SIP Substation INSTALLATION & CONFIGURATION GUIDE







TECHNICAL MANUAL

A100K10812

Document Scope

This document describes the installation and configuration of the STENTOFON SIP Substation and SIP Substation Kit.

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SIP (Session Initiation Protocol) is the de facto standard for IP telephony. The STENTOFON SIP intercom stations are specially built for easy integration with any iPBX system.



Figure 1 System Configuration

1.1 SIP Vandal Resistant Substation



The STENTOFON SIP Substation are custom-made IP intercom stations that integrate with any iPBX system. The SIP Vandal Proof Substation is tough, durable and resilient, and designed for use in the harshest environments. The station is typically used as a communication, information or emergency point and connects directly to the IP network, making it easy to deploy – anywhere and at any distance.

Like all STENTOFON stations, this SIP substation features superb audio quality. This is enabled through a set of advanced technologies such as active noise filtering, acoustic echo cancellation, wide band audio codec, and high power audio outputs.

1.2 SIP Substation Kit



• part no. 1008065200

The STENTOFON SIP Substation Kit features the same electronics board (PCB) that is used in its own IP substations. It is designed to build stations to the highest specification and for use in the harshest of environments. Like all STENTOFON stations, the SIP Substation Kit features superb audio quality. This is enabled through a set of advanced technologies such as active noise filtering, acoustic echo cancellation, wide band audio codec, and high power audio outputs.

1.3 Call Button Functions

The following table describes the various functions that are activated when the call button on the SIP substation is pressed.

Types of Calls:	Idle	Incoming Call	Call Attempt	Ongoing Call
Functions when call button is pressed:	Speed-dial number	Accept call	Terminate call	Terminate call

Table 1 Call Button Functions

2.1 Introduction

The table below is an overview of the main connectors involved when installing the STENTOFON IP Substations.

LAN	10/100 Mbps RJ45 port for LAN (uplink) connection. Supports PoE (802.3af). Draws power from either spare line or signal line.
AUX	10/100 Mbps RJ45 ports for auxiliary equipment such as PC and IP camera.
Input/Output	Pluggable screw terminal
Local Power	Pluggable screw terminal, 19-27 VDC Idle 4W, max. 8W

Table 2	Substation	Connectors
Table 2	Substation	Connector

2.2 Power Supply

The SIP Substation supports Power over Ethernet (PoE, IEEE 802.3 a-f) where power can be drawn from either the spare line or signal line.

If PoE is not available, the SIP Substation can be connected to a local power. A 24 VDC power supply should be used. Refer to *Appendix A: Substation Board Connections* to see where to connect local power.

2.3 Network Connection

There are two RJ45 ports on the PCB of the SIP Substation:

- The LAN port (P1) is for connecting to the network and the IPBX system.
- The AUX port (P2) is for connecting to auxiliary equipment such as a PC.



Figure 2 RJ45 Ports (P1 & P2) on PCB of SIP Substation

2.4 Input/Output Connections

The I/O connection options for the SIP Substations include:

- 3 digital inputs (P4)
- 1 relay output (P3

The relay output is typically used to open a door or gate.

The digital inputs are used to trigger a speed dial. See section *3.4 Call Settings* on how to configure the I/O connection.

For pin settings on the connectors on the substation board, see *Appendix A: Substation Board Connections*.

3.1 SIP Substation Web Interface

The SIP Substation features an embedded web server, which allows users to log in via a standard web browser.

At commissioning, the SIP Substation needs to be configured to make it possible for the SIP Substation to register in the iPBX system.

Connect both the PC and the SIP substation to a PoE switch and the LAN port (P1) on the IP intercom substation to the PC via the switch.

The factory default IP address of the substation is **169.254.1.100**. In order for your PC to communicate with the substation it is necessary to change its **Internet Protocol Properties** to use an IP address that is in the same range as 169.254.1.100.

After the IP properties have been changed, access the substation by logging into the web interface using a standard web browser:

- 1. Open a web browser
- In the browser's Address bar, type http://169.254.1.100, and press the ENTER key
 - The substation Login page is displayed.

To log into the substation:

- 1. Click Login
- 2. Enter the default User name: admin
- 3. Enter the default password: alphaadmin

The main page will now be displayed, showing the Substation settings including the MAC address.

Use the menu bar at the top of each page to browse through the different pages.



IP-StationWe

3.2 Station Main Settings

• Click **Station Main** > **Main Settings** to access the page for configuring station mode and IP parameters.

Station Information	Station Mode						
Main Settings	Use SIP	Use SIP					
	O Use Alphacom						
	O Use Pulse						
	🔘 Use Pulse Server						
	IP Settings						
	DHCP Static IP						
	IP-address:	10	- 5	- [11	-	125	
	Subnet-mask:	255	- 255	- 25	5 -	0	
	Gateway:	10	- 5	- 11	1	1	

Station Mode

• Select the Use SIP radio-button

IP Settings

- **DHCP** Use this option if the SIP Substation shall receive IP Settings from a DHCP server.
- Static IP Use this option if the SIP Substation shall use a static IP address. Enter the IP address, Subnet mask and Gateway address.
- Click **Save** followed by **Apply** to apply the new configuration settings.

3.3 SIP Settings

• Click Station Configuration > SIP Settings to access the page for configuring SIP parameters.

P Settings	Account Settings		
	Description	Configuration	
	Display Name:	SIP EuroLab 26	
Audio Settings	Directory Number (SIP ID):	26	
Direct Access Key Settings	Server Domain (SIP):	10.5.11.125	
Time Settings	Backup Domain (SIP):		
Language Settings	Backup Domain 2 (SIP):		
	Authentication User Name:	26	
	Authentication Password:		
	Register Interval:	600	(min. 60 seconds)
	Outbound Proxy [optional]:		Port: 5060
	Outbound Proxy [optional]: Call Settings	Configuration	Port: 5060
	Outbound Proxy [optional]: Call Settings Description Enable Auto Answer:	Configuration	Port: 5060
	Outbound Proxy [optional]: Call Settings Description Enable Auto Answer: Auto Answer Delay:	Configuration	Port: 5060
	Outbound Proxy [optional]: Call Settings Description Enable Auto Answer: Auto Answer Delay: Disable Disconnect By Button:	Configuration 0 seconds. Max	Port: 5060
	Outbound Proxy [optional]: Call Settings Description Enable Auto Answer: Auto Answer Delay: Disable Disconnect By Button: Overlap dialing:	Configuration v 0 seconds. Max	Port: 5060
	Outbound Proxy [optional]: Call Settings Description Enable Auto Answer: Auto Answer Delay: Disable Disconnect By Button: Overlap dialing: DTMF method:	Configuration v 0 seconds. Max SIP INFO	Port: 5060
	Outbound Proxy [optional]: Call Settings Description Enable Auto Answer: Auto Answer Delay: Disable Disconnect By Button: Overlap dialing: DTMF method: Activate relay on event:	Configuration 0 seconds. Max SIP INFO OFF Keep	Port: 5060
	Outbound Proxy [optional]: Call Settings Description Enable Auto Answer: Auto Answer Delay: Disable Disconnect By Button: Overlap dialing: DTMF method: Activate relay on event: RTP Timeout value:	Configuration Configuration SIP INFO OFF Seconds. 0 SIP Seconds. 0 SECONDS SECON	Port: 5060 s30 seconds. relay activated 60 seconds = RTP Timeout Disabled.

