gives LAN interface information **ipstat [LAN interface]** Status format: **ipstat <LAN interface> <ip addr> <subn. mask addr> <gateway addr> <MAC addr> <ipspeed>** --- Parameters: • **LAN interface: 1.** Number identifying the LAN interface. • **ip addr:** Current ip address. • **subn. mask addr:** Current subnet mask ip address. • **gateway addr:** Current gateway address. • **MAC addr:** Current MAC address. • **ipspeed:** Current ip speed. Example of **ipstat** feedback: **S ipstat 1 10.0.5.99 255.255.0.0 10.0.0.1 00:50:60:7F:FA:5B 10full*
pristatus	Gives PRI interface information. **pristatus [PRI interface]** Status format: **pristatus <PRI interface> <status> <total numb. of chans> <B chans free> <H0 chans free>** --- Parameters:

	• **PRI interface: a/b/c/d.** Letters identifying the different PRI interfaces.
	  o **a**: PRI interface 1
	  o **b**: PRI interface 2
	  o **c**: PRI interface 3
	  o **d**: PRI interface 4
	• **status: disabled / red alarm / blue alarm/ yellow alarm / synced / active**
	• **total numb. of channels:** Total number of ISDN B channels.
	• **B chans free:** Total number of free B channels, i.e. B channels currently not in use.
	• **H0 chans free:** Total number of free H0 channels, i.e. H0 channels currently not in use.
	
	Example of **pristatus** feedback:
	**S pristatus b active 30 24 3*

statin	Gives status for incoming calls. **statin [callid]** Status format: **statin <callid> <call-dir> <call-state> <restrict> <chan> <audio> <vidmode> <vidres> <duores>** --- Parameters: • **callid: 1..16/32.** Identifier referring to a call. • **call-dir: incoming/outgoing** • **call-state: idle/syncing/capex/unframed/speech/disconn/synced** • **restrict: idle/norestrict/restrict** • **chan: unknown / idle / speech / h323-voip / h221-<chan> / bonding-<chan> / h0-384 / h323 <chan>. Chan** indicates number of B channels. • **audio: unknown / idle / g728 / g722 / g722.1 / g711 / auoff** • **vidmode: unknown / vidoff / h261 / h263** • **vidres: unknown / cif / qcif / sqcif / 4cif / sif / 4sif // vga / svga / xga** • **duores: cif / qcif / sqcif / 4cif / sif / 4sif / vga / svga / xga** Example of **statin** feedback: **S statin 1 outgoing sstatinynced norestrict h323-1920 g722 h263 cif unknown* **S statin 1 outgoing synced norestrict h323-1920 g722 h263 cif unknown*
statout	Gives status for outgoing calls. **statout[callid]** Status format: **statout<callid> <call-dir> <call-state> <restrict> <chan> <audio> <vidmode> <vidres> <duores>** --- Parameters: • **callid: 1..16/32.** Identifier referring to a call. • **call-dir: incoming/outgoing** • **call-state: idle/syncing/capex/unframed/speech/disconn/synced** • **restrict: idle/norestrict/restrict** • **chan: unknown / idle / speech / h323-voip / h221-<chan> / bonding-<chan> / h0-384 / h323 <chan>**, where **chan** indicates number of B channels. • **audio: unknown / idle / g728 / g722 / g722.1 / g711 / auoff** • **vidmode: unknown / vidoff / h261 / h263**

	• **vidres: unknown / cif / qcif / sqcif / 4cif / sif / 4sif / vga / svga / xga** • **duores: cif / qcif / sqcif / 4cif / sif / 4sif / vga / svga / xga** Example of **statout** feedback: **S statout 1 outgoing synced norestrict h323-768 g722 h263 cif unknown* **S statout 2 outgoing synced norestrict bonding-30b g722 h263 cif unknown*
	Returns the current system load in percentage. **systemload** Status format: **systemload <1..100>**
temp	Gives system temperature in Celsius and Fahrenheit. **temp** Status format: **temp <degrees Celsius> <degrees Fahrenheit>**

