



Provisioning Guide

v 1.06

M900, M700, M300

Base Stations

FW 4.50 and higher

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Change Log

Release	Date	Description
v1.01	October 31, 2019	Initial Release
v1.02	April 14, 2020	Clarifying descriptions of settings <timezone>, <country_region_id>, <timezone_by_country_region>, and <dst_by_country_region>
v1.03	October 21, 2021	Clarify maximum number of repeaters per installation (100). Clarify configuration examples.
v1.04	February 16, 2022	Add push-to-talk (PTT) function to extension settings
v1.05	July 25, 2022	Fixed two errors (default value of management_transfer_protocol on page 15, and default value of sip_check_sync_always_reboot on page 17)
v1.06	September 21, 2022	Remove comment on page 43

Introduction

This configuration manual covers the initial setup of M300, M700, and M900 bases for administrators who want to remotely configure and deploy the Snom DECT solution. This guide applies to firmware 4.50 and higher.

The base stations share most of their settings and provisioning capabilities with Snom desktop phones. However, due to the different nature of the M-series products, there are certain settings that either do not exist or are configured differently on Snom desktop phones.

Note: The M300 base station is sold as part of the M325 Bundle.

Supported Provisioning Methods

- DHCP (Option 43, 66, 67, 120)
- Manual Setting of Setting Server
- PnP
- Snom Redirection Service

DHCP

The DHCP server must be configured with additional DHCP options containing the URL of the provisioning server that are provided to the DECT base stations when they are booting. The base stations will then request their configuration parameters from the provisioning server which will result in a "ready-to-use" phone setup without manual configuration. For more information, see https://www.snom.com/auto_provisioning_dhcp_options.

Currently the base stations support the following DHCP options:

Option	Description	Example for Valid Values	Comments
43	Vendor-specific information	For examples and a detailed explanation, see https://www.snom.com/auto_provisioning_dhcp_options/	This option is used by clients and servers to exchange vendor-specific information.
66	TFTP server name	http://provisioning.company.com	This option is used to identify a TFTP server. The supported protocols are http, https and tftp.
67	Bootfile name	directory/snomsettings.xml	This option is used to identify a bootfile.
120	SIP server	00:04:63:73:31:35:04:73:6e:6f:6d:03:63:6f:6d:00 (cs15.snom.com)	This option is used to define a SIP server. Do not use this option when you are already configuring your sip server in the config file. This will lead to conflicts in the settings.

Manually Setting the Setting Server

A very basic way of configuring the Provisioning Server for the base stations is by entering the configuration server address and the name of the file in the management settings of the base's web

interface. Every time the base station boots, it will request its configuration parameters from the provisioning server, resulting in a "ready-to-use" phone setup without having to configure it manually.

Management Settings

Base Station Name:

Settings

HTTP Management username:

HTTP Management password:

Factory reset from button:

Enable Automatic Prefix:

Set Maximum Digits of Internal Numbers:

Set Prefix for Outgoing Calls:

Configuration

Configuration Server Address:

Filename:

Text Messaging

Text Messaging:

Text Messaging & Alarm Server:

Text Messaging Port:

Text Messaging Keep Alive (m):

Text Messaging Response (s):

Text Messaging TTL:

Terminal

Keep Alive (m):

Auto Stop Alarm:

Auto Stop Alarm Delay (s):

Syslog/SIP Log

Upload of SIP Log:

Syslog Level:

TLS security:

Syslog Server IP Address:

Syslog Server Port:

PNP

Plug & Play (PnP) provides a proprietary method to enable provisioning on M300, M700, and M900 DECT base stations. By default the base stations send SIP SUBSCRIBES messages to a multicast address. Any SIP server that understands the message may reply with a SIP NOTIFY message containing the URL of the provisioning server from where the phones can request their configuration. An example SIP SUBSCRIBE message from the base station would look like this:

```
SUBSCRIBE sip:MAC%3a0004136*****@224.0.1.75 SIP/2.0
Via: SIP/2.0/UDP 10.0.0.90:5060;branch=z9hG4bKl1d23iyadenuaa1jr4vm
Max-Forwards: 70
From: <sip:512@10.0.0.90>;tag=dmrud.mzfyg66
To: <sip:MAC%3a0004136*****@224.0.1.75>
Call-ID: 6cm70qdo.o.8i@10.0.0.90
CSeq: 20264 SUBSCRIBE
Contact: <sip:512@10.0.0.90>
Accept: application/url
Allow: INVITE, CANCEL, BYE, ACK, REGISTER, OPTIONS, REFER, SUBSCRIBE, NOTIFY, MESSAGE, INFO, PRACK,
UPDATE
Allow-Events: dialog,message-summary
Event: ua-profile;profile-type="device";vendor="Snom ";model="Snom M900";version="04.50.0005"
Expires: 0
Supported: replaces,100rel
User-Agent: Snom M900/04.50.0005 (MAC=0004136*****; SER= 00000; HW=255)
Content-Length: 0
```

If any SIP application within one-hop range understands this message, a SIP 200 OK confirmation is sent, followed by a SIP NOTIFY message containing the provisioning URL. The base station accepts this message and confirms it with a SIP 200 OK.

Snom Redirection Service

Snom's Secure Redirection and Provisioning Service (SRAPS) allows customers to register/list/unregister the MAC addresses of their M900, M700, and M300 DECT base stations on Snom's provisioning server and assign a redirection URL pointing to their own provisioning server. The service is designed to implement an easy-to-use interface (XMLRPC) for interaction with remote client applications. The communication between server and remote client application is secure. A detailed explanation can be found here: <https://www.snom.com/sraps/>.

User Agent

The devices follow Snom 's user agent scheme for HTTP and SIP communication. Two examples for GETs:

Mozilla/69.0 (compatible; Snom M900 4.50.0005 0004136****)

Mozilla/69.0 (compatible; Snom M700 4.50.0005 0004136****)

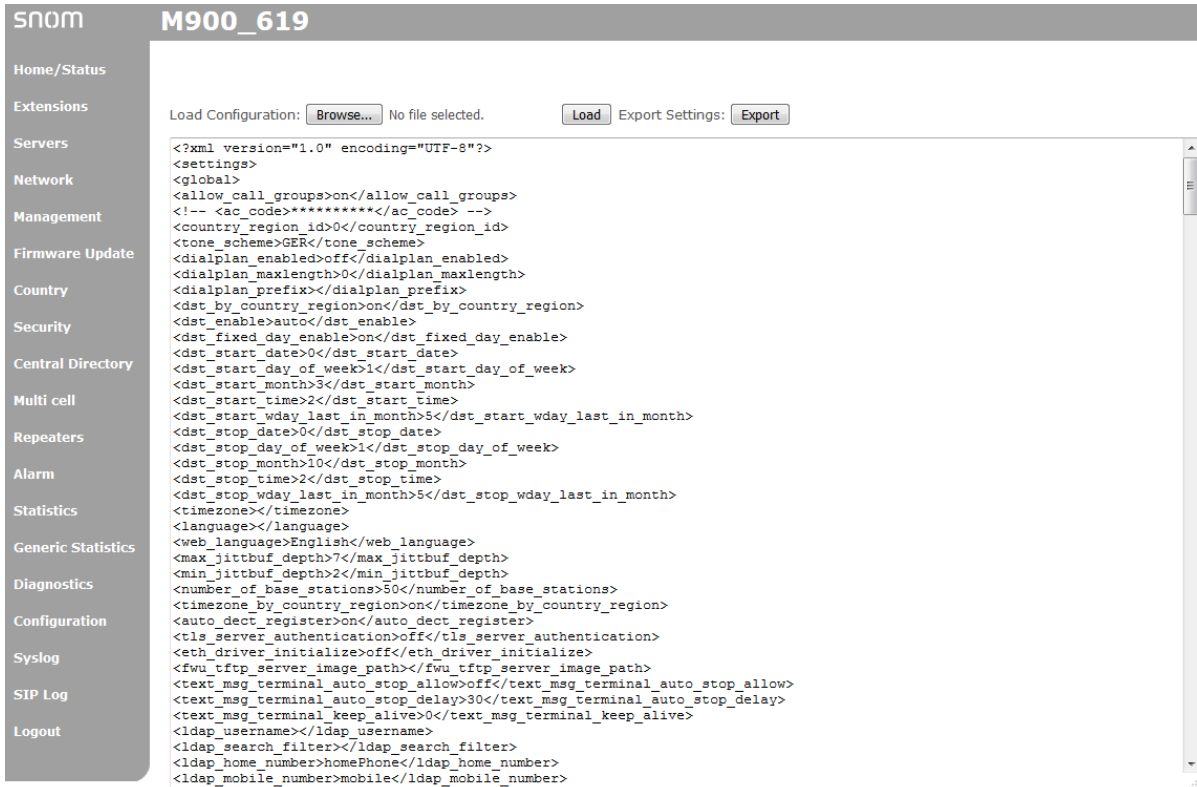
Mozilla/69.0 (compatible; Snom M300 4.50.0005 0004136****)

- "Snom M900", "Snom M700" and "Snom M300" identify the type of device.
- "4.50.0005" defines the software version. The first part ("4") describes the major release), the second part ("50") the version, and the last part ("0005") the specific build number.
- Following the software version is the MAC address of the base station, in this case "0004136****".