Account Settings

Display Name

- Enter a name that will be shown on the display at the remote party.

Directory Number (SIP ID)

- This is the identification of the station in the SIP domain, i.e. the phone number for the station. This parameter is mandatory. Enter the SIP ID in integers according to the SIP account on the SIP domain server.

Server Domain (SIP)

- This parameter is mandatory and specifies the primary domain for the station and is the IP address for the SIP server (e.g. Asterisk or Cisco Call Manager). Enter the IP address in regular dot notation, e.g. 10.5.2.138.

Backup Domain (SIP)

- This is the secondary (or fallback) domain. If the station loses connection to the primary SIP domain, it will switch over to the secondary one. Enter the IP address in regular dot notation.

Backup Domain 2 (SIP)

- This is the tertiary backup domain.

Authentication User Name

- This is the authentication user name used to register the station to the SIP server. This is required only if the SIP server requires authentication and is normally the same as the SIP ID.

Authentication Password

- The authentication user password used to register the station to the SIP server. This is required only if the SIP server requires authentication

Register interval

- This parameter specifies how often the station will register, and reregister in the SIP domain. This parameter will affect the time it takes to detect that a connection to a SIP domain is lost.
- Enter the values in number of seconds from 60 to 999999. The default interval is 600 seconds.

Outbound Proxy [optional]

- Enter the IP address of the outbound proxy server in regular dot notation, e.g. 10.5.2.100

Port

- Enter the port number used for SIP on the outbound proxy server. The default port number is 5060.

Call Settings

Enable Auto Answer

- This is not required. Enables automatic answer after a set number of seconds.

- Check the checkbox to enable this function and enter the delay in seconds in the field for **Auto Answer Delay**. The default delay setting is 0 and the maximum is 30 seconds.

Disable Disconnect By Button

- This disables disconnect with the speed dial during and when setting up a conversation. Check the checkbox to enable this function.

Overlap dialing

- This will lead to the phone starting to dial each time a digit is entered and the SIP proxy replying with 'Number incomplete' until such time as the number has been entered and the call can be initiated successfully without the enter key having to be pressed.

DTMF method

- Choose between SIP INFO or RFC 2833 to select DTMF signalling method.

Activate relay on event

- When enabled, the station will activate the relay when receiving the specified DTMF character in the RTP stream. Select from the dropdown menu. Options are OFF, 1-9, *, In call or Ringing. The default setting is OFF.
- Select the number of seconds to keep the relay open in the range 1 to 240 from the dropdown menu. The default setting is 60 seconds.
- Options are: 1 240 seconds, during call, during ringing, until DTMF # or 0.

RTP Timeout value

- This cancels a call if the station does not receive RTP packets from the remote party. Enter values in the range 0-9999 seconds. The default setting is 0 which means RTP timeout is disabled.

After entering all the desired values, click **Save** and then click **Reboot** to enable the SIP settings.

After completing the SIP configuration, click **Station Main > Station Information** and the main page may look like the following:

tation Main	Station Configuration	Station Administration	Advanced Configuration
 Station Ini 	formation	tation Information	
		Description	Information
		Station IP:	10.5.11.190
		Hardware Type:	8022
Main Setti	ngs	Hardware Version:	1
		Software Version:	02.02.3.1
		MAC Address:	00:13:cb:00:9c:3c
	S	tation Status	
		Description	Status
		Station Mode:	SIP
		Display Name:	SIP EuroLab 26
		Directory Number (SIP ID)	26
		Server Domain (SIP):	10.5.11.125
		Backup Domain (SIP):	
		Backup Domain 2 (SIP):	
		Registration Status:	Registered with Primary SIP serv

The IP Properties on your PC has to be changed to the same IP domain as that of the SIP station.

3.4 Audio Settings Click Station Configuration > Audio Settings

Station Main Station Configuration Station Administration Advanced Configuration Audio Settings ▶ SIP Settings Description ▼ Audio Settings Speaker Volume 5 💌 Noise Reduction Level: 4 💌 0 = disabled. Level from 0 to 7 Direct Access Key Settings Microphone Sensitivity 5 🔻 Default value 5 Remote Controlled Volume Override Mode (DTMF * to talk, DTMF # to listen, DTMF 0 for open dup ▶ Time Settings Message Controlled Volume Override Mode (SIP MESSAGE controls audio direction) Language Settings Echo canceller: 0 🗸 Default 0 (Restart required) Open Duplex 💌 Default Speaking Mode Save

Speaker Volume

- Select the volume level in the range 0 to 7 from the dropdown menu. The default setting is 5.

Noise Reduction Level

- Level 0 means that the function is disabled
- Level 1 gives a maximum noise reduction of 0.2 dB
- Level 2 gives a maximum noise reduction of 6.2 dB
- Level 3 gives a maximum noise reduction of 12.2 dB
- Level 4 gives a maximum noise reduction of 18.3 dB
- Level 5 gives a maximum noise reduction of 24.3 dB
- Level 6 gives a maximum noise reduction of 30.3 dB
- Level 7 gives a maximum noise reduction of 36.3 dB

Microphone Sensitivity

- Select the sensitivity level in the range 0 to 7 from the dropdown menu. The default setting is 5.

Remote Controlled Volume Override Mode

- This acts as simplex mode. This feature is activated after the first DTMF * or # is received from the remote station. Send DTMF * to talk and # to listen. Check the checkbox to enable this function.

Message Controlled Volume Override Mode

Check the box to enable the following messages:

- SIP MESSAGE "Audio_receive_only": Turns the microphone off and loudspeaker on
- SIP MESSAGE "Audio_send_only": Turns microphone on and loudspeaker off
- SIP MESSAGE "Audio_send_receive": Turns both microphone and loudspeaker on

Default Speaking Mode

- Select between Open Duplex or Push-To-Talk

After entering all the desired values, click **Save** to enable the audio settings.

