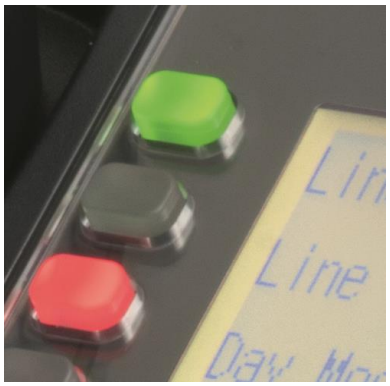
Orchestrating a brighter world NEC

The SL2100 Quick Install Guide: UNIVERGE ST500 Mobile Client

Out of the box installations for resellers



www.nec-enterprise.com

This guide explains the installation, configuration and operation of the UNIVERGE ST500 Mobile Client for the SL2100 Telephone System.

Further information is available on BusinessNet.

Please keep all information supplied for future reference.

Regulatory Notice.
Refer to the Declaration of Conformity, Regulatory and Safety Considerations shown in the SL2100 Hardware Manual.

Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Other Documentation available:

- UNIVERGE ST500 for iOS – Configuration Manual
- UNIVERGE ST500 for iOS – Operation Manual
- UNIVERGE ST500 for iOS – Quick Reference Guide
- UNIVERGE ST500 for Android – Configuration Manual
- UNIVERGE ST500 for Android – Operation Manual
- UNIVERGE ST500 for Android – Quick Reference Guide

Contents

1- ST500 Overview

This Quick Install guide describes how to install and configure the UNIVERGE ST500, a smart device client app that allows you to make and receive calls from anywhere, as if you were at your desk.

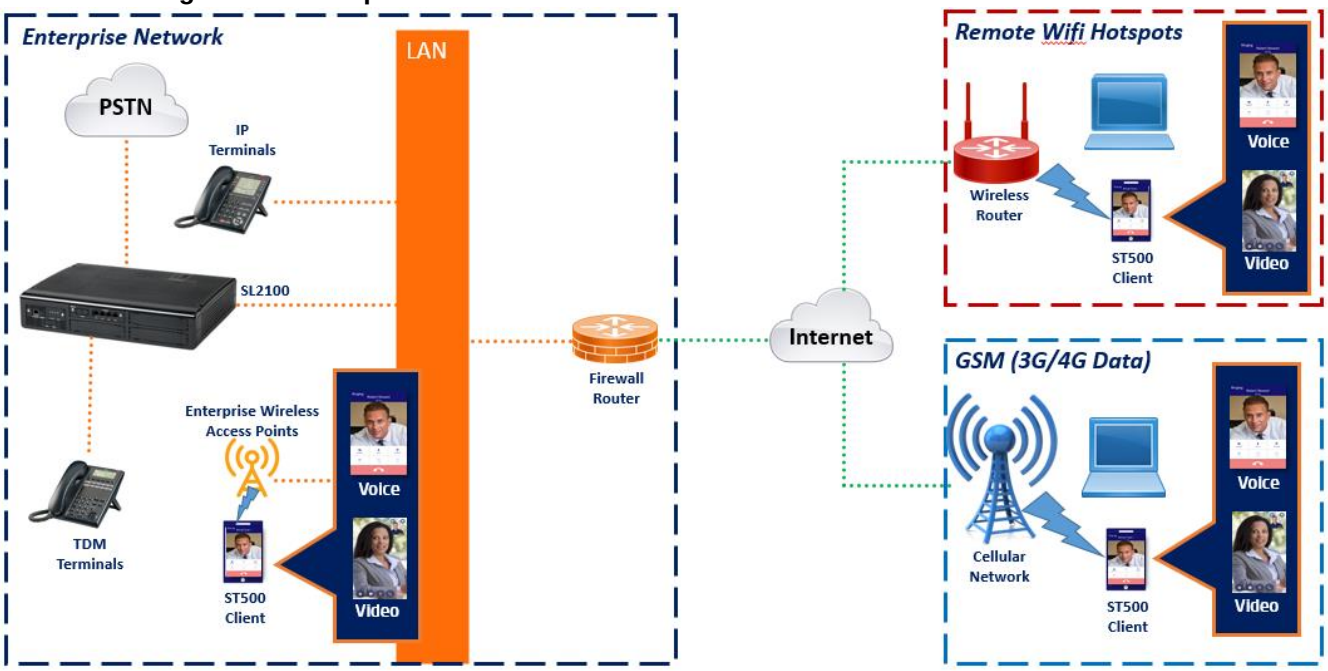
While in the office, connect to Wi-Fi and you are ready to handle your calls. While outside the office you can use Wi-Fi Hotspots or your mobile data (3G / 4G[1]) to handle your calls without incurring further mobile call costs[2].

UNIVERGE ST500 can also offer video calling using the H.264 codec for video calls, so UNIVERGE ST500 supports video calling with other standard SIP phones who also support the H.264 codec.

UNIVERGE ST500 Mobile Client is supported on both Apple iOS and Google Android OS.

[1] Due to the characteristics between 3G and 4G services, and also variable factors such as signal strength and antenna congestion, voice calls over 3G connections may suffer voice quality issues and 4G connections are preferred although may still suffer. When using mobile data connections, the G.729 audio CODEC is recommended to be used for minimal bandwidth usage.
[2] Fees for data usage may apply. Check with your service provider when using UNIVERGE ST500 over data plans.

Network Configuration Example



NOTE1: Remote video calling for UNIVERGE ST500 Mobile Clients is only supported over a VPN connection.

2- System Requirements

Item	System Requirements
Supported OS	Android 8.0 or later. (See NOTE1 below). iOS Supports only the latest version released by Apple Inc.

NOTE1: Android notification dots and multi-window function are not supported.

"UNIVERGE ST500" Application is available on Google Play and iOS app stores

Device Support

- Android Smartphones and Tablets (Tablet devices only operate in Portrait mode)
- iOS Devices:
-

Device Name
iPhone11 pro
iPhone11
iPhone XS Max
iPhone XS
iPhone XR
iPhone X
iPhone8 Plus
iPhone8
iPhone7 Plus
iPhone7
iPhone6S Plus
iPhone6S
iPhoneSE
iPhone6 Plus (Not support)
iPhone6 (Not support)

Communication Server Support

- SL2100 v2.3 Main Software or later

Licenses

- SL2100
  - EU909388 (SL2100 NEC SIP License) per UNIVERGE ST500 Client

3- SL2100 Configuration for UNIVERGE ST500 Mobile Clients

This Quick Install Guide will cover the UNIVERGE ST500 configuration. For other system configurations please refer to the relevant SL2100 Quick Install Guide.

You must have SL2100 PCPro installed to your laptop/PC, this can be downloaded from BusinessNet, refer to the Quick Install Guide – SL2100 PCPro.

Before you configure your system it is important that you:

- Plan your requirements before you start.
- Have sufficient EU909388 SL2100 NEC SIP Licenses installed for the required number of UNIVERGE ST500 Mobile Clients.