Settings and Configuration

Viewing, Saving, and Loading Settings

You can view and save your current settings and load a settings file on the Configuration page of the base station's web interface.



The comprehensive list of settings available for M series base stations is provided on the following pages:

- Global Settings page 9
- Server Settings page 21
- Extension Settings page 24
- Repeater Settings page 28
- Multicell Settings page 30
- Firmware Settings page 35
- Phonebook Settings page 36
- File Settings page 36

Comprehensive List of Settings

Global Settings

Global Settings		
Setting	Valid value(s)	Description
allow_call_groups	on / off	M300 only. The setting controls whether local call groups within the base station are enabled or not. Once a handset has been registered on the base station, the setting cannot be changed. Default value: on
ac_code	e.g. 1234	Defines the 4-digit code for a handset to connect to and register with the selected base station. Changing the code for a handset that is already registered will have no effect. Default Value: 0000 Note: In addition to the AC, the handset has a PIN for deregistering it from the base, performing factory resets, etc. The default value of the PIN is also 0000; it can only be changed on the handset itself. The PIN cannot be set or altered from the base station, whether by provisioning or via the web user interface.
country_region_id	tone_scheme = USA 0 = Alabama 1 = Alaska 2 = Arizona 3 = Arkansas 4 = California 5 = Colorado 6 = Connecticut 7 = Delaware 8 = Florida 9 = Georgia 10 = Hawaii 11 = Idaho PST 12 = Idaho MST 13 = Illinois 14 = Indiana 15 = Iowa 16 = Kansas 17 = Kentucky EST 18 = Kentucky CST 19 = Louisiana 20 = Maine 21 = Maryland 22 = Massachusetts 23 = Michigan 24 = Minnesota 25 = Mississippi 26 = Missouri 27 = Montana 28 = Nebraska 29 = Nevada	This setting can be used when a country has regions/states with different time zones (e.g. the US or Australia). Important: This setting will be used when the timezone_by_country_region setting is enabled. If there is a conflicting timezone setting, the timezone setting will be overridden. When the timezone_by_country_region setting is disabled (off), the timezone setting will be used if there is a conflict. Please not that the setting tone_scheme must be set to the value USA . Default Value: <empty>

Global Settings		
Setting	Valid value(s)	Description
	30 = New Hampshire 31 = New Jersey 32 = New Mexico 33 = New York 34 = North Carolina 35 = North Dakota 36 = Ohio 37 = Oklahoma 38 = Oregon 39 = Pennsylvania 40 = Rhode Island 41 = South Carolina 42 = South Dakota CST 43 = South DakotaMST 44 = Tennessee 45 = Texas 46 = Utah 47 = Vermont 48 = Virginia 49 = Washington 50 = West Virginia 51 = Wisconsin 52 = Wyoming	
country_region_id	tone_scheme = AUS 1 = New South Wales 2 = Victoria 3 = Tasmania 4 = Australian Capital Territory 5 = South Australia 6 = Northern Territory 7 = Queensland 8 = Western Australia	<p>This setting can be used when a country has regions/states with different time zones (e.g. the US or Australia).</p> <p>Important: This setting will be used when the timezone_by_country_region setting is enabled. If there is a conflicting timezone setting, the timezone setting will be overridden. When the timezone_by_country_region setting is disabled (off), the timezone setting will be used if there is a conflict.</p> <p>Please note that the setting tone_scheme must be set to the value AUS.</p> <p>Default Value: <empty></p>
tone_scheme	GER, FRA, ITA, NLD, SWE, ESP, DNK, SWI, AUT, GBR, NOR, USA, AUS, CHN, IND, JPN, MEX, NZL	<p>This setting is used to generate special tones in the handset, e.g., the country-specific ringtone and busy tones.</p> <p>Default Value: USA</p> <p>Important: This setting is related to the timezone and country_region_id and has to be set accordingly for them to work correctly.</p>
timezone_by_country_region	off / on	<p>When this setting is enabled (on), the country_region_id setting has a higher priority than the timezone setting. If there is a conflict, the country_region_id will be used. When this setting is disabled (off), the timezone setting will be used if there is a conflict.</p> <p>Default Value: on</p>

Global Settings		
Setting	Valid value(s)	Description
timezone	USA-10, USA-9, CAN-8 MEX-8, USA-8, CAN-7 MEX-7, USA2-7, USA-7, CAN-6, CHL-6, MEX-6 USA-6, BHS-5, CAN-5, CUB-5, USA-5, VEN-4.5, CAN-4, CHL-4, PRY-4, BMU-4, FLK-4, TTB-4 CAN-3.5, GRL-3, ARG-3 BRA2-3, BRA1-3, BRA-2 PRT-1, FRO-0, IRL-0 PRT-0, ESP-0, GBR-0 ALB+1, AUT+1, BEL+1 CAI+1, CHA+1, HRV+1 CZE+1, DNK+1, FRA+1 GER+1, HUN+1, ITA+1 LUX+1, MAK+1, NLD+1 NAM+1, NOR+1, POL+1 SVK+1, ESP+1, SWE+1 CHE+1, GIB+1, YUG+1 WAT+1, BLR+2, BGR+2 CYP+2, CAT+2, EGY+2 EST+2, FIN+2, GAZ+2 GRC+2, ISR+2, JOR+2 LVA+2, LBN+2, MDA+2 RUS+2, ROU+2, SYR+2 TUR+2, UKR+2, EAT+3 IRQ+3, RUS+3, IRN+3.5 ARM+4, AZE+4, GEO+4 KAZ+4, RUS+4, KAZ+5 KGZ+5, PAK+5, RUS+5 IND+5.5, KAZ+6, RUS+6 RUS+7, THA+7, CHN+7 SGP+8, KOR+8, AUS+8 JPN+9, AUS+9.5 AUS2+9.5, AUS+10, AUS2+10, AUS3+10, RUS+10, AUS+10.5, NCL+11, NZL+12 RUS+12, NZL+12.75 TON+13	This setting is used to specify the time zone. Default Value: USA-6 Important: For countries that have regions/states with different time zones (e.g. the US and Australia), a country_region_id setting will override the timezone setting when the timezone_by_country_region is enabled (on) (default setting). When the timezone_by_country_region setting is disabled (off), the timezone setting will be used if there is a conflict.
dialplan_enabled	off / on	Specifies whether the configured dial plan is enabled or not. Default Value: off
dialplan_maxlength	e.g. 6	Specifies the maximum length of a number up to which no dialplan_prefix will be added. Default Value: 0
dialplan_prefix	e.g. 030	Specifies the prefix that is added when the dialed number is longer than dialplan_maxlength. Default Value: <empty>
dst_by_country_region	off / on	Specifies whether DST settings should be adjusted to country/region setting. When this setting is enabled, it has a higher priority than DST_nnnn settings which will be overridden. Default Value: on

Global Settings		
Setting	Valid value(s)	Description
dst_enable	off / on / auto	Specifies whether or not to apply DST changes to display time. Default Value: auto
dst_fixed_day_enable	off = Use month and date on = Use month and day of week	Specifies whether or not to use a fixed day of the week when applying DST changes. Default Value: on
dst_start_date	1-31	Specifies the day of the month on which DST begins. Default Value: 0
dst_start_day_of_week	1 = Sunday 2 = Monday; 3 = Tuesday 4 = Wednesday 5 = Thursday; 6 = Friday 7 = Saturday	Specifies the day of the week on which DST begins. Default Value: 1
dst_start_month	1-12	Specifies the month in which DST begins. Default Value: 3
dst_start_time	0-23	Specifies the time when DST begins. Default Value: 2
dst_start_wday_last_in_month	1 = First in month 2 = Second in month 3 = Third in month 4 = Second to last in month 5 = Last in month	Specifies on which dst_start_day_of_week in the month DST begins. * Default Value: 2
<p>* For example, if DST begins at 2 a.m. on the last Sunday in March, the settings are:</p> <p>dst_start_month: 3 dst_start_time: 2 dst_start_day_of_week: 1 dst_start_wday_last_in_month: 5</p>		
dst_stop_month	1-12	Specifies the month in which DST ends. Default Value: 11
dst_stop_date	1-31	Specifies the day of the month on which DST ends. Default Value: 0
dst_stop_time	0-23	Specifies the time when DST ends. Default Value: 2
dst_stop_day_of_week	1 = Sunday 2 = Monday 3 = Tuesday 4 = Wednesday 5 = Thursday 6 = Friday 7 = Saturday	Specifies the day of the week on which DST ends. Default Value: 1
dst_stop_wday_last_in_month	1 = First in month 2 = Second in month 3 = Third in month 4 = Second to last in month 5 = Last in month	Specifies on which dst_stop_day_of_week in the month DST ends. Default Value: <empty>