3.5 Direct Access Key Settings

 Click Station Configuration > Direct Access Key Settings to access the page for configuring DAKs.

Station Main	Station Configuration	Station Administration	Advanced Configuration		
▶ SIP Settin	ngs D	lirect Access Key Set	tings		
N Audio Sett	tings		Function (idle)	Value	Option
P Addio Deci	ungs	Input Button 1	Call To		Unused 💌
▼ Direct Acc	ess Key Settings	Input Button 2	Call To		Unused 💌
		Input Button 3	Call To		Unused 💌
▶ Time Setti	ings			Group	
▶ Language	Settings			Save	
	D	Direct Access Key Set	tings (In Call)		

	Function (in call)	Activated	Deactivated	
Input Button 1	End Call			
Input Button 2	End Call 🔹			
Input Button 3	End Call			
		Save		

Note: If "Disable Disconnect by Button" is disabled under SIP Settings, then the function "End Call" will not work.

Ringlist Settings

	Ringlis	t 1	With Previous	Ringlist 2	With Previous	Ringlist 3	With Previous
Value 1	stent	ofon		audio		alpha	
Value 2							
Value 3	1						
Value 4							
Value 5							
Value 6							
Value 7	1						
Value 8							
Value 9	1						
Call Until Answer	🔲 (lo	ops the ringlist)					
Ringing Time	5	seconds, (0=unli	mited)				
Max Conversation Time	0	seconds, (0=unli	mited)				
				Save			

Direct Access Key Settings

Input Button 1

This is the SIP ID for the extension to be called when call button no. 1 is pressed, i.e. the SIP ID number of the receiving party.

Input Button 2

This is the SIP ID for the extension to be called when call button no. 2 is pressed, i.e. the SIP ID number of the receiving party.

Input Button 3

This is the SIP ID for the extension to be called when call button no. 3 is pressed, i.e. the SIP ID number of the receiving party.

Direct Access Key Settings (In Call)

- Select input buttons 1 3 for direct access calls while in conversation.
- Options are: End Call, Do Nothing, Send Text, Send DTMF
- Pin connections for the three call buttons are located on the P4 connector. See Appendix A: Substation Board Connections for more information.

SNMP Settings 3.6

Statio

SNMP (Simple Network Management Protocol) is a protocol for centralizing the management of devices in IP networks.

• Click Advanced Configuration > SNMP to access the page for configuring SNMP parameters.

tion Main	Station Configuration	Station Administration	Advanced Configuration		
SNMP	s	NMP Settings			
		Description	Configuration		
		Enable SNMP v1:			
Updates		Enable SNMP v2c:			
Tone test		Community string:	public		For v1 and v2c only
Webcall		Allowed Network:	0.0.0.0	/ 0	example: 192.168.0.0/24
VLAN	s	NMP Trap Settings			
802.1X		Description C	opfiguration		
Firewall		Trap receiver:	omguration		disable tracs by setting this field empty
Keyboard					
	E	nable SNMP Traps			
	1	Description			Configuration
		IP-Station Started			
		Registration Successfull			
		Registration Failed			
		Call Connected			
		Call Connect Failed			
		Call Disconnect			
		Button Hanging			
		Sound Test Failed			
		Sound Test Error			
		Sound Test Success			
		Input Button Pressed			
		Input Button Released			
		Relay Activated			

Save SNMP configuration

SNMP Settings

Enable SNMP v1

- This enables reading of the MIB using SNMP version 1.

Enable SNMP v2c

- This enables reading of the MIB using SNMP version 2c.

Community string

- Enter a text string used as a password for authentication.

Allowed Network

- This is used, together with the network mask, to determine the allowed network for reading the MIB on the station.
- The IP address is entered in regular dot notation, e.g. 10.5.2.100. For example with an allowed network 10.5.2.0 and a network mask of 24, any station with an IP address in the range 10.5.2.0 to 10.5.2.255 can access the MIB.

SNMP Trap Settings

Trap receiver

- Enter the IP address of the server receiving SNMP traps. This is disabled if the field is left empty.

Enable SNMP Traps

ipsStarted

- If enabled, the station will send an SNMP trap when the station application is started.

sipRegistered

- If enabled, the station will send an SNMP trap when successfully registered in the SIP domain.

sipRegisterFailed

- If enabled, the station will send an SNMP trap if registration in the SIP domain failed.

callConnect

- If enabled, the station will send an SNMP trap when a call is connected.

callConnectFailed

- If enabled, the station will send an SNMP trap if a call to the station fails to connect for any reason (busy etc.).

callDisconnect

- If enabled, the station will send an SNMP trap when a call is disconnected.

3.7 Automatic Configuration using TFTP

A SIP substation may be set up to automatically poll configuration settings for SIP, Call and SNMP from a TFTP server. The IP address of this TFTP server can be obtained using DHCP procedures or be manually configured.

Before you start the automatic configuration procedure:

- A configuration file should first be created. The relevant parameters for SIP, Call and SNMP in the configuration file are described in *Appendix F: Configuration File Parameters*.
- Follow the procedures described in section 4.1 TFTP Server Program.

To carry out automatic configuration from the substation web server:

- 1. Start the TFTP server program and set the server path by browsing to the directory where the configuration file is located.
- 2. Log on to the SIP Substation web server.
- 3. Select Advanced Configuration > Updates

Station Main	Station Configuration	Station Administration	Advar	nced Configur	ation		
► SNMP	C	Configuration Up	dates	:			
▼ Updates		Automatic					
		TETE	-server IF	, ,			
L		۲	From DH	HCP			
Tone test		0	0	- 0	- 0	- 0	
♦ Webcall		Manual Web Configuration	on Only				
▶ VLAN	s	oftware Updates					
▶ 802.1X							
▶ Firewall		Automatic (requires "Auto Monucl	matic Co	onfiguration U	pdates" enab	led)	
▶ Keyboard							
	A	utomatic Update	Inter	rval:			
	c	Check for update every 60	m	ninutes			
		Save configuration for	"Upda	tes"			

- 4. Under Configuration Updates select the radio button for Automatic
- 5. Either select the radio button for **From DHCP** or enter the IP address of the **TFTP server** (your PC IP address)
- 6. Under **Automatic Update Interval** enter the interval in minutes for checking updates.
 - The value must be between 1 and 999 and the default setting is 60.
- 7. Click Save configuration for "Updates"

The substation will now contact the TFTP server and run the configuration file to carry out the configuration procedure according to the set time interval.