4.2.4. Debug Commands

Command:	Desription:
eventlog	The eventlog records all serious errors registered by the system. The log can be used to identify the cause for errors. The complete eventlog can be downloaded from the embedded FTP server. **eventlog [n/all]** Parameters • **n:** Lists the specified number of lines from the end of the eventlog. • **all:** List all entries in the eventlog The eventlog will be deleted when the system is powered off.
dumph221	Dumps the H.221 log of the last call. **dumph221 [0..15/reset]** --- Parameters: • **0..15:** id referring to a video site. • **reset:** Resets the GW's H.221 buffer. The buffer will now be filled up with new H221 data.
isdntrace	Causes D-channel information (layer 2 and 3) for the specified ISDN lines to be output to the interface that issued the command. **isdntrace [PRI interface] <on/off>** --- Parameters: • **PRI interface: 1/2/3/4.** Identifiers referring to the different PRI interfaces.
syslog	Enables a real-time log of Bonding, H.221 and H.323 activity. **Note!** When used for H.323 activity the command must be issued through Telnet. **syslog <on/off>**
ping	Standard ping command. Used to check if a unit on the network is reachable. **ping <ipaddress>** Example of **ping** feedback: *ping: 192.168.1.10 is alive (10 ms)*
traceroute	Standard traceroute command. Used to find out routing information to specified IP address. **traceroute <ipaddress>** Example of **traceroute:** *traceroute to 12.35.161.100, 30 hops max* *1 10.0.0.1 (10 ms)* *2 193.212.161.65 (20 ms)* *3 146.172.164.129 (40 ms)* *4 194.248.135.61 (40 ms)* *5 146.172.206.21 (40 ms)*

	6 146.172.254.249 (40 ms) *7 146.172.248.5 (40 ms)* *8 146.172.248.9 (40 ms)* *9 146.172.248.1 (40 ms)* *10 146.172.248.62 (40 ms)* *11 217.70.229.33 (40 ms)* *12 213.248.78.1 (40 ms)* *13 213.248.66.89 (40 ms)* *14 213.248.65.25 (50 ms)* *15 213.248.64.10 (150 ms)* *16 12.122.10.49 (170 ms)* *17 12.122.11.170 (170 ms)* *18 213.248.80.6 (170 ms)* *19 12.122.10.54 (170 ms)* *20 213.248.84.70 (170 ms)* *21 12.122.11.205 (170 ms)* *22 12.123.194.33 (170 ms)* *23 12.124.232.138 (170 ms)*

4.2.5. Special Commands

Command:	Description:
boot	Reboots the system. **boot**
dispparam	Lists all parameter settings. **dispparam**
feedback	Turns feedback on system changes on / off. **feedback [type] <on/off>** --- Parameters: • **type: parameter/status** Example of **feedback** feedback: **P feedback off*
help	Displays the help menu. **help**
netstat	Lists network connections and routing tables. **netstat**

4.3. Parameter Storage

Parameters are set by issuing *Parameter Setting Commands*, ref. chapter 4.1.2.

All parameters and their corresponding storage type are listed in the table below. The following definitions are used:

level 0: No storage (RAM). Does not survive boot or any of the "defvalues" combinations.
level 1: Normal storage (EEPROM). Survives boot, but none of the "defvalues" combinations.
level 2: Normal storage (EEPROM). Survives boot and "defvalues set". Does not survive "defvalues set all".
level 4: Survives everything, except software upgrade and "defvalues set factory".

Command	Storage
directory	level 1
gwdid	level 2
gwextdialin	level 2
gwh323service	level 2
gwhotline	level 2
gwloadlimit	level 2
gwsettings	level 2
h323alias	level 2
h323gatekeeper	level 2
ipaddress	level 2
ipassignment	level 2
ipmtu	level 1
ippassword	level 2
ipqos	level 2
ipspeed	level 2
isdnprot	level 2*
netprofile	level 2
optionkey	level 2
pardial	level 1
pricable	level 2
prichan	level 2
pricrc4	level 2
prinet	level 2
protect	level 4
sendnum	level 1
services	level 1
snmp	level 2
sport	level 2
systemname	level 2

*Except sub command sendcomplete: level 1

4.4. Index Commands