Global Settings		
Setting	Valid value(s)	Description
	* For example, if DST ends at 2 a.m. on the last Sunday in October, the settings are:	dst_stop_month: 10 dst_stop_time: 2 dst_stop_day_of_week: 1 dst_stop_wday_last_in_month: 5
web_language	English, Dansk, Italiano, Türkçe, Deutsch, Português, Slovenian, Dutch, Français, Español, Russian	This setting defines the language used in the web interface of the base station. Default Value: English
language	English, Español, Deutsch, Français, Italiano, Dutch, Português, Dansk, Svenska, Türkçe, Polski, Russian, Norsk, Slovenian, Čeština, Suomi, blank (controlled by handset)	This setting defines the language used on the handset. Default Value: English
web_language	English, Danish Italian, Turkish, German, Portuguese, Croatian, Serbian, Slovenian, Dutch, French, Spanish, Russian, Polish	This setting defines the language used in the web interface of the base station. Default Value: English
min_jittbuf_depth	0-255	Controls the minimum jitter buffer depth. Default Value: 2
max_jittbuf_depth	0-255	Controls the maximum jitter buffer depth. Default Value: 7
number_of_base_stations	50,127,254	The value is not freely selectable. The number of base stations depends on the ratio between base stations and repeaters. Values per base station, firmware version 4.50.0005: 50/3 (i.e., 50 base stations, 3 repeaters), 127/1, 254/0. NOTE: The maximum number of repeaters is 100. Default Value: 50
auto_dect_register	off / on	Enable/disable the automatic DECT registration of handsets. Default Value: on
tls_server_authentication	off / on	Enable / disable TLS server authentication. Default Value: off
eth_driver_initialize	off / on	Management setting indicating whether Ethernet driver is initialized if no traffic is detected for a period. Reboot is necessary when setting is changed. Default Value: off
fwu_tftp_server_image_path		The path on the TFTP server in which to look for image update files. The path may contain multiple directories. The path must start with a slash and must end with a slash. Backslashes are not allowed. Default Value: <empty>
text_msg_terminal_auto_stop_allow	off / on	TBA Default Value: off

Global Settings		
Setting	Valid value(s)	Description
text_msg_terminal_auto_stop_delay	0–255	TBA Default Value: 30
text_msg_terminal_keep_alive	1–255	This setting defines the delay in minutes before keepalive handling is triggered in the handset. Default Value: 0
ldap_username		This setting specifies the bind “Username” for LDAP servers. Most LDAP servers allow anonymous binds, in which case the setting can be left blank. Default Value: <empty>
ldap_search_filter		LDAP name filter is the search criteria for name look ups. The format of the search filter is compliant to the standard string representations of LDAP search filters (RFC 2254). Default Value: <empty>
ldap_home_number	e.g. homePhone	Default Value: homePhone
ldap_mobile_number	e.g. mobile	Default Value: mobile
ldap_work_number	e.g. telephoneNumber	Default Value: telephoneNumber
ldap_name_attributes	space-separated number attributes, e.g. cn sn	This setting can be used to specify the “name” attributes of each record which are to be returned by the LDAP server in the LDAP search results. The setting compresses the search results, as the server only returns the requested attributes. Please consult your system administrator on the name attributes you need to configure. Default Value: <empty>
ldap_number_attributes	space-separated number attributes, e.g., telephoneNumber mobile ipPhone Home	This setting can be used to specify the “number” attributes of each record which are to be returned by the LDAP server in the LDAP search results. The setting compresses the search results, as the server only returns the requested attributes. Please consult your system administrator on the number attributes you need to configure. Default Value: <empty>
ldap_sort_attribute	255, 0, 1, 2	This setting defines whether entries are sorted by common name (attribute 0), given name (1), or surname (2), no set value (255). Default Value: 255
ldap_password		This setting specifies the bind “Password” for LDAP servers. This setting can be left blank in case the server allows anonymous binds. Default Value: <empty>
ldap_port	e.g. 389	This setting specifies the port of the LDAP server. Default Value: <empty>
ldap_base	e.g. ou=Snom .com - users,dc=Snom ,dc=com	This setting specifies the LDAP search base (the distinguished name of the search base object) which corresponds to the location in the directory from which the LDAP search is requested to begin. Default Value: <empty>

Global Settings		
Setting	Valid value(s)	Description
ldap_server	e.g.: 1234 192.168.10.1	This setting refers to the DNS name or IP address of the LDAP server. Default Value: <empty>
ldap_tls	off / on	This setting enables and disables use of TLS security. Default Value: off
ldap_use_ext_nbr_to_ldap_bind	enabled / disabled	This setting enables and disables the use of the LDAP username instead of the SIP username. Default Value: enabled
ldap_virtual_lists	1 - on 0 - off	This setting enables the use of virtual lists. If set to 1, virtual lists are used. If set to 0, the use of virtual lists is disabled, and the bbase will request a maximum of 50 hits. Default Value: 1
http_user		Defines the HTTP username for your base station. Together with http_pass it will protect your web interface. Default Value: admin
http_pass		Defines the HTTP password for your base station. Together with http_user it will protect your web interface. Default Value: admin
secure_web	off / on	Enables local web site HTTPS. Note: Secure web site performance is very slow. Default Value: off
phone_name	e.g. Snom M900	Defines the name of the base station. Default Value: Snom M900
http_client_password		Sets the password to be used for the specified <i>management_transfer_protocol</i> . Default Value: <empty>
management_transfer_protocol	0: TFTP 1: HTTP 2: HTTPS	Specifies the protocol to be used for transferring config file, FWU files, etc. Default Value: 1.
management_upload_script		Specifies the script to call when uploading files using HTTP PIST. Default Value: /CfgUpload/
http_client_user		Specifies the username for the specified <i>management_transfer_protocol</i> . If empty, the MAC address will be used as username. Default Value: <empty>
mdns_support	off / on	Enables support for multicast DNS. Default Value: off
setting_server	e.g. http://www.company.com/settings/Snom_m900.xml	An URL specifying the location from where to load the settings file. If the tag is read and if it is different from what's already stored, the provisioning logic will restart, using the new value as base. The {mac} macro is supported in the URL. Default Value: <empty>

Global Settings		
Setting	Valid value(s)	Description
network_sntp_broadcast_enable	off / on	Enables reception of SNTP broadcasts from an SNTP server and thereby syncing with the received server time. Default Value: on
ntp_server	e.g. 10.110.21.254	Specifies the domain name or the IP address of the NTP server. Default Value: <empty>
ntp_refresh_timer	e.g. 3600	Specify the time in seconds after which the phone contacts the NTP server again to refresh the time. Default Value: 3600
stun_server	e.g. stun.Snom .com	This setting refers to the DNS name or IP address of the STUN server. Default Value: empty
vlan_id	e.g. 101	This setting sets the VLAN id of the base in order to connect to anything residing in a specific VLAN. Default Value: <empty>
network_vlan_synchronization	off / on	When the VLAN ID in a multicell system changes, this setting determines whether the new VLAN ID is sync'd to the other bases or not. Default Value: on
vlan_qos	e.g. 7	This setting sets the VLAN priority of the base in order to connect to anything residing in a specific VLAN. Default Value: <empty>
dhcp_option_pnp	off / on	Enable/disable DHCP provisioning. Default Value: on
dhcp	off / on	This setting specifies whether DHCP is enabled or not. If it is disabled, the base will use the configured static IP address. Default Value: on
dns_server1	e.g. 8.8.8.8	This setting stores the address of the primary DNS server. If DHCP is disabled, the address of the primary DNS server has to be entered here. Default Value: <empty>
dns_server2	e.g. 8.8.4.4	This setting stores the address of the secondary DNS server. If DHCP is disabled, the address of the secondary DNS server has to be entered here. Default Value: <empty>
gateway	e.g. 10.0.0.1	This setting changes the gateway of the device. If DHCP is disabled, the gateway must be entered here. Default Value: <empty>
ip_adr	e.g. 192.168.1.2	This setting changes the IP address of the device. If DHCP is disabled, the IP address must be entered here. Default Value: <empty>
netmask	e.g. 255.255.255.0	This setting changes the netmask of the device. If DHCP is disabled, the subnet mask must be entered here. Default Value: <empty>

Global Settings		
Setting	Valid value(s)	Description
phonebook_filename	e.g. phonebook.xml	Filename of the phonebook if phonebook_server_location and phonebook_location have been set. Default Value: <empty>
phonebook_location	http://192.168.1.2/ directory/	Specifies the location of the phonebook if phonebook_server_location = 0. Setting has to be used in conjunction with phonebook_filename. Default Value: <empty>
phonebook_reload_time	e.g. 10	Phonebook reload time in (s) if phonebook_server_location = 0. Default Value: <empty>
phonebook_server_location	0 = Local 1 = LDAP 2 = XML	Defines what type of phonebook is used. "Local" means the Central Directory imported onto the base station and accessible to all handsets/base stations in the installation (single cell or multicell). Default Value: 0
repeater_legacy_support	off / on	This setting controls whether legacy repeaters are supported or not. Default Value: off
rsx_trace_internal	disabled / enabled	Enables downloading traces collectively from all base stations in a multicell setup Default Value: disabled
rtp_collision_control	off / on	This setting controls whether the base station checks for RTP collision. RTP collision means that the device is receiving RTP packages from more than one source address with same SSRC. Default Value: off
sip_check_sync_always_reboot	off / on	Specifies whether the base station shall reboot at reception of a SIP NOTIFY with check-sync regardless of the reboot parameter being present. Values: 0: Disabled, meaning reboot=TRUE must be present to force the base station to reboot. 1: Enabled. The base station will always reboot. Default Value: off
sip_conf_key_dtmf_string		This string specifies the DTMF that is sent via SIP when the conf key is pressed. Not applicable to all configurations. Default Value: <empty>
pnp_config	off / on	Enable/disable PNP provisioning. Default Value: on
enable_rport_rfc3581	off / on	Enables or disables rport parameter for the Via header field. The default setting allows a client to request that the server send the response back to the source IP address and port from which the request originated. Default Value: on