While you configure your system it is advised that you:

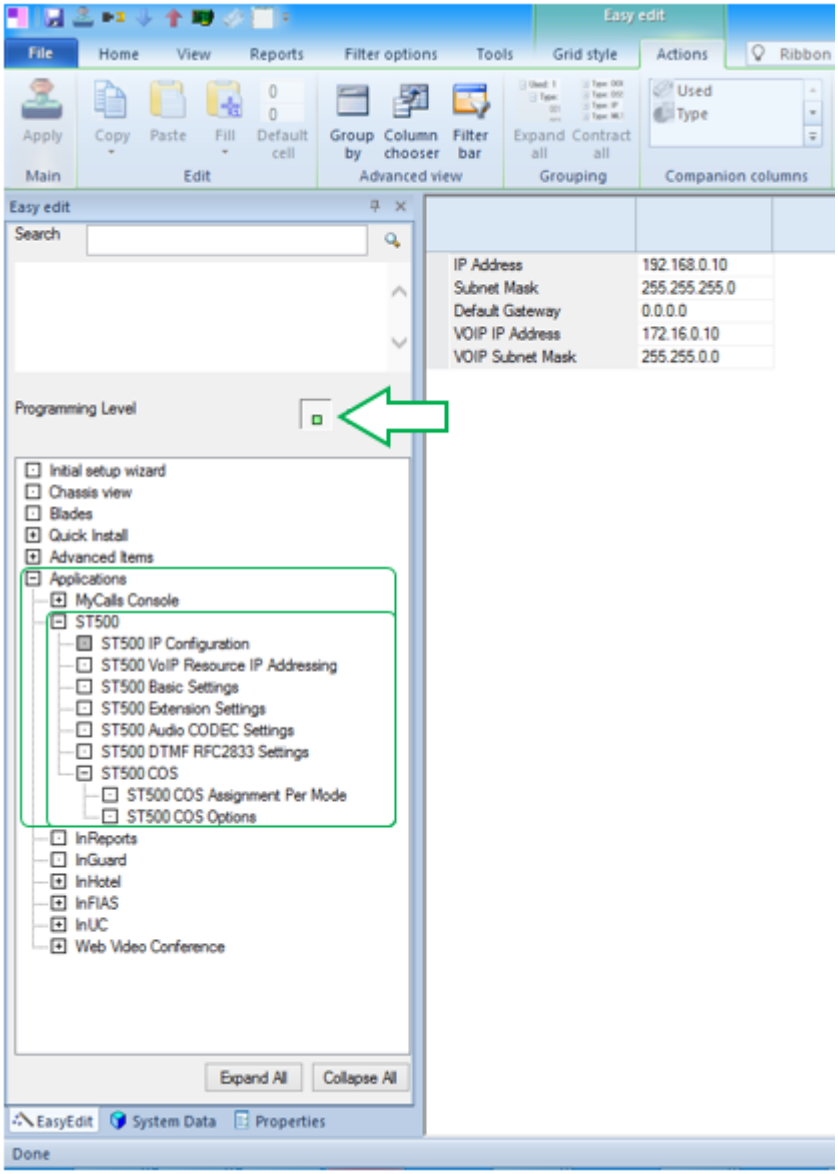
- Make a record of your configuration as you make each change.
- Make small changes, upload to the SL2100 and test the changes. Avoid making all your changes at once as this can make testing more difficult.

With the default/factory settings:

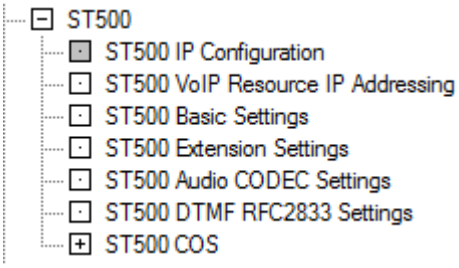
- UNIVERGE ST500 Mobile Clients are not configured

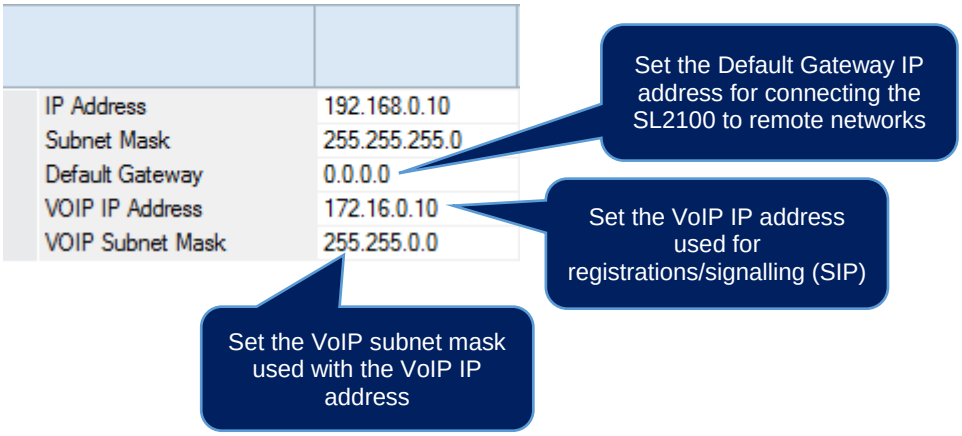
UNIVERGE ST500 Mobile Client configuration is not included within the Initial Setup Wizard, use Easy Edit to configure UNIVERGE ST500 Mobile Clients.