3.8 Advanced Configuration Options

Z The configuration settings described in this section are not mandatory.

3.8.1 VLAN

VLAN Tagging or IEEE 802.1Q is a networking standard allowing multiple bridged networks to transparently share the same physical network link without leakage of information between networks. IEEE 802.1Q — along with its shortened form dot1q — is commonly used to refer to the encapsulation protocol used to implement this mechanism over Ethernet networks.

≤ STENTOFON IP Stations support 802.1Q as from firmware version 01.09.3.0.

User interface

VLAN is configured in the IP station web interface.

• Select Advanced Configuration > VLAN from the menu

a 15	CCoIP Station - Switch Enh	ancement							
Audio		uncoment							
LAN	Apply settings								
/AD									
	Port specific VLAN rules and tag	ging options							
02.1X	Port	VLAN ID	VLAN priority	Sending filter	Acceptance filter				
rewall	IP-station	3	0	MEMBERS -	ALL 👻				
leyboard	LAN	1	0	MEMBERS 💌	ONLY TAGGED 🔻				
	AUX	2	0	MEMBERS -	ONLY TAGGED 💌				
	IP-station upgrade with VLAN	NO 💌	If set yes, then during	upgrade station uses IP-Station VL	AN ID to tag/untag packets.				
	VLAN priority tag to switch priori	ity	2 2	4 5	4 7				
	Switch priority				чт нент нен				
	2011	2011	2011						
	Save VI AN settings								
	Save vExit settings								
	Add ports to a VLAN								
	Add ports to a VLAN Port M	embership		Egress tagging	7				
	Add ports to a VLAN Port M IP-station	embership Not member 💌		Egress tagging Remove tag	1				
	Add ports to a VLAN Port M IP-station 1 LAN 1	embership Not member 💌 Not member 💌		Egress tagging Remove tag Remove tag	•				
	Add ports to a VLAN Port M IP-station I LAN I AUX I	embership Not member 💌 Not member 💌 Not member 💌		Egress tagging Remove tag Remove tag Remove tag					
	Add ports to a VLAN Port M IP-station LAN AUX VLAN ID	embership Not member 💌 Not member 💌		Egress tagging Remove tag Remove tag					
	Add ports to a VLAN Port M IP-station I LAN I AUX I VLAN ID	embership Not member 💌 Not member 💌 Not member 💌		Egress tagging Remove tag Remove tag					
	Add ports to a VLAN Port M IP-station f LAN f AUX f VLAN ID Add VLAN	embership Not member 💌 Not member 💌 Not member 💌		Egress tagging Remove tag Remove tag Remove tag					
	Add ports to a VLAN Port M IP-station f LAN f AUX f VLAN ID Add VLAN Remove VLAN by ID	embership Not member 💌 Not member 💌 Not member 💌		Egress tagging Remove tag Remove tag Remove tag					
	Add ports to a VLAN Port M IP-station I LAN I AUX I VLAN ID Remove VLAN by ID VLAN ID	embership Not member 💌 Not member 💌 Not member 💌		Egress tagging Remove tag Remove tag Remove tag					
	Add ports to a VLAN Port M IP-station I LAN I AUX I VLAN ID Remove VLAN by ID VLAN ID Remove VLAN	embership Not member 💌 Not member 💌		Egress tagging Remove tag Remove tag Remove tag					
	Add ports to a VLAN Port M IP-station I LAN I AUX I VLAN ID Add VLAN Remove VLAN by ID VLAN ID Remove VLAN	embership Not member 💌 Vot member 💌		Egress tagging Remove tag Remove tag Remove tag					
	Add ports to a VLAN Port M IP-station I LAN I AUX I VLAN ID Add VLAN Remove VLAN by ID VLAN ID Remove VLAN VLAN table	embership Not member 💌 Vot member 💌		Egress tagging Remove tag Remove tag Remove tag	2				

Clicking the **Apply settings** button will apply the chosen settings. With the exception of a restart, the saved settings will not come into effect until **Apply settings** is clicked.

Enable VLAN

This option determines whether the switch uses 802.1Q or not. If this is enabled, the switch is VLAN aware. Select **YES** or **NO** from the dropdown menu.

Port specific VLAN rules and tagging options

Here, it is possible to specify which VLAN ID and priority the ports should assign untagged packets to. Tagged packets are not changed.

- VLAN ID has a value range from 0 to 4094. It specifies which VLAN ID tag to add to a packet.
- VLAN priority has a value range from 0 to 7. It specifies which VLAN priority tag to add to a packet.
- Sending filter specifies whether a given port will only send to VLANs which it is a member of or all VLANs. For example, if the chosen option is **MEMBERS** then a packet with VLAN ID 1 at the LAN port will only reach another port which is a member of VLAN ID 1. Select **MEMBERS** or **ALL** from the dropdown menu.
- Acceptance filter specifies whether a port will accept only tagged packets or all packets. The option ONLY TAGGED should only be used against VLAN aware devices which tag packets. Select ONLY TAGGED or ALL from the dropdown menu.

VLAN priority tag to switch priority

Here, it is possible to specify how the switch should queue the packets with **VLAN priority tag**.

• Switch priority: Select HIGH or LOW from the dropdown menu. By default, packets with VLAN priority tags from 4 to 7 are set to the

HIGH priority queue.

Add ports to a VLAN

Here, it is possible to determine whether the ports should be members of the specified VLAN. There is also a setting for specifying whether the ports should strip or keep the VLAN tag when sending egress packets.

- **Membership** determines whether the port is a member of the specified VLAN or not. Select **Not member** or **Member** from the dropdown menu.
- Egress tagging determines whether the port should remove VLAN tags or keep them for the specified VLAN. Select Remove tag or Keep tag from the dropdown menu.

Clicking the Add VLAN button will add the current chosen settings to the VLAN table below. If a VLAN in the VLAN table already exists with the chosen VLAN ID, then the settings will be updated.

Remove VLAN by ID

Here, it is possible to determine which VLAN is to be removed from the **VLAN table** by specifying the **VLAN ID**, then clicking the **Remove VLAN** button.

VLAN table

The VLANs that the ports are members of are listed under the **Membership Info** column. The table also lists the ports that keep the VLAN tag when sending egress packets; this is shown under the **Egress Tagging Info** column. The **VLAN table** can accommodate a maximum of 63 VLANs.

The DHCP address is received before the switch is VLAN aware (during startup). Either trunk all VLANs or set the DHCP server which should reach the IP substation on a native VLAN.