Global Settings		
Setting	Valid value(s)	Description
rtp_port_start	e.g. 50004	This setting specifies the RTP start port which is used for RTP traffic. Default Value: 50004
rtp_port_end	e.g. 50044	This setting specifies the RTP end port which is used for RTP traffic. Default Value: 50044
codec_tos	0-255	This option enables the phone to support quality of service (QOS) for RTP traffic in a network. Default Value: 160
sip_r_key_dtmf_string		This string specifies the DTMF that is sent via SIP when the R key is pressed. Not applicable to all configurations. Default Value: <empty>
network_id_port	e.g. 5060	This setting specifies the SIP port which is used for SIP traffic. Default Value: 5060
signaling_tos	0-255	This option enables the phone to support quality of service (QOS) for SIP traffic in a network. Default Value: 160
sip_stun_bindtime_determine	off / on	If STUN is enabled and sip_stun_bindtime_guard is defined, setting this to 1 forces the base station to automatically determine the duration of NAT bindings in the system. In this case, sip_stun_bindtime_guard defines the initial test duration. Default Value: on
sip_stun_bindtime_guard	e.g. 80	If STUN is enabled, this value specifies in seconds how often the system will guard the NAT bindings. Default Value: 80
stun_binding_interval	e.g. 90	If STUN is enabled, stun_binding_interval defines how often (in seconds) keepalive are sent in order to keep NAT bindings. If sip_stun_bindtime_determine is set, stun_binding_interval will be overruled and keep-alives will be sent with a frequency of half the determined bindtime. Default Value: 90
sip_use_different_ports	off / on	If this is enabled, network_id_port specifies the source SIP port used for the first instance, and all following will use succeeding ports. If disabled, the same port will be used for all accounts. Default Value: off
srv_xsi_caller_id_blocking		This setting is used to enable/disable the Xsi Caller ID blocking service. Default Value: enabled
log_level	-1 = off 6 = normal 8 = system 7 = debug	This setting defines the log level of the syslog messages that are logged. Default Value: 6

Global Settings		
Setting	Valid value(s)	Description
syslog_server	e.g. 10.0.0.1	IP address of the syslog server. Default Value: <empty>
syslog_server_port	e.g. 514	Port of the syslog server. Default Value: 514
syslog_tls	0: Disabled (use UDP) 1: Enabled (use TCP with TLS)	This setting defines whether the syslog connection should use secure TLS when logging. Default Value: 0
text_msg_keep_alive	Integers, e.g., 30	Text Messaging Keep Alive interval (minutes). Default Value: 30
text_msg_mode	0: Disabled 1: Enabled	Mode of the text messaging. Default Value: Disabled
text_msg_port	Integers, e.g., 1300	Port to be used with the text messaging server. Default Value: 1300
text_msg_responce_time	Integers, e.g., 30	(Note: "responce" is misspelled. Please use as is until further notice.) The text messaging response time defines the timeout for communication response in seconds. Default Value: 30
text_msg_server	e.g. 192.168.10.1	Name or IP address of the text messaging & alarm server. Default Value: <empty>
text_msg_ttl	Integers, e.g., 0	The Text Messaging Time To Live defines the maximum age in seconds of a jobfile. If set to 0, the function is deactivated and jobfiles do not expire. Default Value: 0
voip_sip_auto_upload	off / on	Enables / disables the automatic upload of SIP log files. Default Value: off
web_inputs_allowed	off / on	If the base is configured via configuration files, this setting can be used to allow/disallow the possibility to edit the configuration directly on the web server. Default Value: on
xsi_contacts_enterprise	Text string	The name of the phonebook. Default Value: Enterprise
xsi_contacts_enterprise_common	Text string)	The name of the phonebook. Default Value: Enterprisecommon
xsi_contacts_enterprise_common_enable	on / off	Enable/disable "Enterprisecommon" directory. Default Value: on
xsi_contacts_enterprise_enable	on / off	Enable/disable "Enterprise" directory. Default Value: on
xsi_contacts_group	Text string	The name of the phonebook. Default Value: Group
xsi_contacts_group_common	Text string	The name of the phonebook. Default Value: Groupcommon

Global Settings		
Setting	Valid value(s)	Description
xsi_contacts_group_common_enable	on / off	Enable/disable "Groupcommon" directory. Default Value: on
xsi_contacts_group_enable	on / off	Enable/disable "Group" directory. Default Value: on
xsi_contacts_personal	Text string	The name of the phonebook. Default Value: Personal
xsi_contacts_personal_enable	off / on	The name of the phonebook. Default Value: off
XSI_server	e.g. 192.168.10.1	The name or IP address (including path) of a server from which a XSI server can be retrieved.. Default Value: <empty>
network_sip_log_server	e.g. 192.168.1.2	Specifies a server to send logged SIP messages to. Default Value: <empty>

Server Settings

Server Settings		
Setting	Valid Value(s)	Description
NOTE: Up to 10 servers with idx 1 to 10. Example: user_host idx="1"		
user_moh idx=1-10	Examples: <sip:mh@snom.de> <mh> <192.168.0.40>	If you specify a SIP URI pointing to a media server account, the phone will, when a call is put on hold, invite this SIP URI to call the held phone to play music on hold. Default value: empty
srv_att_transfer_2nd_call_on_hold idx=1-10	off / on	Specifies the attended transfer behaviour of the base. If turned on, the second call will be put on hold. If turned off, the second call is not put on hold. Default Value: on
srv_broadsoft_callog_enable idx=1-10	off / on	Enable/disable BroadWorks call log functionality for the given SIP server. Default Value: off
srv_broadsoft_callog_server_addr idx=1-10		The address of the BroadWorks Xsi type call log server for the given SIP server.. Default Value: <empty>
srv_bw_directed_call_pickup_code idx=1-10		The access code for using BroadWorks Directed Call Pickup on the given SIP server. Default Value: <empty>
srv_bw_directed_call_pickup_enable idx=1-10	off / on	Enable/disable BroadWorks Directed Call Pickup for the given SIP server. Default Value: off
srv_bw_group_call_pickup_code idx=1-10		The access code for using BroadWorks Group Call Pickup on the given SIP server. Default Value: <empty>
srv_bw_group_call_pickup_enable idx=1-10	off / on	Enabl /disable BroadWorks Group Call Pickup for the given SIP server. Default Value: off
srv_dtmf_payload_type idx=1-10	0-127	Set up the payload type for out-of-band DTMF here. Default Value: 101
user_dtmf_info idx=1-10	sip_info_only = SIP info off = RTP Events (RFC2833) on = SIP info and RTP Events (RFC2833)	This setting changes depending on whether DTMF events are signaled via SIP INFO messages or via RTP events or both. Default Value: off
alert_info_playback idx=1-10	off / on	Enables the remote ringtone control (AlertTone) sent to the handset. Default Value: off
user_srtp idx=1-10	off / on	Enables/disables encryption of outgoing audio RTP streams. This setting has to be enabled if srv_srtp_auth is set to on. Likewise this has to be turned off when srv_srtp_auth is off. Default Value: off

Server Settings		
Setting	Valid Value(s)	Description
srv_sip_cli_mode idx=1-10	0: PAI - From 1: From 2: (cid=) in Alert-Info - PAI - From	This parameter defines the priority with which the base will look for CLI information in incoming SIP messages. Please note that the from header will always be used as CLI source if none of the selected header(s) is present. Default Value: 0
srv_sip_enable_blind_transfer idx=1-10	off / on	Specifies whether blind transfer is enabled or not Default Value: on
timer_support idx=1-10	off / on	Define whether sip-stack should support the use of timers. Includes adding headers "Session-Expires" and "Min-SE". Default Value: on
user_hold_inactive idx=1-10	off / on	Specify if you want to indicate a hold request with sdp parameter send-only or inactive. Some pbx's need the inactive setting for proper music-on-hold operation. Default Value: off
keepalive_interval idx=1-10	off / on	Specifies whether keepalive message will be sent out to the registrar/proxy port in order to have the port stay open and the phone remain reachable. Default Value: on
srv_sip_rtp_base_equal idx=1-10	disabled / enabled	Enables/disables RTP from own base station. Default Value: disabled
codec_size idx=1-10	20, 30, 40, 60	Specifies the packet size in ms for the respective codec. Default Value: 20
srv_sip_server_alias idx=1-10		Alias for the given SIP server. Default Value: <empty>
session_timer idx=1-10	e.g. 3600	If timer_support is enabled, this option specifies the SIP session timer in seconds. Default Value: 3600
srv_sip_show_ext_name_in_hs idx=1-10	off / on	Specifies whether the extension is shown on the handset idle screen or not. Default Value: on
srv_sip_signal_tcp_port idx=1-10	off / on	Specifies whether to signal TCP source port or not. Default Value: on
srv_sip_transport idx=1-10	udp / tcp / tls	Specifies the transport protocol used for SIP messages. Default Value: udp
codec_priority_list idx=1-10	pcmu, pcma, g729, g722, g726	Prioritize which codecs the base should use. Prioritized comma-separated list with max. of 5 entries, most desired codec up front. Default Value: pcmu, pcma, g726
conferencing idx=1-10	e.g. conferencing.snom.com	This setting specifies the address or FQDN of a conference server. Default Value: <empty>