From Mandatory level view select **Applications + ST500**

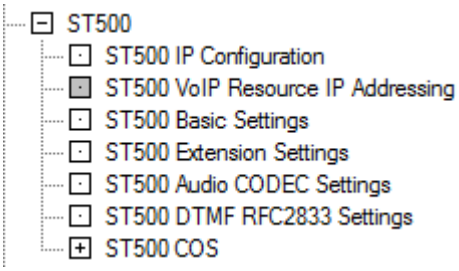


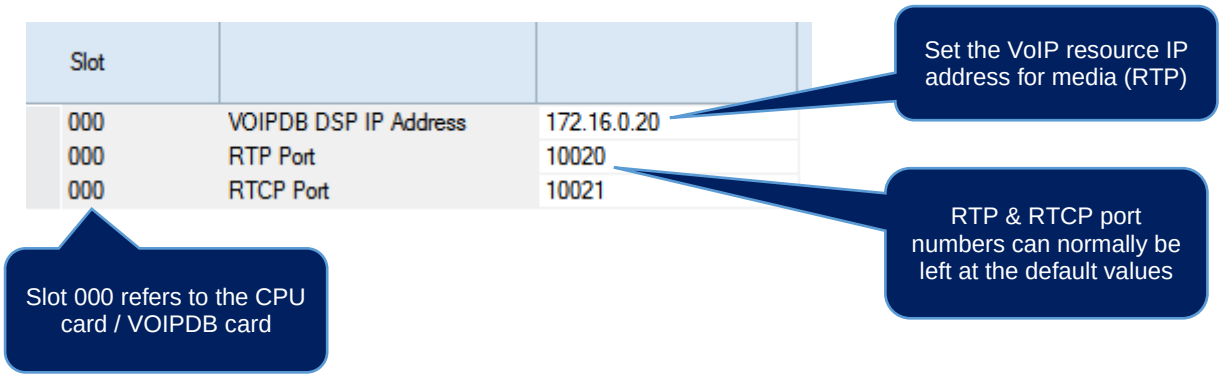
ST500 IP Configuration



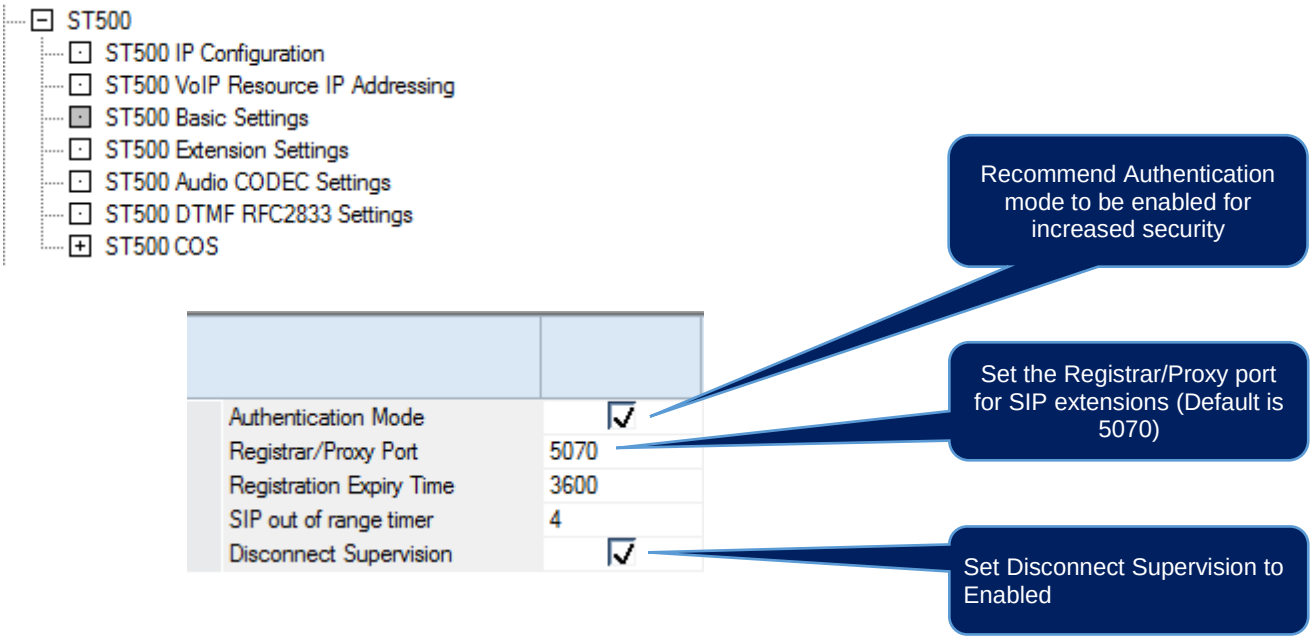


ST500 VoIP Resource IP Addressing

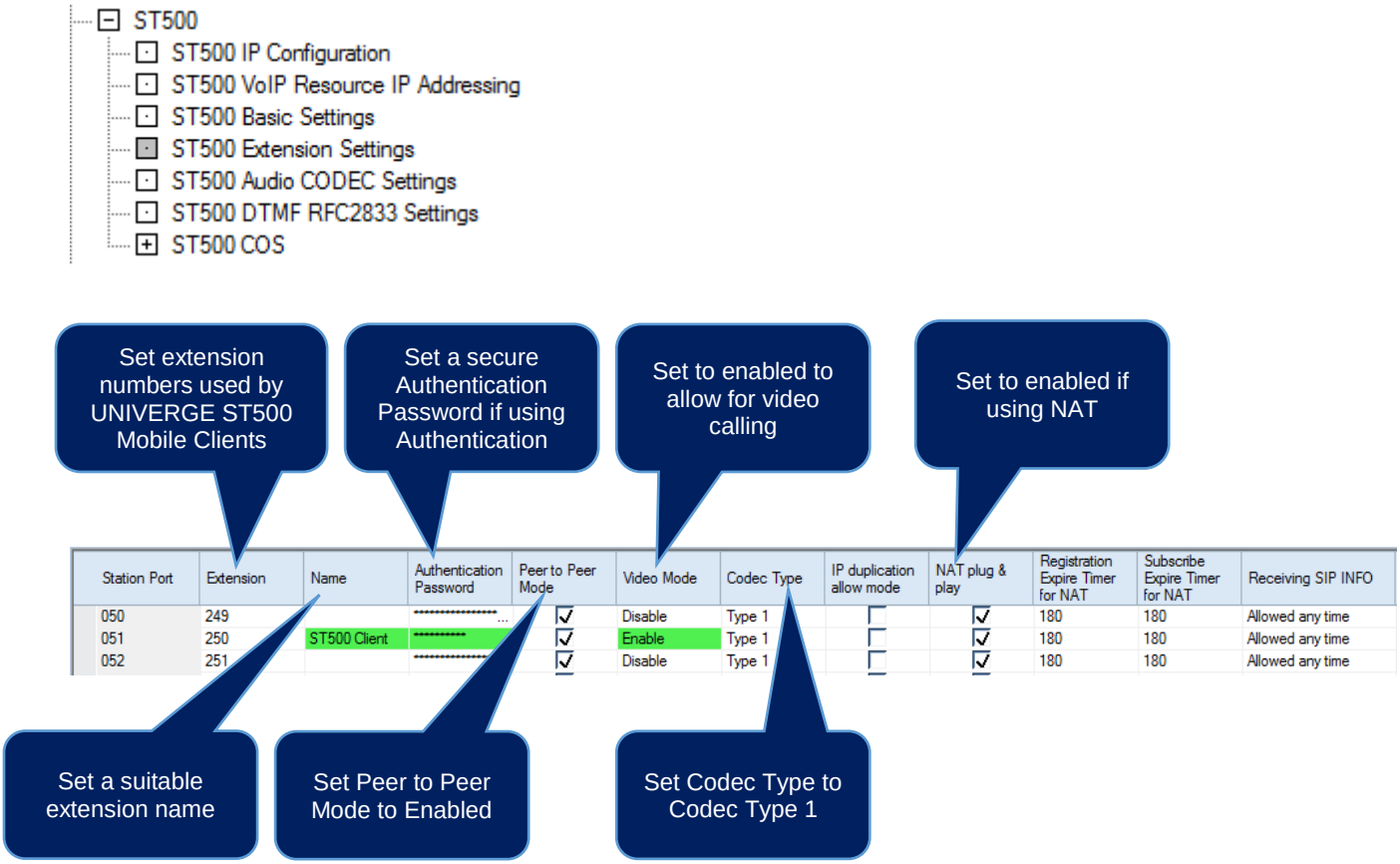




ST500 Basic Settings

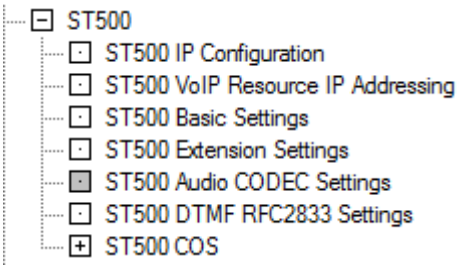


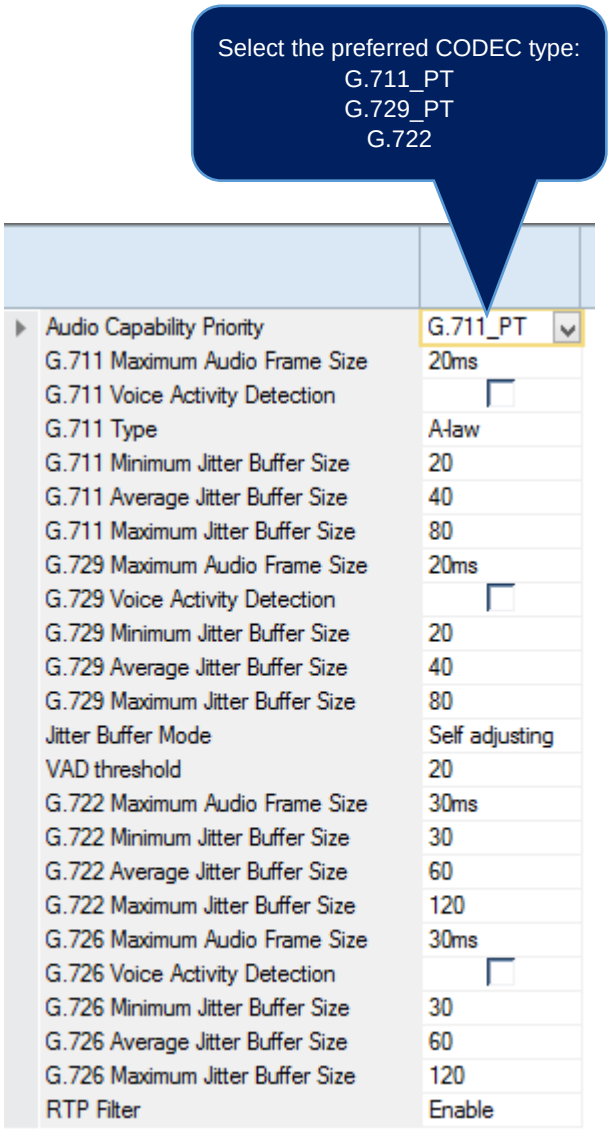
ST500 Extension Settings



Note: Peer to Peer Mode is required to be enabled for video calling.

ST500 Audio CODEC Settings

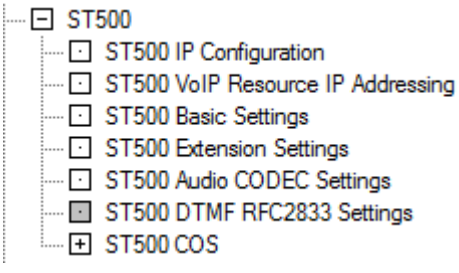


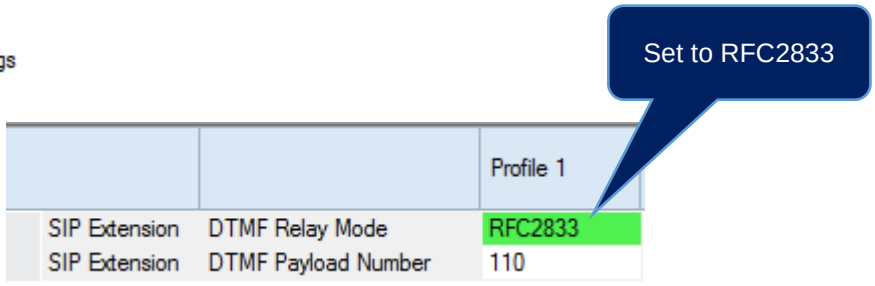


NOTE: The Maximum Audio Frame Size supported by the UNIVERGE ST500 Mobile Client is either 20ms or 40ms, so depending on the above Audio Capability Priority selection the correct codecs Maximum Audio Frame Size should also be either 20ms or 40ms (Default is normally 20ms)