3.8.2 Network Access Control

IEEE 802.1X is an IEEE Standard for Port-based Network Access Control (PNAC) By "port" we mean a single point of attachment to the LAN infrastructure. It provides an authentication mechanism to devices wishing to attach to a LAN, either establishing a point-to-point connection or preventing it if authentication fails.

STENTOFON SIP Substations support 802.1X as from firmware version 01.09.3.0.

User interface

802.1X Network Access Control is configured from the IP station web interface.

• Select Advanced Configuration > 802.1X from the menu.

Audio	802.1X Settings			
VLAN	Choose authentication method:			
VAD	MSCHAPV2			
802.1X	TTLS with PAP			
	PEAP with MSCHAPV2			
Eirenall	Description	Configurati	on	
, Firewall	802.1X Status:	DISABLE	ED 💌	
Keyboard	Username:	Usernam	e	
	Password:	Passwor	d	
	Fake username:	Fake use	rname	
	Verify server with certificate:	\checkmark		
	Get new DHCP on success:			
	Certificate:			Browse
		Save	Reboot	

The radio button list lets the user choose the authentication method to configure and use.

The different authentication methods are:

- MSCHAPV2
- MD5
- TTLS with PAP
- PEAP with MSCHAPV2

MSCHAPV2 and MD5 will encrypt the password.

TTLS with PAP and PEAP with MSCHAPV2 will encrypt both the Username and Password.

The parameters to configure depend on the authentication method:

802.1X status: Enable or disable 802.1X.

Username: The user name that identifies a station.

Password: The password associated with the user name.

Fake username: The fake user name sent outside of encrypted tunnel with **TTLS with PAP** and **PEAP with MSCHAPV2**. The user name is encrypted.

If **TTLS with PAP** or **PEAP with MSCHAPV2** is chosen, a certificate must be uploaded to the station by clicking **Browse**. The certificate must either be in Privacy Enhanced Mail (PEM) or Distinguished Encoding Rules (DER) format, and it must be named *certificate.pem*.

- Click Save to save the current settings
- Click Reboot
 - The new 802.1X settings will only come into effect after the reboot.

4 Software Upgrade

Software upgrade is carried out via the web server of the substation.

There are two ways of upgrading the software on the SIP substation:

- Manual Upgrade
- Automatic Upgrade

4.1 **TFTP Server Program**

Both upgrade methods require that an TFTP Server is available and that the latest software image file has been downloaded from Zenitel's support website (AlphaWiki). During the upload process, the IP substation will connect to the TFTP Server and download the software. The TFTP Server program must already be installed on your PC/server with a defined IP address. A free TFTP Server program can be downloaded from http://tftpd32.jounin.net. Before starting the IP substation upgrade procedure, the TFTP Server program must be running and the directory where the software image file is located must be selected by using the **Browse** button in the program interface.

🏘 Tftpd32 by Ph. J	ounin				
Current Directory C:\sof Server interfaces 10.5.2 Tftp Server Tftp Client	tware\IP station\01_(.167 DHCP server Sys)9_3_3)9_3_3	Log viewer	•	Browse Show Dir
peer	file	start time	progress	bytes	total timeo
About		Setti	ngs		Help

4.2 Manual Software Upgrade

To carry out a manual software upgrade from the substation web server:

- 1. Start the TFTP server program and set the server path by browsing to the directory where the software file is located.
- 2. Log on to the SIP Substation web server.
- 3. Select Station Administration > Manual Upgrade

▶ Reboot	Enter the	follo	wing p	aramet	ers:
▶ Logging	TFTP-server IP:	10	- 5	- 2	- 142
▶ Licensing	Image file	A100	G80200	.02_02_3	3_1.bin
Change Password	CRC	4065	1C98		
Backup and Restore	Save settin	ngs			

- 4. Enter the IP address of the **TFTP server** (your PC IP address)
- 5. Enter the name of the software Image file (include bin file extension)
- 6. Enter the **CRC** checksum (found in the text file from the downloaded software package)
- 7. Click Save settings to store the data

The substation will now try to contact the TFTP server. If the connection cannot be established or the file *tftp_test.txt* is missing from the directory, the message *TFTP_CONN_ERROR* is displayed. If the response is *TFTP_CONN_OK* the settings are saved, and the **Upgrade** button will appear.

Station Main Station Admini:	Advanced Configuration
	TFTP_CONN_OK on IP: 10.5.2.145 Image-filename: A100G80200.02_02_3_1.bin crc: 9AFF3E64 Verify that the entered image file and crc-sum is correct Press 'Upgrade'to initiate full upgrade procedure.
 Backup and Restore Manual Upgrade 	Upgrade

Click the **Upgrade** button to start the software upgrade procedure for the SIP substation. The upgrade procedure takes approximately 3 minutes.

The upgrade process can be monitored by clicking the **Log viewer** tab in the TFTP server program.

Windows Explorer may be set to hide known file extensions so the file may appear without the .bin extension. The name of the software image file has to be entered with the extension .bin.

4.3 Automatic Software Upgrade

A SIP substation may be set up to automatically poll software upgrade configuration from a TFTP server. The IP address of this TFTP server can be obtained using DHCP procedures or be manually configured.

A configuration file should first be created. The relevant parameters in the configuration file are described in *Appendix F: Configuration File Parameters*.

An example of the parameters for software upgrade in the configuration file is as follows:

```
auto_update_interval=10
auto_update_image_type=A100G80200.01_10_1_2.bin
auto update image crc=C1466499
```

To carry out automatic software upgrade from the substation web server:

- 1. Start the TFTP server program and set the server path by browsing to the directory where the software file is located.
- 2. Log on to the SIP Substation web server.
- 3. Select Advanced Configuration > Updates