Server Settings		
Setting	Valid Value(s)	Description
user_host idx=1-10	e.g. server.snom.com	Specifies the IP or DNS address of the registrar/proxy where you want to register this account. Default Value: <empty>
user_outbound idx=1-10	e.g. 10.110.24.111:5060	Specify the outbound proxy in this field (format: addr:port) to ensure all SIP packets are sent via the specified communication point. Default Value: <empty>
user_expiry idx=1-10	e.g. 3600	Specifies the maximum time between SIP re-registrations in seconds. Default Value: 3600
srv_sip_ua_data_ server_nat_adaption idx=1-10	disabled / enabled	Enables/disables NAT adaption. Default Value: enabled. NOTE: Enabled: When the base station receives a SIP response to a REGISTER request with a "Via" header that includes the "received" parameter (e.g.: <i>Via: SIP/2.0/UDP 10.1.1.1:4540;received=68.44.20.1</i>), it will adapt its contact information to the IP address from the "received" parameter. The base station will then send another REGISTER request with the updated contact information. Disabled: The base station will ignore the "received" parameter.
srv_sip_use_one_tcp_ conn_per_ext idx=1-10	off / on	Specifies whether to use one TCP connection per SIP extension or not. Default Value: off
user_full_sdp_answer idx=1-10	off / on	When the setting is turned off, the base station returns a list of all available codecs in the SDP in response to INVITE requests. Default Value: off
srv_srtp_auth idx=1-10	off / on	Determines whether SRTP authentication is used or not. This setting has to be enabled when <i>user_srtp</i> is set to on. Likewise this has to be turned off when <i>user_srtp</i> is off. Default Value: off
user_auth_tag idx=1-10	on = AES-32 off = AES-80	When the setting is set to on , the base station offers an AES-32 auth-tag for SRTP. If turned off , AES-80 is used. Default Value: on
srv_use_sip_for_xsi_ login idx=1-10	off: Use the standard method (SIP login or XSI login, if stated) on: Use XSI login with SIP credentials	When using SIP credentials as XSI authentication, the base station will make a normal XSI basic authentication using the SIP credentials. This is not a standard, but if the XSI server login credentials match the SIP credentials, this will work. Default Value: off
srv_sip_server_alias idx=1-10	e.g. Snom sip server	Specifies the name of the sip server. Default Value: <empty>

Extension Settings

Extension Settings		
Setting	Valid Value(s)	Description
subscr_dect_ac_code idx=1-1000	e.g. 1234 You must keep the default <empty> if you want to use a repeater.	subscr_dect_ac_code is a handset-specific setting. If you specify the explicit IPEI for a handset in the config, you can enter a specific access code for that handset. If nothing is used, the default value of ac_code is used when registering handsets. Default Value: <empty>
subscr_dect_ipui idx=1-1000	e.g. 018870DF25	Specifies the IPEI number of the handset. Default Value: FFFFFFFF
subscr_sip_hs_idx idx=1-1000	1, 2, 3, 4, etc.	Specifies which handset id is associated to which extension/account, e.g., if set, <subscr_sip_hs_idx idx=1>1</subscr_sip_hs_idx> will use the first configured handset with the first configured account, etc. Default Value: <empty>
subscr_sip_line_name idx=1-1000	Examples: >8088< (extension number) >Line1<	Specifies the line name for the respective extension on this handset. Default Value: <empty>
subscr_sip_pincode_ dialout idx=1-1000	0-9, *, #	Specifies a PIN to be used for outgoing calls. The PIN can be up to 8 digits long Default Value: <empty>
user_pname idx=1-1000		Specifies the user name that is used for authentication. Default Value: <empty>
user_pass idx=1-1000		Specifies the password to be used for challenge responses. Default Value: <empty>
dfks idx=1-1000	off / on	Enables/disables device feature key synchronization (DND, FWD, etc.) on the specific identity. Default Value: off
user_shared_line idx=1-1000	0: The extension is not part 1: The extension is part of an SCA	Describes whether the extension is part of a BroadWorks shared call appearance (SCA). Default Value: 0
call_waiting idx=1-1000	on / off	Enables/disables call waiting indication on the handset. Default Value: on
user_active idx=1-1000	off / on	The specific account can be disabled by disabling this option. This means that the identity is no longer registered. Default Value: off
fwd_busy_enabled idx=1-1000	off / on	If turned on and a call is in progress while a second call is incoming, the second caller is diverted to the number specified. Default Value: off

Extension Settings		
Setting	Valid Value(s)	Description
fwd_time_enabled idx=1-1000	off / on	If turned on, any incoming call will be diverted to the specified number after the specified time has elapsed. Default Value: off
fwd_all_enabled idx=1-1000	off / on	If turned on, all calls to the associated identity are diverted to the number specified. Default Value: off
fwd_busy_target idx=1-1000	e.g. 123456	Specifies the number to which calls will be diverted when the user is busy. Default Value: <empty>
fwd_time_target idx=1-1000	e.g. 123456	Specifies the redirection target when redirection after time is active. Default Value: <empty>
fwd_all_target idx=1-1000	e.g. 123456	Specifies the redirection target when redirection is always active. Default Value: <empty>
fwd_time_secs idx=1-1000	e.g. 10	Specifies the time in seconds after which the redirection target is redirected when redirection after time is active. Default Value: <empty>
subscr_sip_ua_data_server_id idx=1-1000	1 - 10	Specifies the ID of the configured server to be used for that specific handset/account. Example: <code><subscr_sip_ua_data_server_id idx=1>2</subscr_sip_ua_data_server_id></code> uses the first configured handset with the second configured server. Default Value: <empty>
user_name idx=1-1000		Specifies the account with which you register to a SIP registrar/proxy. Default Value: <empty>
user_mailbox idx=1-1000	e.g. Snom mailbox	Specifies the name for the mailbox that is associated with the particular SIP identity. Default Value: <empty>
user_mailnumber idx=1-200	e.g. voicemail@snom.com	Specifies the number for the mailbox that is associated with the particular SIP identity. Default Value: <empty>
subscr_sip_ua_pref_outg_sip_id idx=1-1000	e.g. 1	Specifies which identity is preferred when outgoing calls are made. Default Value: <empty>
subscr_sip_ua_subscribed_hs idx=1-20	Values in decimals counted from 1: 1, 2, 4, 8, 16, etc. For your convenience, the complete list of values is provided below.	This setting applies only to the M300. The value represents a handset ID for each SIP extension/account. If set, the corresponding handset subscribes to the given SIP extension/account. Default Value: <empty>

Extension Settings			
Setting	Valid Value(s)	Description	
<p>If you want several handsets to be able to receive calls for the same extension, you have to add up the values of "subscr_sip_ua_subscribed_hs idx" of all handsets. Example: Your primary extension is 100, and, in addition to the handset with "subscr_sip_hs_idx" idx 1, you also want the handsets with "subscr_sip_hs_idx" idx 2, 3, 4, and 5 to be able to receive calls for this extension. You therefore add up the "subscr_sip_ua_subscribed_hs idx" values of "subscr_sip_hs_idx" idx 1, 2, 3, 4, and 5 and enter the total value of 31 for the subscr_sip_ua_subscribed_hs idx setting of extension 100. Example:</p>			
<pre><user_name idx="1">100</user_name> <subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx> <subscr_sip_ua_subscribed_hs idx="1">31</subscr_sip_ua_subscribed_hs></pre>			
List of values			
subscr_sip_hs_idx	subscr_sip_ua_subscribed_hs	subscr_sip_hs_idx	subscr_sip_ua_subscribed_hs
idx	idx	idx	idx
1	1	11	1024
2	2	12	2048
3	4	13	4096
4	8	14	8192
5	16	15	16348
6	32	16	32768
7	64	17	65536
8	128	18	131072
9	256	19	262144
10	512	20	524288
subscr_sip_ua_use_base idx=1-1000	Integers (255, 0, 1, 2 ...)	<p>Specifies whether the handset is locked to use a specific base station or not. When locked to a base station, the handset will not be able to make/receive calls outside the range of this base station. Valid values:</p> <p>255: Not locked to a specific base station 0: Locked to primary base station 1, 2, 3 etc.: Locked to one of the secondary base stations</p> <p>Default Value: 255</p>	
subscr_ua_data_bw_blf_reslist_uri idx=1-1000		<p>URI for busy lamp field (BLF) resource list on the BroadWorks application server. Only ten characters are allocated for each URI because the server part is provided by the server registrar field.</p> <p>Default Value: <empty></p>	