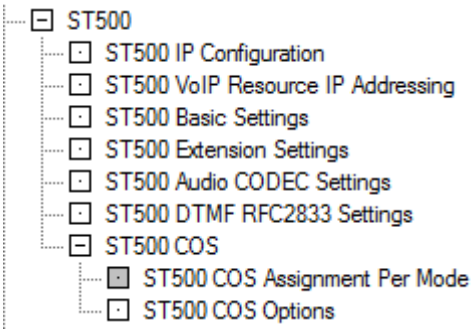
ST500 DTMF RFC2833 Settings

Use Profile 1 to assign the operation of DTMF digit sending for UNIVERGE ST500 calls.





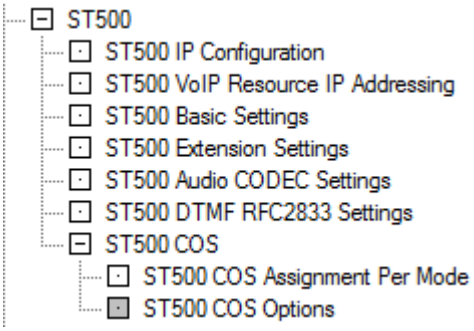
ST500 COS Assignment Per Mode



Assign ST500 clients to a CoS mode 1 ~ 15 (Default is 1)

Station Port	Extension	Name	Mode 1 CoS	Mode 2 CoS	Mode 3 CoS	Mode 4 CoS	Mode 5 CoS	Mode 6 CoS	Mode 7 CoS	Mode 8 CoS
050	249		1	1	1	1	1	1	1	1
051	250	ST500 Client	2	2	2	2	2	2	2	2
052	251		1	1	1	1	1	1	1	1

ST500 COS Options



Set Disconnect Supervision to Enabled

Set Call waiting for standard SIP terminal to Enabled (Optional)

	01	02	03	04	05	06
Disconnect Supervision	☐	☑	☐	☐	☐	☐
Call waiting for standard SIP terminal	☐	☑	☐	☐	☐	☐
Call Forward Both Ring Enhancement	☐	☑	☐	☐	☐	☐

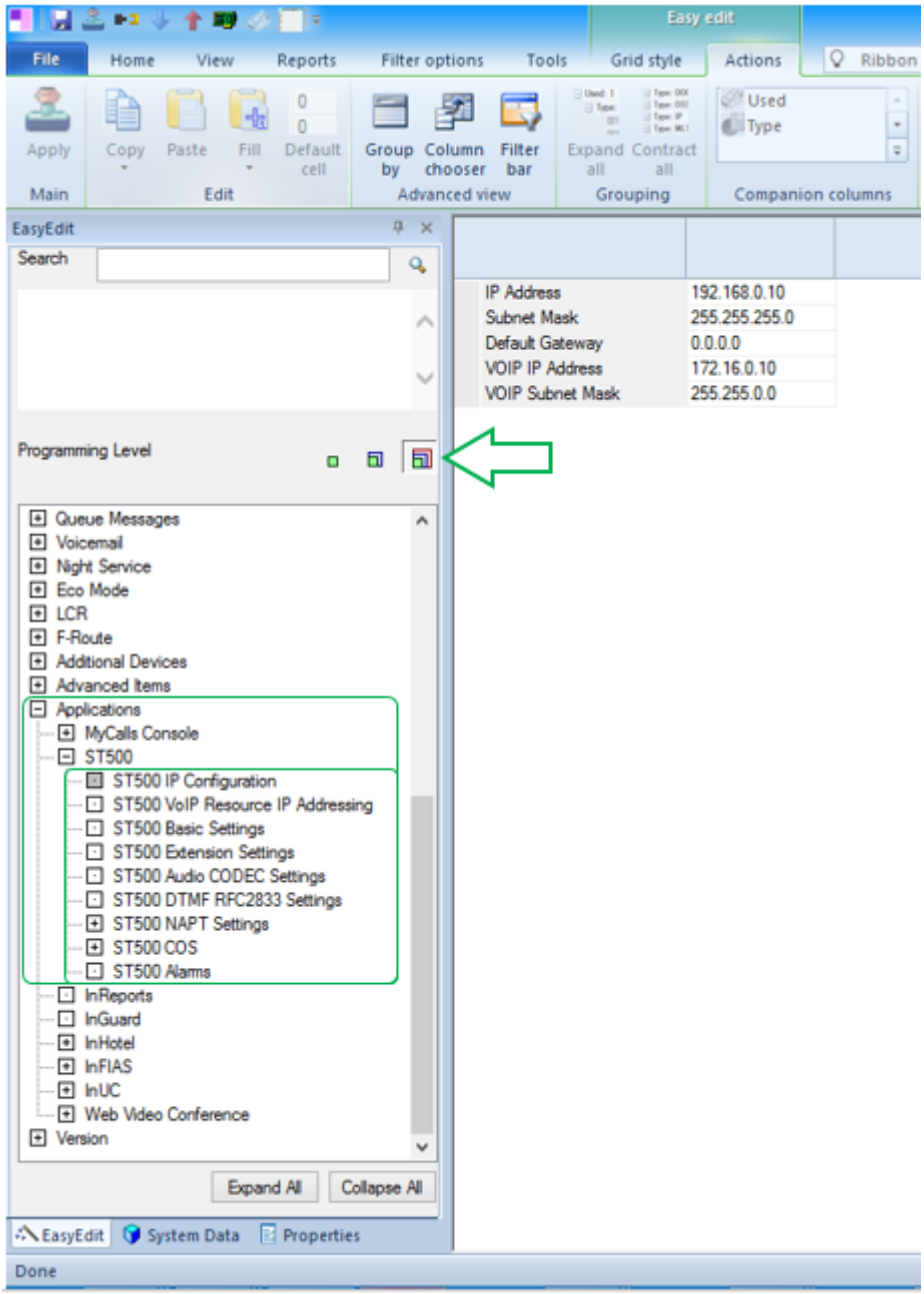
Set Call Forward Both Ring Enhancement to Enabled (Optional)