SNMP	Configuration	on Upd	ates:			
• Updates	Automatic					
		TFTP-	server IP			
		۲	From DH	ICP		
Tone test		0	0	- 0	- 0	-
Webcall		0				
▶ VLAN	Manual Web C	onfiguration	Only			
▶ 802.1X	Software Ur	dates:				
▶ 802.1X ▶ Firewall	Software Up	dates:				
▶ 802.1X ▶ Firewall	Software Up Automatic (requ	odates:	natic Co	onfiguration U	pdates" enable	ed)
▶ 802.1X ▶ Firewall ▶ Keyboard	Software Up Automatic (requ	odates: uires "Autor TFTP-	natic Co server IP	onfiguration U	pdates" enable	ed)
▶ 802.1X ▶ Firewall ▶ Keyboard	Software Up Automatic (requ	odates: uires "Autor TFTP.	natic Co server IP From DH	ICP	pdates" enable	ed)
 ▶ 802.1X ▶ Firewall ▶ Keyboard 	Software Up O Automatic (requ	odates: uires "Autor TFTP. @ ()	natic Co server IP From DH	ICP	pdates" enable	ed) - 0
 ▶ 802.1X ▶ Firewall ▶ Keyboard 	Software Up Automatic (requ Manual	odates: uires "Autor TFTP- @ (©	natic Cc server IP From DH 0	ICP - 0	pdates" enable	ed) - 0
 ▶ 802.1X ▶ Firewall ▶ Keyboard 	© Manual Automatic L	uires "Autor TFTP. © Update	natic Cc server IP From DF 0 Inter	Nonfiguration U ICP - 0 Val:	pdates" enable	ed) - 0
 ▶ 802.1X ▶ Firewall ▶ Keyboard 	Software Up O Automatic (requ O Manual Automatic L Check for update er	Jpdates: Jpdate very 60	natic Cc server IP From DF 0 Inter m	Nonfiguration U ICP - 0 Val: inutes	pdates" enable	ed) - 0

- 4. Under **Configuration Updates** select the radio button for **Automatic** Automatic Configuration Updates has to be enabled
- 5. Either select the radio button for **From DHCP** or enter the IP address of the **TFTP server** (your PC IP address)
- 6. Under Software Updates select the radio button for Automatic
- 7. Either select the radio button for **From DHCP** or enter the IP address of the **TFTP server** (your PC IP address)
- 8. Under **Automatic Update Interval** enter the interval in minutes for checking updates.
 - The value must be between 1 and 999 and the default setting is 60.
- 9. Click Save configuration for "Updates"

The substation will now contact the TFTP server, download the software image and carry out the upgrade.

- ✓ During an upgrade, the substation switch will not be VLAN aware. Make sure the IP substation can reach the TFTP server from the native VLAN.
- During an upgrade of the substation, 802.1X will not be running. Thus if 802.1X reauthentication is enabled and is performed during the upgrade, the substation may lose contact with the TFTP server (depending on the configuration when 802.1X authentication fails). If the substation loses contact with the TFTP server, it will not be upgraded.

A Substation Board Connections



Figure 3 Substation Board Connections

There are four connectors on the SIP Substation board: P1, P2, P3, and P4.

- P1: RJ45 LAN connector for 10/100 Mbit Ethernet connection. The station can be powered from this connection if the line supports Power over Ethernet (PoE).
- P2: RJ45 connector for auxiliary equipment like IP camera, PC or a second IP station.
 This port does not have an individual IP address nor carry power for auxiliary equipment.
- P3: 6-pin plug-on screw terminal for external connections.
 - Pin 1/2: Connected to station loudspeaker. May also be used for 8-20 ohm / 2W external loudspeaker in parallel.
 - Pin 3/4: Internal NO relay contact for door lock control, etc.

- Pin 5/6: Connected to 24 VDC for station power when power is not distributed via LAN. (see *Appendix E: Substation Specifications* for details) Pin 6 is positive.
- P4: 6-pin plug-on screw terminal for internal connections.
 - Pin 1/4: Call button no. 1
 - Pin 2/4: Call button no. 2 or logical input
 - Pin 3/4: Call button no. 3 or logical input
 - Pin 5/6: Station LED for call and message information
- **TP1/TP2**: 0 dB, 600 ohm balanced audio output for connection to a power amplifier.
- **TP9**: Logical output for a spare relay driver, max. 30 mA.



B Substation Indication LEDs

B.1 Station LED (on board and front plate)



Steady light: Blinking: No light: There is an ongoing call. There is a call attempt or incoming call. There are no calls.

B.2 LAN LEDs (on LAN and AUX RJ45 ports)



Left LED

Steady light: Blinking:

No light:

Ethernet connection OK Ethernet traffic No Ethernet connection

Right LED

Light: No light: 100 Mbit Ethernet connection10 Mbit Ethernet connection

C Dimensions & Mounting Instructions

	Dimensions (HxWxD)	Weight
SIP Vandal Resistant Substation	180 x 92 x 46 mm	0.8 kg
SIP Substation Kit	110 x 72 x 20 mm	0.1 kg



C.1 SIP Substation Dimensions



Figure 4 SIP Substation Dimensions

C.2 SIP Substation Flush Mounting

The SIP Vandal Resistant Substation (part no. 1008061100) can be mounted in a flush mount backbox (part no. 1008098100) or a surface mount backbox (part no. 1008098000).



Figure 5 SIP Substation - Flush Mount Backbox



C.3 SIP Substation Surface Mounting

Figure 6 SIP Substation - Surface Mount Backbox

C.4 Substation Kit Dimensions



Figure 7 Substation Kit Mounting Dimensions (mm)

C.5 Mounting & Assembly Kit for Substation

• part no. 1008091000

The mounting and assembly kit includes gaskets, a 2-inch loudspeaker, loudspeaker housing, and microphone with mounting block for call LED.



Figure 8 Substation Assembly Kit

D Restoring Factory Defaults

An IP Substation may have to be reset to its original factory default settings if, for instance, the password to the web server is forgotten. The defaults can be either be set to Static IP or Activated DHCP (when there are many new IP Substations in an installation).

D.1 Reset to Factory Default Settings with Static IP

- 1. While pressing the call button, power up the substation.
- 2. When the substation LED starts blinking, release the call button **after** exactly 2 blinks.
- 3. Let the LED blink for **exactly 2 more times**, then press the button again.
- 4. Keep the button pressed until the LED blinks fast 2 times indicating a successful reset with static IP.
- 5. Release the button and the substation will restart with the factory default settings.

Factory default values

Station IP address: 169.254.1.100

Username: admin

Password: alphaadmin

- D.2 Reset to Factory Default Settings with Activated DHCP
 - 1. While pressing the call button, power up the substation.
 - 2. When the substation LED starts blinking, release the call button **after** exactly 2 blinks.
 - 3. Let the LED blink for **exactly 4 more times**, then press the button again.
 - 4. Keep the button pressed until the LED blinks fast 4 times indicating a successful reset with activated DHCP.
 - 5. Release the button and the substation will restart with the factory default settings.