Extension Settings		
Setting	Valid Value(s)	Description
user_shared_line_mapping idx=1-1000	e.g., 65535, 65535, 65535, 65535, 65535, 65535, 65535, 65535	This parameter is used for storing the mapping from BroadWorks shared call appearance (SCA) info icons to extension IDs (the extensions should be part of an SCA). Note: Each byte corresponds to one SCA info icon on the handset display. Byte 0 = first icon from the left, byte 1 to the second icon from the left, etc. 0 means that no extension is mapped to the corresponding icon. Severyl bytes can have the same value so that corresponding icons monitor call appearances on the same shared line. Default Value:
user_realname idx=1-1000	e.g. Max Mustermann	Set the name that is associated with each line. This information is also sent out to any party you are calling. Default Value: <empty>
subscr_ua_data_emergency_line idx=1-1000	e.g. 1	Specifies which extension is used to perform an emergency call. Default Value: <empty>
subscr_ua_data_emergency_number idx=1-1000	e.g. 112	Specifies the emergency number for this handset. Only one number is allowed! Default Value: <empty>
subscr_ua_data_emergency_profiles idx=1-1000	e.g., 00000010	Bit map containing the profiles used by the given handset. Default Value: 00000010
xsi_auth_user idx=1-1000		The BroadWorks XSI user name. Default Value: <empty>
xsi_auth_pass idx=1-1000		The BroadWorks XSI password. Default Value: <empty>
keyboard_lock_emergency idx=1-1000	Emergency numbers are hardcoded in accordance with the country code and cannot be changed.	Emergency numbers that can be locked. Separate the numbers by one space. Default Value: <empty>
push_to_talk idx=1-1000	off, on	Firmware 530B2 and higher. The function allows the handset (M65, M79, M80, M85, M90) to be used like a handheld transceiver (walkie-talkie) between handsets registered at the same base station or in the same multicell system that also have enabled the function. Note: Not available on M25 and M35. Default Value: <off>

Repeater Settings

Note: You cannot add a repeater/repeaters if you have defined a specific access code (AC) in the extension settings (subscr_dect_ac_code). All handsets must have the default value <empty>.

The maximum number of repeaters per installation is 100.

Repeater Settings		
Setting	Valid Value(s)	Description
repeater_auto_config_mode idx=1-100	0 = Manual 1 = Local Automatical 2 = Chaining	<p>If set to 0 (= manual), specify repeater_rpn and repeater_sync_src_rpn.</p> <p>If set to 1 (= local), the repeater will automatically search for available base stations and locate the base with the best signal. If that base station is turned off, the repeater will move to the next best base station.</p> <p>If set to 2 (= chaining), all base stations and all repeaters will send RSSI reports to the primary base station. These reports are used by the primary base station to create a DECT synchronization tree with all base stations and all repeaters that have this setting configured.</p> <p>Default Value: 0</p>
repeater_data_configured idx=1-100	off / on	<p>When this setting is set to on, the specific repeater is actively configured; when set to off, this account is disabled.</p> <p>Default Value: 0</p>
repeater_dect_ipui idx=1-100		<p>Repeater International Portable User Identity. This is normally not configured via provisioning.</p> <p>Default Value: <empty></p>
repeater_name idx=1-100		<p>Specifies the name of the Repeater.</p> <p>Default Value: <empty></p>
repeater_rpn idx=1-100	1, 2, 3	<p>The setting is used when repeater_auto_config_mode is set to manual. Together with the setting repeater_sync_src_rpn, this allows to specify a unique RPN value per repeater.</p> <p>Default Value: 0</p>

Repeater Settings		
Setting	Valid Value(s)	Description
repeater_sync_src_rpn idx=1-100	0, 1, 2, 3, 4, 5, etc.	<p>The setting is used when <code>repeater_auto_config_mode</code> is set to manual.</p> <p>Together with the setting <code>repeater_rpn</code> it is possible to specify a unique RPN value for every repeater. The maximum chain length is three repeaters in a chain after the base station. All repeaters using manual mode must be configured to use a unique RPN.</p> <p>By default, this setting uses the base station at index 0 in <code>network_sync_mac_chain</code> as the DECT synchronization source.</p> <p>Value 1 uses the repeater with RPN 1 which is connected to the base station in <code>network_sync_mac_chain</code> index 0 as the DECT sync source.</p> <p>Value 2 uses the repeater with RPN 2 which is connected to the base station in <code>network_sync_mac_chain</code> index 0 as the DECT sync source.</p> <p>Value 3 uses the repeater with RPN 3 which is connected to the Base station in <code>network_sync_mac_chain</code> index 0 as DECT sync source.</p> <p>Value 4 uses the base station at index 1 in <code>network_sync_mac_chain</code> as the DECT sync source.</p> <p>Value 5 uses the Repeater with RPN 1 which is connected to the base station in <code>network_sync_mac_chain</code> index 1 as the DECT sync source.</p> <p>Default Value: 0</p>

Multicell Settings

Multicell Settings		
Setting	Valid Value(s)	Description
network_allow_multi_primary	off / on	This setting specifies whether the configuration of multiple primaries in a network is allowed or not. Default Value: off
network_auto_multi_primary	off ⁽¹⁾ / on ⁽²⁾	This setting specifies whether auto configuration is enabled/disabled for multiple primaries in a chain. ^(1,2) Default Value: off
<p>⁽¹⁾ When set to off, one primary base station and one or more secondary base stations are allowed per multicell system on a network (LAN). When the primary base station is down or removed from the system, the system will define a backup primary base station. Any of the secondaries can be used.</p> <p>⁽²⁾ When set to on, there are two options. Please see <i>M700 Multicell Deployment Guide</i> for more information.</p> <ul style="list-style-type: none"> • A multicell system with 2 or more separate cell systems with the same system chain ID in one network (LAN), each cell system with its own primary base station. • A multicell system with one primary base station and 2 separate cell systems with the same system chain ID in one network (LAN), The primary is located between the two cell systems, its DECT range overlapping with each of them. 		
network_dect_auto_sync_tree_config	off / on	Specifies whether the DECT sync tree is automatically configured or not. Default Value: on
network_roaming_deregister	off / on	This setting specifies how SIP registrations are handled when a handset roams from one base station to another. Roaming is defined as the procedure when the handset moves its SIP and DECT registration from one base station to another. Some PBXs are capable of handling multiple SIP bindings per SIP user and, consequently, when a new SIP registration is made from a different base, the old SIP registration will still be valid. As a consequence, this registration has to be deactivated. Other PBXs always use the latest SIP registration and therefore no deregister is needed. "Off" means that no sip deregister takes place when a handset roams from one base to another, while "on" means that the old SIP registration is deleted when a handset roams from one base to another. Default Value: off
network_sync_chain_id	Valid: Up to 5 digits	Specifies the identity of a given multicell chain. This is used to identify different chains in the same location. Default Value: 512
network_sync_data_transport	multicast / peer-to-peer	Specifies the data transport method for multicell setups. Default Value: <empty>
network_sync_debug_enable	off / on	Specifies whether the network sync debug is enabled or not. Default Value: off

Multicell Settings		
Setting	Valid Value(s)	Description
network_sync_enable	off / on	Specifies whether multicell mode is enabled or not. Default Value: off
network_sync_max_sip_reg_per_base	Valid: 8, 9 ... 30	This setting specifies the maximum number of SIP registrations per base station. When a base station in a multicell system has registered its maximum, it will attempt to distribute any additional SIP registration to other base stations in the chain that are detectable by the handset with the SIP registration. If this is not possible, the base station will reject registrations exceeding its maximum. Default Value: 8
network_sync_primary_static_ip		Specifies a static IP to be used as primary data sync address when communicating via peer-to-peer. Default Value: 0.0.0.0
network_sync_time	e.g. 60	This is the time in seconds for keep-alive packets to be sent between members of the chain. If no keepalive packets are received within double the value of the time, the base will be treated as unreachable in the multicell setup. Minimum recommended value is 30. Default Value: 60
network_dect_sync_tree_idx=1-50		Specifies the DECT sync ID tree that the base stations are using as their DECT sync source. It will be overruled by the setting network_dect_auto_sync_tree_config, if that setting is enabled. If a base's ID for its own index is equal to its own ID, then this base is the primary DECT sync source. A secondary base which cannot find its sync source or has been turned off will get a value of 240 which will start it looking for any base station and sync source. This will then enable the system to reconfigure itself. Default Value:0
network_sync_mac_chain_idx=1-50		This setting is not supposed to be used in provisioning since it can be critical if the order of the base stations is changed. The list contains the chain of Ethernet MAC addresses that are connected in the specified network. The chain will be created automatically by the multicell system , but can also be created by provisioning.
network_sync_static_ip_chain_idx=1-50		Do not use this setting in provisioning. It is a list that is only used when multicell and peer-to-peer synchronization are enabled, and it is automatically updated by the primary base station when a secondary base station boots. The list contains the static IP addresses of all base stations in a peer-to-peer multicell system and is used to communicate with the other base stations.

Emergency Settings

Emergency Settings		
Setting	Valid Value(s)	Description
alarm_howling idx=1-100	off / on	Defines whether howling in the handset is enabled when the handset is calling the alarm number. Default Value: off
alarm_signal idx=1-100	off / call	Defines the way an alarm is signaled. Currently only the phone call is active. Default Value: off
alarm_stop_allowed idx=1-100	on / off	Defines whether it is possible to stop the alarm from the handset. Default Value: on
pre-alarm_delay idx=1-100	Integers, e.g., 0, 1, 2 ...	Defines the delay in seconds from the moment the alarm is triggered until it fires. Default Value: <empty>
pre_alarm_stop_allowed idx=1-100	on / off	Defines whether it is possible to stop the alarm from the handset. Default Value: on
profile alias idx=1-100	alphanumeric characters, max. 19 characters	Alias for the given emergency alarm profile. Default Value: <empty>
trigger_delay idx=1-100	Integers, e.g., 0, 1, 2 ...	Defines the number of seconds from the moment the handset's alarm button is pressed until the handset calls the alarm number or, if a <i>pre-alarm_delay</i> has also been configured, until the <i>pre-alarm_delay</i> is triggered. Default Value: 0

Device Type Settings

These settings hide the respective menu items so that handset users won't be able to active the specific functions.