4- SL2100 Advanced Configuration Items for ST500 Mobile Clients

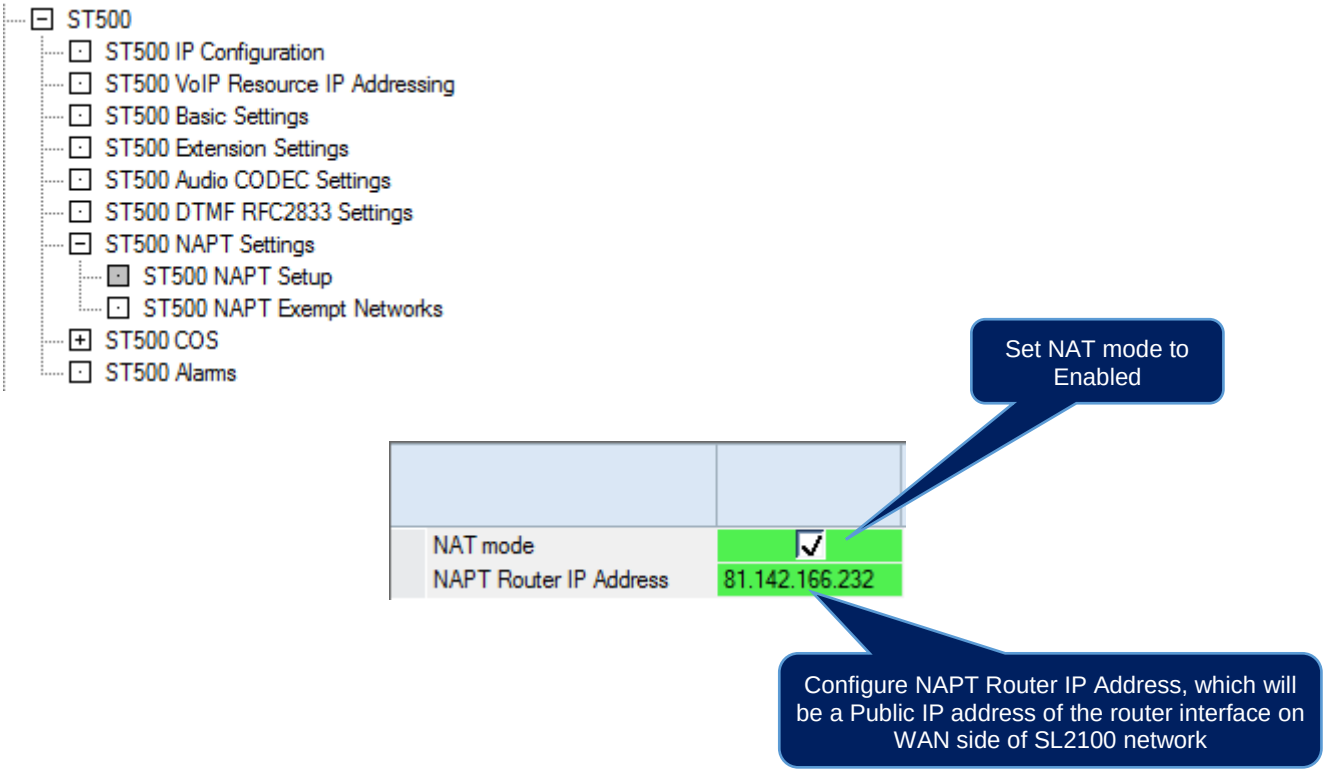
After the basic steps in section **3- SL2100 Configuration for ST500 Mobile Clients** have been completed, these additional steps can be configured for:

- Using UNIVERGE ST500 Mobile Clients remotely from Wi-Fi hotspots/Cellular Networks using NAPT connections to the communications server.
- Alarm Reporting