Factory default values

Station IP address: (determined by DHCP server) Username: admin Password: alphaadmin



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E.1 SIP Vandal Resistant Substation

Dimensions (HxWxD)	180 x 92 x 46 mm
Weight	0.8 kg
Protection	Vandal resistant design, 2 mm stainless steel front, tamper proof fastening screws, buttons and loudspeaker grills
Protection class	With mounting backbox 1008098000 (surface mount): IP-44 With mounting backbox 1008098100 (flush mount): IP-55
Mounting	Flush mount in 50 mm deep backbox
Temperature range	-20°C - +50°C
Power	Power over Ethernet: IEEE 802.3 a-f, Class 0 Local power: 19 – 27 VDC, Idle 4W, max. 8W
Connectors	2 x RJ45 (Ethernet) 10/100 Mbps Pluggable screw terminals (audio and I/O)
Remote control	3 digital inputs, 1 relay output
SIP support	RFC 3261, SIP Info (DTMF), RFC 2833 (DTMF)
IP protocols	IP v4 - TCP - UDP - HTTPS – TFTP - RTP - RTCP -DHCP - SNMP DiffServ - TOS – STENTOFON CCoIP® - SIP
LAN protocols	Power over Ethernet (IEEE 802.3 a-f), VLAN (IEEE 802.1pq), Network Access Control (IEEE 802.1x), STP (IEEE 802.1d), RSTP (IEEE 802.1d-2004)
Audio technology	Wideband 200 Hz - 7 kHz (G.722) Telephony 3.4 kHz (G.711) Active noise filtering Acoustic echo cancellation Open duplex Adaptive jitter filter 1.5 Watt audio output 8 ohm loudspeaker impedance External audio out (0 dB, 600 ohm)
Management and operation	HTTPS (Web configuration) DHCP and static IP TFTP (firmware and configuration download) SNMP v1, v2 and v3 (monitoring) Status LED
Advanced features	Dual port managed data switch supporting VLAN Standby SIP server for redundancy

E.2 SIP Substation Kit

Dimensions (HxWxD)	110 x 72 x 20 mm
Weight	0.1 kg
Temperature range	-20°C - +50°C
Power	Power over Ethernet: IEEE 802.3 a-f, Class 0 Local power: 19 – 27 VDC, Idle 4W, max. 8W
Connectors	2 x RJ45 (Ethernet) 10/100 Mbps Pluggable screw terminals (audio and I/O)
Remote control	3 digital inputs, 1 relay output
SIP support	RFC 3261, SIP Info (DTMF), RFC 2833 (DTMF)
IP protocols	IP v4 - TCP - UDP - HTTPS – TFTP - RTP - RTCP -DHCP - SNMP - DiffServ - TOS – STENTOFON CCoIP® - SIP
LAN protocols	Power over Ethernet (IEEE 802.3 a-f), VLAN (IEEE 802.1pq), Network Access Control (IEEE 802.1x), STP (IEEE 802.1d), RSTP (IEEE 802.1d-2004)
Audio technology	Wideband 200 Hz - 7 kHz (G.722) Telephony 3.4 kHz (G.711) Active noise filtering Acoustic echo cancellation Open duplex Adaptive jitter filter 1.5 Watt audio output 8 ohm loudspeaker impedance External audio output (0 dB, 600 ohm)
Management and operation	HTTPS (Web configuration) DHCP and static IP TFTP (firmware and configuration download) SNMP v1, v2 and v3 (monitoring) Status LED
Advanced features	Dual port managed data switch supporting VLAN Standby SIP server for redundancy

F Configuration File Parameters

F.1 Remote Provisioning using TFTP

An IP station may be set up to automatically poll configuration from a TFTP server. The IP address of this TFTP server can be obtained using DHCP procedures or be manually configured.

The IP station will first try to download the global configuration file:

ipst_config.cfg

Then the IP station will download a device specific configuration file:

ipst_config_01_02_03_04_05_06.cfg

where 01_02_03_04_05_06 is the MAC address of the IP station.

If the same parameter is found in both files, the value from the device specific file takes precedence.

F.2 General Parameters

auto_update_interval

Required: No. If this parameter is not set in the file, the function will be disabled.

Description: This parameter enables the station to automatically look for software updates on the TFTP server.

Values: Number of minutes to wait between each server request. Value must be between 1 and 999.

auto_update_image_type

Required: If auto update interval is set.

Description: The name of the software image file to be uploaded.

Values: Text giving the name of the software image file. The full name of the file, including extension, is required. This parameter must be set if the auto update function is enabled.

auto update image crc

Required: If auto_update_interval is set.

Description: The CRC checksum calculated for the software image file specified by the auto_update_image_type parameter. This is used to check the integrity of the software file before updating the station.

Values: Hexadecimal value.

F.3 SIP Parameters

nick_name

Required: No. Defaults to sip_id.

Description: The nickname for the station can be used to assign a logical name to the station. For example, a station belonging to James may be assigned the nickname "James" or "James' station".

Values: Text string. Max length is 64 characters.

sip_id

Required: Yes

Description: This is the identification of the station in the SIP domain, i.e. the phone number of the station.

Values: Integer value. Max length is 64 characters.

sip_domain

Required: Yes

Description: SIP domain is a server that uses SIP (Session Initiation Protocol) to manage real-time communication among SIP clients. The sip_domain parameter specifies the primary domain for the station, as opposed to sip_domain2 which specifies the secondary (or fallback) domain. The IP address for the SIP domain server (e.g. Asterisk or Cisco Call Manager) should be defined in this section.

Values: IP address given in regular dot notation, e.g. 10.5.2.100

sip_domain2

Required: No

Description: This is the secondary (or fallback) domain. If the station loses connection to the primary SIP domain, it will switch over to the secondary domain.

Values: IP address given in regular dot notation, e.g. 10.5.2.100

auth_user

Required: Only if the SIP server requires authentication.

Description: The authentication user name used to register the station to the SIP server.

Values: Text string.

auth_pwd

Required: Only if the SIP server requires authentication.

Description: The authentication user password used to register the station to the SIP server.

Values: Text string.

sip_outbound_proxy

Required: Optional

Description: Configures an outbound proxy server that receives all initiating request (INVITE and SUBSCRIBE) messages.

Values: IP address given in regular dot notation, e.g. 10.5.2.100

sip_outbound_proxy_port
Required: If proxy server is defined. Default is 5060.
Description: The UDP port on the SIP proxy server.
Values: Integer.

register_interval

Required: No. Defaults to 600 seconds.

Description: This parameter specifies how often the station will register, and reregister, in the SIP domain. This parameter will affect the time it takes to discover that a connection to a SIP domain is lost.

Values: Number of seconds. $60 \le register_interval \le 999999$

F.4 Call Parameters

speeddial_1

Required: Yes

Description: This is the SIP ID for the extension to be called when the first call button is pressed, i.e. the telephone number of the receiving party.

Values: Integer value

speeddial_1_ip

Required: No

Description: If desired, an IP address can be configured as a backup for speeddial_1. If the station has no connection to any of the configured SIP domains, it can call directly to this IP address.