Device Type Settings		
Setting	Valid Value(s)	Description
pp_menu_hide_cfb type=M70	off / on	Hides <i>call forwarding when busy</i> in the menu of registered M70 handsets. Default Value: off
pp_menu_hide_cfna type=M70	off / on	Hides <i>call forwarding no answer</i> , i.e., call forwarding after timeout, in the menu of registered M70 handsets. Default Value: off
pp_menu_hide_cfu type=M70	off / on	Hides <i>call forwarding unconditional</i> , i.e., forwarding of all calls, in the menu of registered M70 handsets. Default Value: off
pp_menu_hide_dnd type=M70	off / on	Hides " <i>do not disturb</i> " setting in the menu of registered M70 handsets. Default Value: off
pp_menu_hide_hide_number type=M70	off / on	Hides the setting " <i>hide number</i> " (CLIR) in the menu of registered M70 handsets. Default Value: off
pp_menu_hide_silent type=M80	off / on	Hides <i>silent</i> mode in the menu of registered M80 handsets. Default Value: off
pp_menu_hide_cfb type=M80	off / on	Hides <i>call forwarding when busy</i> in the menu of registered M80 handsets. Default Value: off
pp_menu_hide_cfna type=M80	off / on	Hides <i>call forwarding no answer</i> , i.e., call forwarding after timeout, in the menu of registered M80 handsets. Default Value: off
pp_menu_hide_cfu type=M80	off / on	Hides <i>call forwarding unconditional</i> , i.e., forwarding of all calls, in the menu of registered M80 handsets. Default Value: off
pp_menu_hide_dnd type=M80	off / on	Hides " <i>do not disturb</i> " setting in the menu of registered M80 handsets. Default Value: off
pp_menu_hide_hide_number type=M80	off / on	Hides the setting " <i>hide number</i> " (CLIR) in the menu of registered M80 handsets. Default Value: off
pp_menu_hide_silent type=M80	off / on	Hides <i>silent</i> mode in the menu of registered M80 handsets. Default Value: off
pp_menu_hide_cfb type=M90	off / on	Hides <i>call forwarding when busy</i> in the menu of registered M90 handsets. Default Value: off

Device Type Settings		
Setting	Valid Value(s)	Description
pp_menu_hide_cfna type=M90	off / on	Hides <i>call forwarding no answer</i> , i.e., call forwarding after timeout, in the menu of registered M90 handsets. Default Value: off
pp_menu_hide_cfu type=M90	off / on	Hides <i>call forwarding unconditional</i> , i.e., forwarding of all calls, in the menu of registered M90 handsets. Default Value: off
pp_menu_hide_dnd type=M90	off / on	Hides " <i>do not disturb</i> " setting in the menu of registered M90 handsets. Default Value: off
pp_menu_hide_hide_number type=M90	off / on	Hides the setting " <i>hide number</i> " (CLIR) in the menu of registered M90 handsets. Default Value: off
pp_menu_hide_silent type=M90	off / on	Hides <i>silent</i> mode in the menu of registered M90 handsets. Default Value: off

Firmware Settings

Firmware Settings		
Setting	Valid Value(s)	Description
firmware-settings		Container for all firmware-related tags which must be the root node in the settings file. All firmware-related settings must be inside this tag, i.e., <pre><firmware-settings> <firmware></firmware> </firmware-settings></pre>
firmware-status	e.g. http://www.company.com/settings/snom XXX-firmware.htm	Defines the URL of the firmware configuration file where all firmware related settings are stored. Default Value: <empty>
firmware	e.g. http://server/directory/	This setting defines a specific path where the firmware can be found. Only the first part of the URL can be defined, i.e. http://server/directory/ . The base will then always try to automatically find the respective sub-directory for the model that is used, e.g. /directory/M700 or /directory/M65 . Default Value: <empty>
fp_fwu_sw_version	e.g. 323	Defines the base station firmware version. Default Value: <empty>
pp_fwu_sw_version type=M65 pp_fwu_sw_version type=M25 pp_fwu_sw_version type=M5	e.g. 323	Defines the firmware version for the attached devices (handsets and repeaters). The "type" parameter defines which type of device is used, i.e., M65, M25, M5, etc. Default Value: 0

Phonebook Settings

Phonebook Settings		
Setting	Valid Value(s)	Description
phone-book (or tbook)		Snom phonebook tag. This has to be the root node if used within the main configuration file.
item		The item tag defines one directory contact entry. For an entry to become valid, at least one name and one number must exist.
first_name (or name)	e.g. Thomas	Defines a contact's first name. Default Value: <empty>
last_name	e.g. Miller	Defines a contact's last name. Default Value: <empty>
number idx=1-3	e.g. 1234567	Defines a contact's number. A phonebook item can have from 1 to 3 numbers attached. If idx is not provided, it defaults to 1. Default Value: 1
number_type idx=1-3	home, mobile, work, other	Defines the type of telephone number. The number_type for a given idx defines the icon to display next to the number having the same idx. If idx is not provided, it defaults to 1. Default Value: 1

File Settings

File Settings		
Setting	Valid Value(s)	Description
file	e.g. <file url="http://10.110.22.8/snomM700-00041361000A.xml" />	Command tag causing the specified URL to be loaded and handled as any other setting file. Format: <file url="full url" /> The file being pointed to has to be a fully qualified xml file. The following macros are supported in the url: {prov_host} {phone_ip}

Examples for Configuration Files

The following six examples of configuration files show how setting files are configured. Please remember that these setting files are only meant to be guidelines; every value within each tag has to be changed, if needed. All configuration files must be saved in ANSI format to avoid any problems with the encoding of certain characters.

Basic Configuration 1: 1 handset, 1 base station

Basic Configuration 2: 3 handsets, 1 base station, SRTP & TLS on, German language used on all devices

Basic Configuration 3: 1 handset, 1 base station, two different lines and a different access code

Basic Configuration 4: 1 handset, 1 base station, phonebook included in settings file

Basic Configuration 5: Allows the inclusion of both firmware and phonebook-related settings in the provisioning process. Each file contains specific settings and is loaded separately, avoiding any root tag conflicts. The file will automatically check for and fetch the latest build of any given firmware release whenever the base is provisioned.

Replace sample values with your system and localization settings. Please see settings tables for explanations and valid values.

Multicell configuration (M900/M700 only): See

<https://service.snom.com/display/wiki/DECT+M-Series+Provisioning>

for a detailed description on how to do it and examples for the configuration of the primary base station and for the secondary base stations. The secondary base stations receive provisioning files that contain the name of the respective base station only part of this XML file that refer ONLY to this base station, the network settings, and the ID of the multicell.

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Basic Configuration 1 - 1 base station, 1 handset

This configuration creates a setup where the specified handset under `subscr_dect_ipui` has exactly one line and a mailbox number configured. Only the relevant settings are shown. Please see the settings tables and the other basic configurations for other settings you need or want.

Please, replace the sample values with your system and localization settings. See settings tables for explanations and valid values.

```
<settings>
<global>
<ntp_server>pool.ntp.org</ntp_server>
<ntp_refresh_timer>3600</ntp_refresh_timer>
</global>

<server>
<srv_sip_server_alias idx="1">nfon</srv_sip_server_alias>
<user_host idx="1">sip.server.address</user_host>
</server>

    <!-- Handset related settings. subscr_dect_ipui has to be specified. If it is not, the base will reset the
    connection to the handset every provisioning process-->
<extension>
<subscr_dect_ipui idx="1">0xIPEI</subscr_dect_ipui>
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<user_active idx="1">on</user_active>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<user_name idx="1">sip_username</user_name>
<user_mailbox idx="1"/>
<user_mailnumber idx="1"/>
<subscr_sip_ua_pref_outg_sip_id idx="1"/>
<user_realname idx="1">606</user_realname>
</extension>

</settings>
```

Basic Configuration 2 - 1 base station, 3 handsets

This configuration uses SRTP & TLS and German language on all devices. Only the relevant settings are shown. Please see the other basic configurations for other settings you need or want and replace the sample values with your system and localization settings. See settings tables for explanations and valid values.

Note: If *subscr_dect_ipui* is not specified, the configuration will keep the current value configured on the base station.