From Advanced level view select **Applications + ST500**



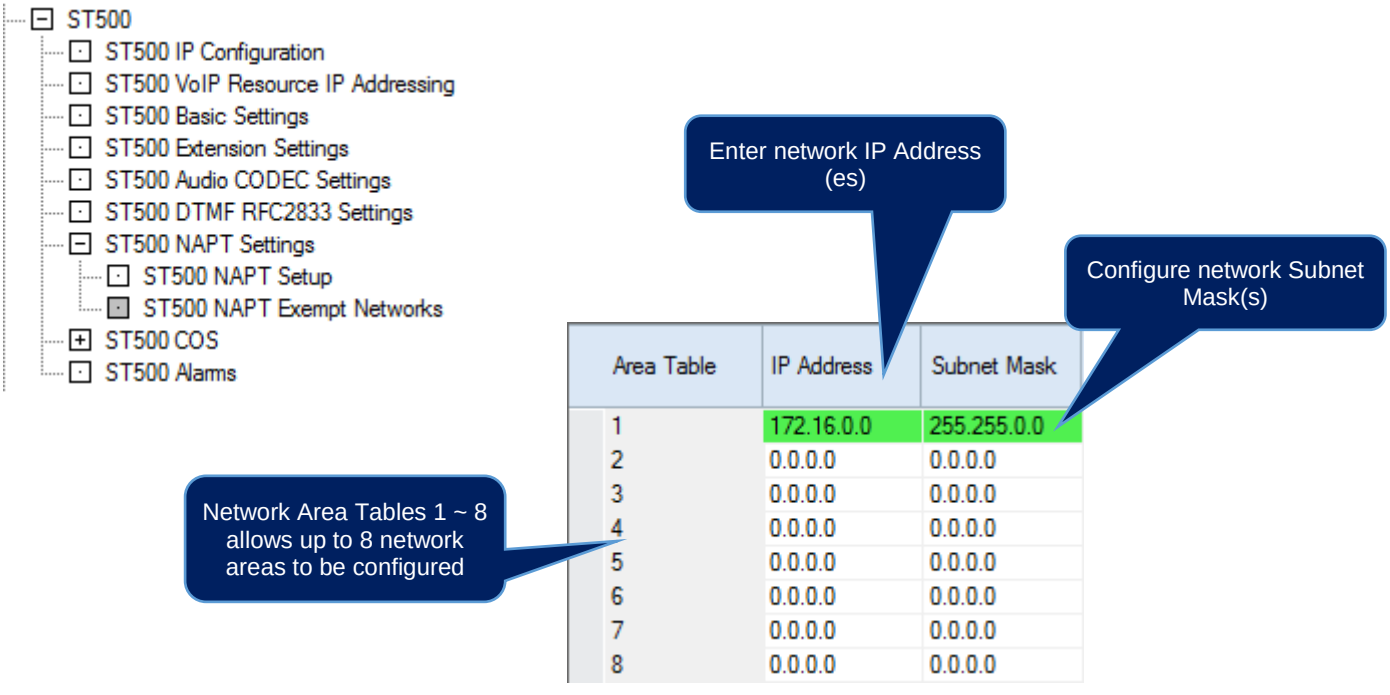
ST500 NAPT Setup



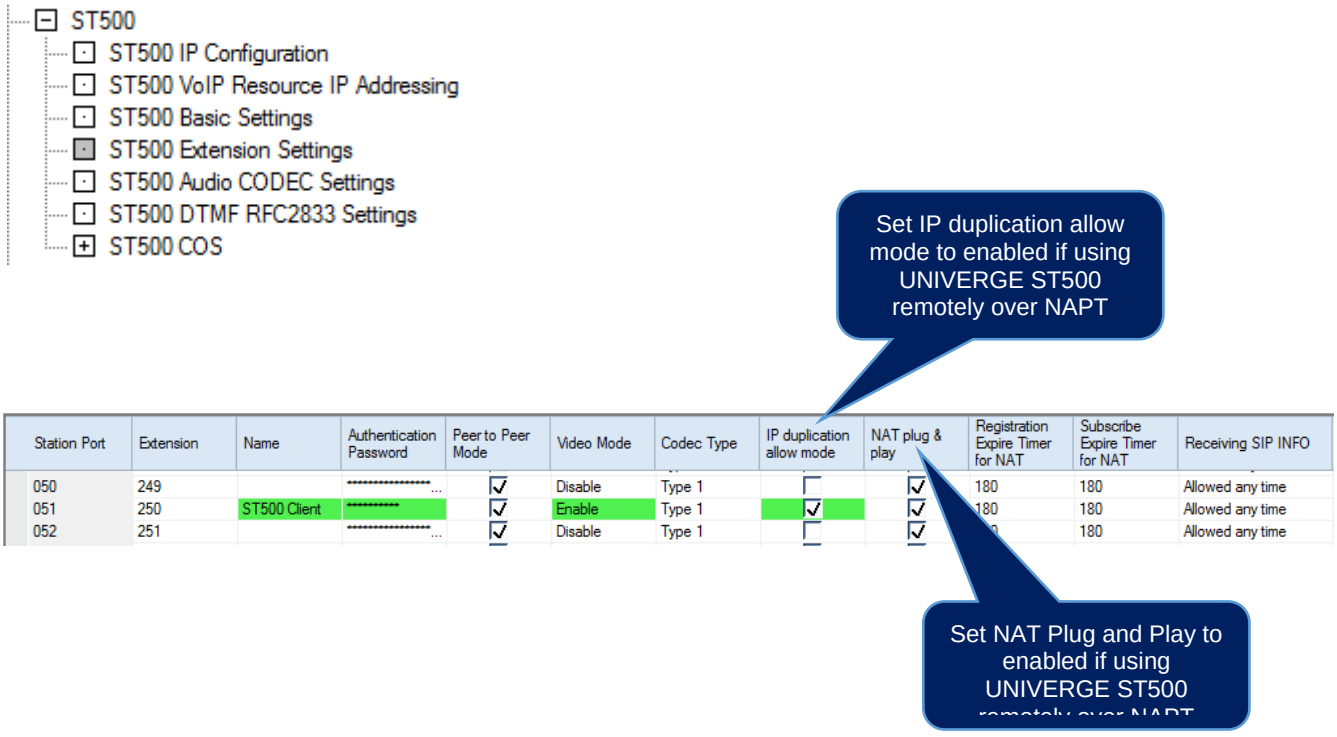
Note1: If NAT is enabled, then SIP signalling port (Default 5070) assigned in *Easy Edit* > *Applications* > *ST500* > *ST500 Basic Settings* > *Registrar/Proxy Port* ("PRG 84-20-01") MUST be forwarded from the router to VOIP IP Address assigned in *Easy Edit* > *Applications* > *ST500* > *ST500 IP Configuration* ("PRG 10-12-09").
Note2: If NAT is enabled, then RTP/RTCP port(s) assigned in *Easy Edit* > *Applications* > *ST500* > *ST500 VoIP Resource IP Addressing* must be forwarded from the router to the VOIPDB DSP IP Address assigned in *Easy Edit* > *Applications* > *ST500* > *ST500 VoIP Resource IP Addressing* ("PRG 84-26-01").
Note3: Video calling is not supported for remotely connected UNIVERGE ST500 Mobile Clients using NAT mode.

ST500 NAPT Exempt Networks

For locally connected IP terminals not connecting to the communication server using NAPT Mode, enter the network address ranges of those devices in this table. This includes any network devices connecting over VPN connections.