Values: IP address given in regular dot notation, e.g. 10.5.2.100

speeddial_2

Required: No

Description: This is the SIP ID for the extension to be called when the second call button is pressed, i.e. the telephone number of the receiving party.

Values: Integer value

speeddial_2_ip

Required: No

Description: If desired, an IP address can be configured as a backup for speeddial_2. If the station has no connection to any of the configured SIP domains, it can call directly to this IP address.

Values: IP address given in regular dot notation, e.g. 10.5.2.100

speeddial_3

Required: No

Description: This is the SIP ID for the extension to be called when the third call button is pressed, i.e. the telephone number of the receiving party.

Values: Integer value

speeddial_3_ip

Required: No

Description: If desired, an IP address can be configured as a backup for speeddial_3. If the station has no connection to any of the configured SIP domains, it can call directly to this IP address.

Values: IP address given in regular dot notation, e.g. 10.5.2.100

speaker_volume

Required: No. Defaults to 4.

Description: This parameter sets the volume of the station's speaker.

Values: Integer. $0 \le \text{speaker}_{\text{volume}} \le 7$

mic_sensitivity

Required: No. Defaults to 5. Description: This parameter adjusts the microphone sensitivity. Values: Integer. $0 \le \text{mic}_{\text{sensitivity}} \le 7$

rtp_timeout

Required: No. Defaults to 0.

Description: Cancels a call if the station does not receive RTP. Values: Integer value: 0-9999 seconds. 0 = RTP timeout disabled.

remote controlled volume override mode

Required: No.

Description: Acts as a simplex mode after first DTMF * or # is received from remote station. Send DTMF * to talk and # to listen.

Values: Integer. 0 = disabled, 1 = enabled.

auto_answer_mode

Required: No.

Description: Enables auto-answer after a set number of seconds. Values: Integer. 0 = disabled, 1 = enabled.

auto_answer_delay

Required: No. Defaults to 0.

Description: The number of seconds to delay the auto-answer.

Values: Integer. $0 \le \text{delay} \le 30$

disable_disconnect_by_button

Required: No.

Description: Disable disconnect with the speed dial during and when setting up conversation.

Values: Integer. 0 = disabled, 1 = enabled.

activate_relay_event

Required: No. Function will be disabled if parameter not present.

Description: When enabled, the station will activate the relay when receiving the specified DTMF digit in the RTP stream. The DTMF digit must be sent according to RFC 2833.

Values: Integer. $0 \le activate_relay_event \le 9$

activate relay duration

Required: No. Defaults to 60.

Description: This parameter sets the duration for the relay activation in seconds.

Values: $0 \le activate_relay_duration \le 240.0$ means that the relay stays open.

F.5 SNMP Parameters

trap_receiver

Required: No.

Description: The IP address of the server receiving SNMP traps.

Values: IP address given in regular dot notation, e.g. 10.5.2.100

network

Required: No.

Description: Used, together with the network mask, to determine the allowed network for reading the MIB on the IP station.

Values: IP address given in regular dot notation, e.g. 10.5.2.100. For example, with an allowed network of 10.5.2.0 and a network mask of 24, anyone with IP address 10.5.2.0 to 10.5.2.255 can access the MIB.

network mask

Required: No.

Description: The mask used to determine the allowed network for reading the MIB.

Values: Integer. $0 \le$ network_mask ≤ 32 . For example, with an allowed network of 10.5.2.0 and a network mask of 24, anyone with IP address 10.5.2.0 to 10.5.2.255 can access the MIB.

community

Required: No.

Description: A text string used as a password for authentication. Values: String.

enable_v1

Required: No.

Description: Enables reading of MIB using SNMP version 1. Values: Integer. 1 = enabled, 0 = disabled.

enable_v2c

Required: No.

Description: Enables reading of MIB using SNMP version 2c.

Values: Integer. 1 = enabled, 0 = disabled.

enable_ipsStarted

Required: No. Defaults to 1.

Description: If enabled, the station will send an SNMP trap when the station application is started.

Values: 0 = disabled, 1 = enabled.

enable_sipRegistered

Required: No. Defaults to 1.

Description: If enabled, the station will send an SNMP trap when successfully registered in the SIP domain.

Values: 0 = disabled, 1 = enabled.

enable_sipRegisterFailed

Required: No. Defaults to 1.

Description: If enabled, the station will send an SNMP trap if registration to the SIP domain failed.

Values: 0 = disabled, 1 = enabled.

enable_callConnect

Required: No. Defaults to 1

Description: If enabled, the station will send an SNMP trap when a call is connected.

Values: 0 = disabled, 1 = enabled.

enable_callConnectFailed

Required: No. Defaults to 1.

Description: If enabled, the station will send an SNMP trap if an incoming call to the station fails to connect for any reason (busy etc.).

Values: 0 = disabled, 1 = enabled.

enable callDisconnect

Required: No. Defaults to 1.

Description: If enabled, the station will send an SNMP trap when a call is disconnected.

Values: 0 = disabled, 1 = enabled.

F.6 Example Configuration Files

F.6.1 Device Specific Configuration File

```
[general]
auto update interval=10
auto update image type=A100G80200.01 10 1 2.bin
auto_update_image_crc=C1466499
[sip]
nick name=Testname
sip id=1003
sip domain=10.5.2.209
sip domain2=10.5.2.138
auth user=1003
auth pwd=1003pass
sip_outbound_proxy=10.5.2.138
sip outbound proxy port=5060
register interval=600
[call]
speeddial 1=1000
speeddial 1 ip=10.5.2.200
speeddial_2=1004
speeddial 2 ip=10.5.2.201
speeddial 3=1005
speeddial 3 ip=10.5.2.202
speaker volume=4
mic sensitivity=5
rtp timeout=60
remote_controlled_volume_override_mode=1
auto_answer_mode=1
 auto_answer_delay=10
 disable_disconnect_by_button=1
 activate relay event='
activate relay_duration=10
[snmp]
trap receiver=10.5.2.219
network=10.5.2.0
network mask=24
community=public
enable_v1=1
enable_v2c=1
 enable_ipsStarted=1
enable_sipRegistered=1
enable sipRegisterFailed=1
enable callConnect=1
enable callConnectFailed=1
enable_callDisconnect=1
```

F.6.2 Global Configuration File

The global configuration file has the same parameters as the device specific file except that the four parameters below will be ignored. Hence, it is recommended that the following parameters not be used in the global configuration file.

```
nick_name
sip_id
auth_user
auth_pwd
```

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