If FFFFFFFF is used for one or more handsets, the slots used by those handsets will be assigned to any handsets looking for a free slot. A handset looking for a free slot will be assigned to the first slot whose value is FFFFFFFF.

```
<settings>
<global>
<tone_scheme>GER</tone_scheme>
<timezone>GER+1</timezone/>
<language>DEUTSCH</language>
<web_language>Deutsch</web_language>
<ntp_server>pool.ntp.org</ntp_server>
</global>

<server>
<user_srtp idx="1">on</user_srtp>
<srv_sip_server_alias idx="1">server123</srv_sip_server_alias>
<srv_sip_transport idx="1">tls</srv_sip_transport>
<user_host idx="1">10.110.22.37</user_host>
<srv_srtp_auth idx="1">on</srv_srtp_auth>
</server>

<extension>
<!-- Handset related settings-->
<!-- Handset 1-->
<subscr_dect_ipui idx="1">handset's IPEI</subscr_dect_ipui>
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_line_name idx="1">M900</subscr_sip_line_name>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<!-- Handset 2-->
<subscr_dect_ipui idx="2">handset's IPEI</subscr_dect_ipui>
<subscr_sip_hs_idx idx="2">1</subscr_sip_hs_idx>
<subscr_sip_line_name idx="2">M900</subscr_sip_line_name>
<subscr_sip_ua_data_server_id idx="2">2</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1"/>
<!-- Handset 3-->
<subscr_dect_ipui idx="3">handset's IPEI</subscr_dect_ipui>
<subscr_sip_hs_idx idx="3">3</subscr_sip_hs_idx>
<subscr_sip_line_name idx="3">M900</subscr_sip_line_name>
<subscr_sip_ua_data_server_id idx="3">3</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1"/>
<!-- Extension/account-related settings-->
<!-- Account 1-->
<user_active idx="1">on</user_active>
<user_name idx="1">sip_username</user_name>
<user_mailnumber idx="1">your voicemail</user_mailnumber>
<user_realname idx="1">Max 111</user_realname>
```

```
<!-- Account 2-->
<user_active idx="2">on</user_active>
<user_name idx="2">sip_username</user_name>
<user_mailnumber idx="2">your voicemail</user_mailnumber>
<user_realname idx="2">Max 222</user_realname>
<!-- Account 3-->
<user_active idx="3">on</user_active>
<user_name idx="3">sip_username</user_name>
<user_mailnumber idx="3">your voicemail</user_mailnumber>
<user_realname idx="3">606</user_realname>

</settings>
```


Basic Configuration 3 - 1 base station, 1 handset, 2 lines with different access codes

This configuration creates a setup where a handset has two different lines under which it can be reached. Only the relevant settings are shown. Please see the other basic configurations for other settings you need or want and replace the sample values with your system and localization settings.

Replace sample values with your system and localization settings. Please see settings tables for explanations and valid values.

```

<global>
<ntp_server>10.110.21.254</ntp_server>
</global>

<server>
<srv_sip_server_alias idx="1">Server 123</srv_sip_server_alias>
<user_host idx="1">10.110.22.37</user_host>
<user_srtp idx="1">off</user_srtp>
<srv_srtp_auth idx="1">off</srv_srtp_auth>

<srv_sip_server_alias idx="2">Server 456</srv_sip_server_alias>
<user_host idx="2">10.110.22.223</user_host>
<user_srtp idx="2">off</user_srtp>
<srv_srtp_auth idx="2">off</srv_srtp_auth>
</server>

<extension>
<!-- If subscr_dect_ipui is not specified, the configuration will keep the current value configured on the base
station. If FFFFFFFF is used for one or more handsets, the slots used by those handsets will be assigned to
any handsets looking for a free slot. A handset looking for a free slot will be assigned to the first slot whose
value is FFFFFFFF.-->
<subscr_dect_ac_code idx="1">1111</subscr_dect_ac_code>
<subscr_dect_ipui idx="1">handset's IPEI</subscr_dect_ipui>
<!-- Line1-->
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="1">Line1</subscr_sip_line_name>
<!-- Line2-->
<subscr_sip_hs_idx idx="2">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="2">2</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="2">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="2">Line2</subscr_sip_line_name>

<!-- Extension/account related settings -->
<!-- Account 1 -->
<user_active idx="1">on</user_active>
<user_name idx="1">502111</user_name>
<user_realname idx="1">Max 111</user_realname>
<!-- Account 2 -->
<user_active idx="2">on</user_active>
<user_name idx="2">5007</user_name>
<user_realname idx="2">Max 222</user_realname>

</extension>

```

Basic Configuration 4 - 1 base station, 1 handset, phonebook in settings file

This configuration includes a phonebook that is loaded and updated each time the base is provisioned.

```

<global>
<ntp_server>10.110.21.254</ntp_server>
<IPPhoneDirectory>
<DirectoryEntry>
<Name>Max</Name>
<number idx="1">9000</number>
<number_type idx="1">work</number_type>
<number idx="2">1122334455</number>
<number_type idx="2">mobile</number_type>
<number idx="3">6789546</number>
<number_type idx="3">home</number_type>
</DirectoryEntry>
<DirectoryEntry>
<name>Peter</name>
<number idx="2">9001</number>
<number_type>mobile</number_type>
</DirectoryEntry>
</IPPhoneDirectory>
</global>

<server>
<srv_sip_server_alias idx="1">Server 123</srv_sip_server_alias>
<user_host idx="1">10.110.22.37</user_host>
<user_srtp idx="1">off</user_srtp>
<srv_srtp_auth idx="1">off</srv_srtp_auth>
</server>

<extension>
<!-- If subscr_dect_ipui is not specified, the configuration will keep the current value configured on the base
station. If FFFFFFFF is used for one or more handsets, the slots used by those handsets will be assigned to
any handsets looking for a free slot. A handset looking for a free slot will be assigned to the first slot whose
value is FFFFFFFF.-->
<subscr_dect_ipui idx="1">handset's IPEI</subscr_dect_ipui>
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="1">Line1</subscr_sip_line_name>

<!-- Extension/account related settings-->
<user_active idx="1">on</user_active>
<user_name idx="1">502123</user_name>
<user_realname idx="1">Max 123</user_realname>
<user_mailbox idx="1">snom voicemail</user_mailbox>
<user_mailnumber idx="1">*97</user_mailnumber>
<keyboard_lock_emergency idx="1">911 112 110 999 19222</keyboard_lock_emergency>
</extension>

```

Basic Configuration 5 - Provisioning Firmware and Phonebook Settings

This method allows the inclusion of both firmware and phonebook-related settings in the provisioning process. Each file contains specific settings and is loaded separately, avoiding any root tag conflicts. The file will automatically check for and fetch the latest build of any given firmware release whenever the base is provisioned.

Replace sample values with your system and localization settings. Please see settings tables for explanations and valid values.

Main Provisioning Configuration file

```
<setting-files>
  <file url="http://10.110.22.8/snom/M700/firmware.xml" />
  <file url="http://10.110.22.8/snom/M700/snom_phonebook.xml" />
  <file url="http://10.110.22.8/snom/M700/snom_settings.xml" />
</setting-files>
```

firmware.xml

```
<firmware-settings>
  <fp_fwu_branch_version>1</fp_fwu_branch_version>
  <fp_fwu_sw_version>530</fp_fwu_sw_version>
</firmware/>
  <pp_fwu_branch_version type="M65">1</pp_fwu_branch_version>
  <pp_fwu_sw_version type="M65">530</pp_fwu_sw_version>
  <pp_fwu_branch_version type="M90">1</pp_fwu_branch_version>
  <pp_fwu_sw_version type="M90">530</pp_fwu_sw_version>
</firmware-settings>
```

Snom_phonebook.xml

```
<global>
  <ntp_server>10.110.21.254</ntp_server>
  <IPPhoneDirectory>
    <DirectoryEntry>
      <Name>Max</Name>
      <number idx="1">9000</number>
      <number_type idx="1">work</number_type>
      <number idx="2">1122334455</number>
      <number_type idx="2">mobile</number_type>
      <number idx="3">6789546</number>
      <number_type idx="3">home</number_type>
    </DirectoryEntry>
    <DirectoryEntry>
      <name>Peter</name>
      <number idx="2">9001</number>
      <number_type>mobile</number_type>
    </DirectoryEntry>
  </IPPhoneDirectory>
</global>
```

Snom_settings.xml

```
<global >
<ntp_server>10.110.21.254</ntp_server>
</global>

<server>
<srv_sip_server_alias idx="1">Server 123</srv_sip_server_alias>
<user_host idx="1">10.110.22.37</user_host>
<user_srtp idx="1">off</user_srtp>
<srv_srtp_auth idx="1">off</srv_srtp_auth>
</server>

<extension>
<!-- Handset related settings. If subscr_dect_ipui is not specified, the configuration will keep the current value
configured on the base station. If FFFFFFFF is used for one or more handsets, the slots used by those
handsets will be assigned to any handsets looking for a free slot. A handset looking for a free slot will be
assigned to the first slot whose value is FFFFFFFF.-->
<subscr_dect_ipui idx="1">handset's IPEI</subscr_dect_ipui>
<subscr_sip_hs_idx idx="1">1</subscr_sip_hs_idx>
<subscr_sip_ua_data_server_id idx="1">1</subscr_sip_ua_data_server_id>
<subscr_sip_ua_pref_outg_sip_id idx="1">1</subscr_sip_ua_pref_outg_sip_id>
<subscr_sip_line_name idx="1">Line1</subscr_sip_line_name>

<!-- Extension/account related settings-->
<user_active idx="1">on</user_active>
<user_name idx="1">502123</user_name>
<user_realname idx="1">Max 123</user_realname>
<user_mailbox idx="1">Snomvoicemail</user_mailbox>
<user_mailnumber idx="1">*97</user_mailnumber>
</extension>
```