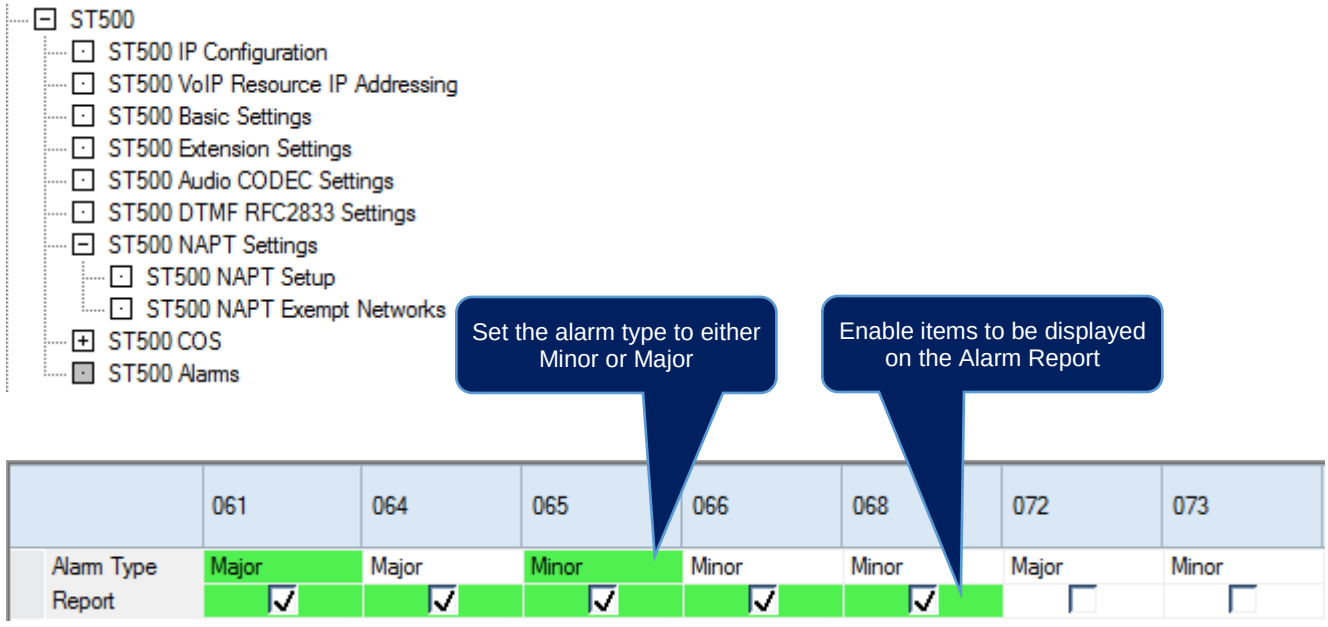


ST500 Extension Settings



ST500 Alarms

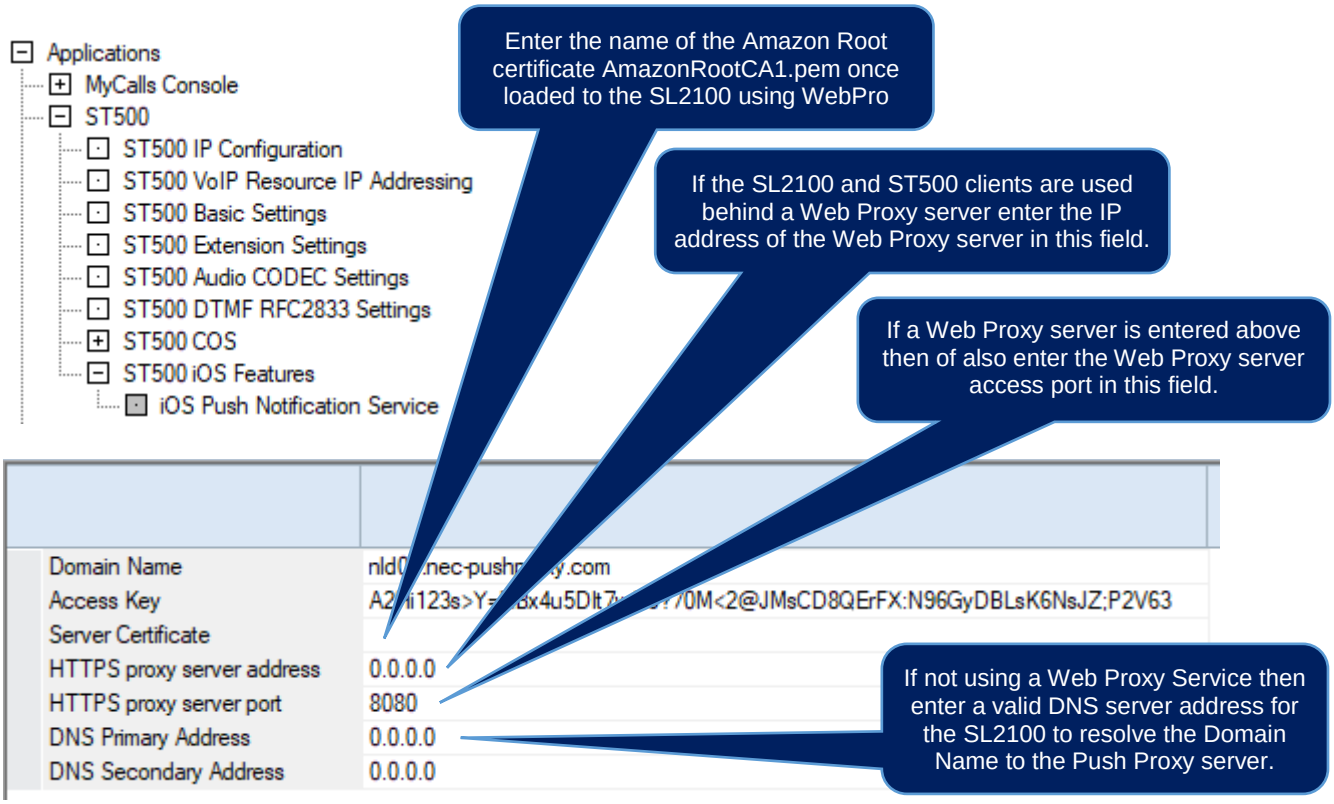
Alarms can be configured to give information on errors with UNIVERGE ST500 Mobile Clients, and the SL2100. Please refer to the below table for further details on the alarms and their information reported.



Alarm No.	Alarm Type	Report	Name	Content of Alarm	Possible Cause(s)
61	Not Enabled	Disabled	SIP extension trouble information.	Failed in the registration of a SIP extension terminal. The SIP extension terminal was not able to acquire a DSP. • At Registration to SL2100 of the SIP extension terminal. • When you cannot acquire the DSP resource when it sends it.	The registered port is used by other extension. The number of licenses is insufficient. DSP of CPU/VoIPDB was not able to be acquired.
64	Major	Disabled	VoIPDB LAN Link Error.	The link of LAN of VoIPDB disconnected.	LAN cable is defective. Connected network device not working. Defect in CPU/VoIPDB.
65	Not Enabled	Disabled	VoIPDB trouble information.	When DSP of VoIPDB notifies Error.	Defect of VoIPDB.
66	Minor	Disabled	SIP extension License Error.	More than the number of licenses to which the SIP extension terminal was turned on at REGISTER.	Lack of number of licenses.
68	Minor	Disabled	VoIP DSP All Busy Alarm	Provides alert when all DSP resources are being used. 2. Used to troubleshoot or alerting when upgrade is needed.	Not enough DSP resources in system.

ST500 Push Notification Service

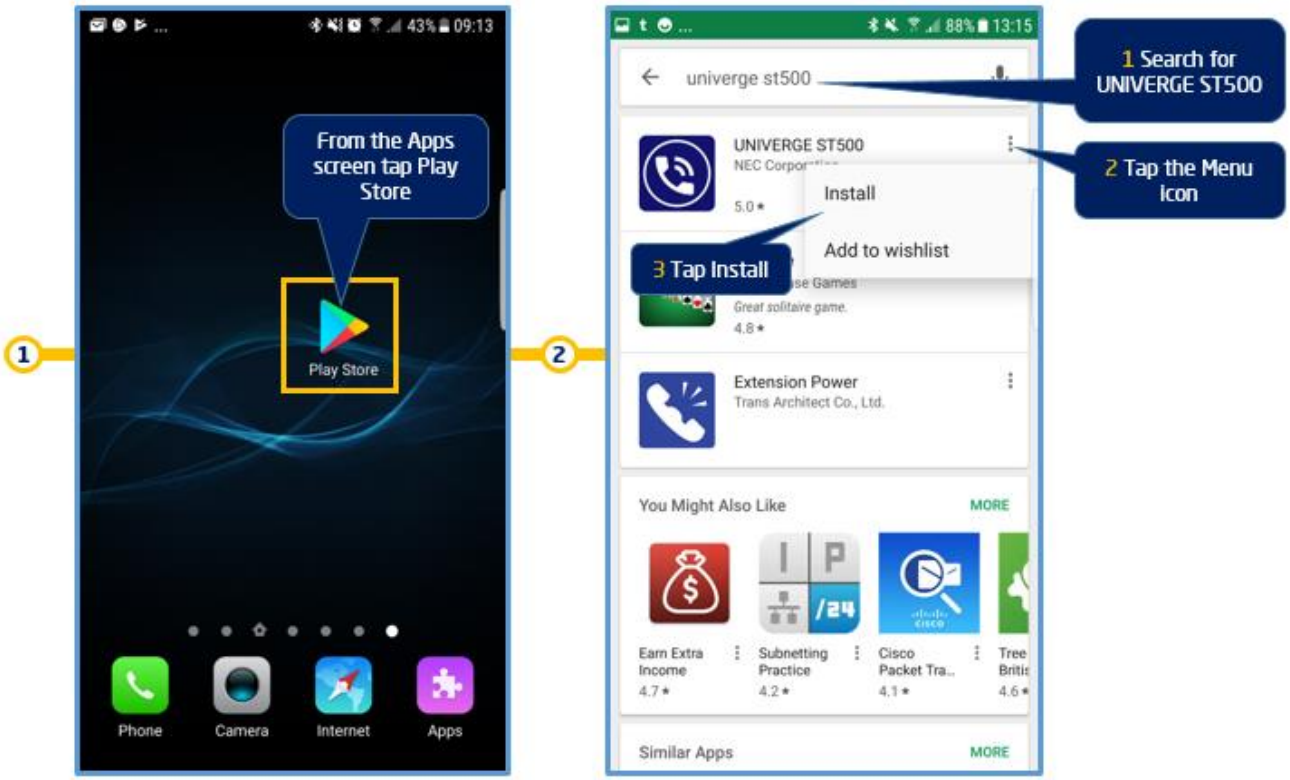
The Push Notification Service can be enabled for reliably notifying the ST500 user of incoming calls and MWI at the client.



5- ST500 Installation and Configuration on Android Devices

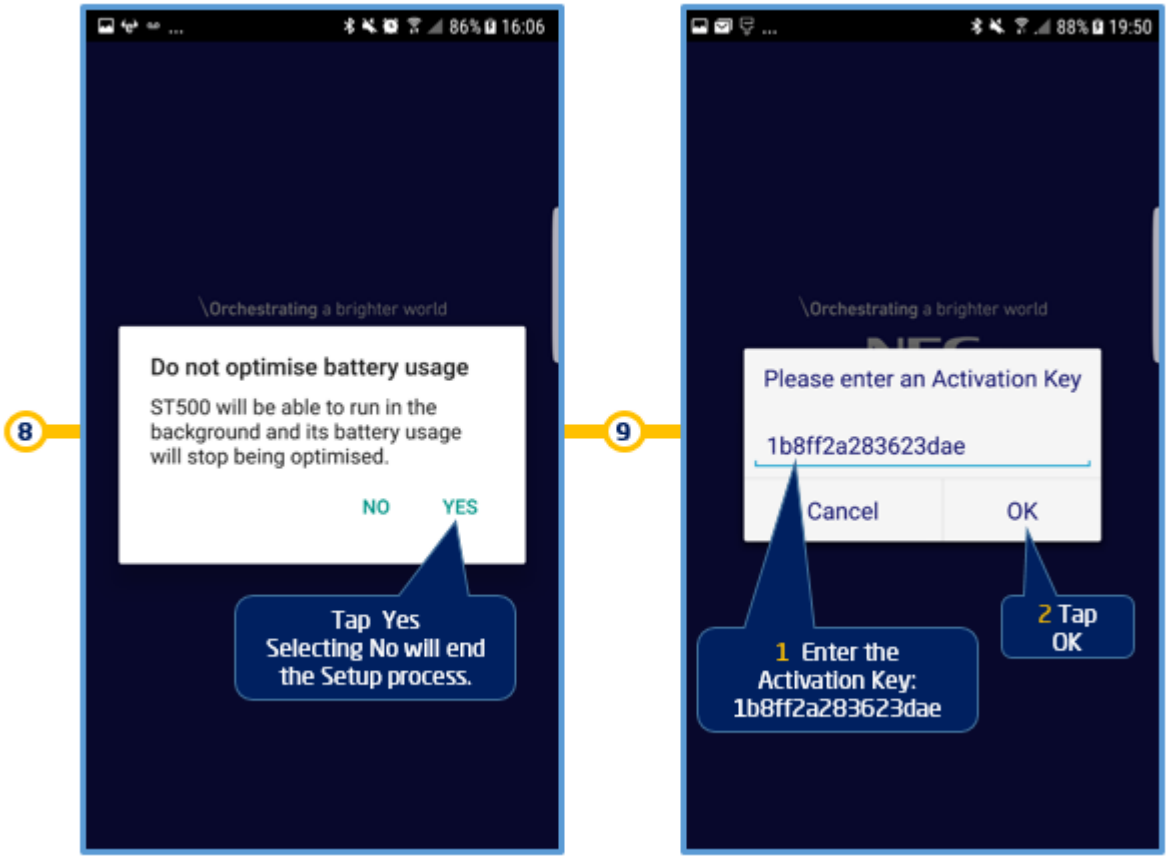
Installation from Google Play

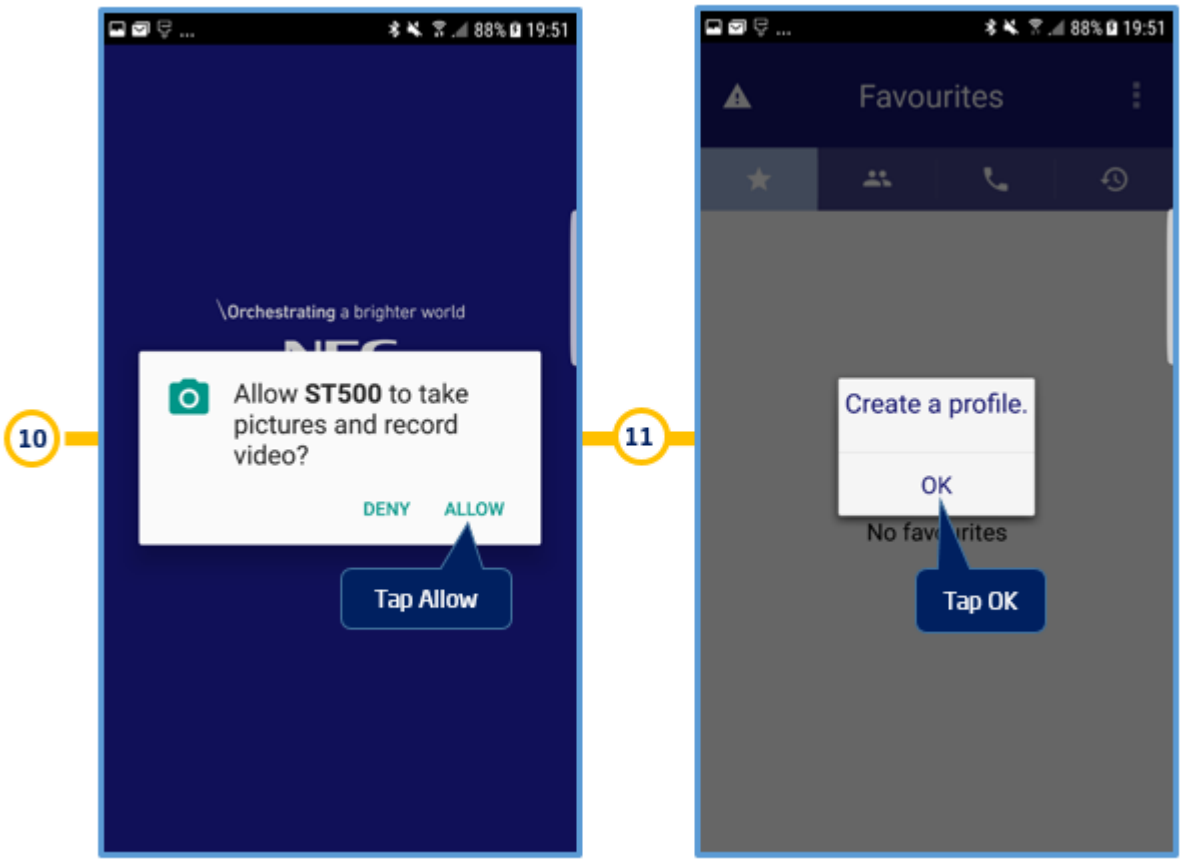
Follow the steps (1) below to get the UNIVERGE ST500 Mobile Client installed on your Android device.

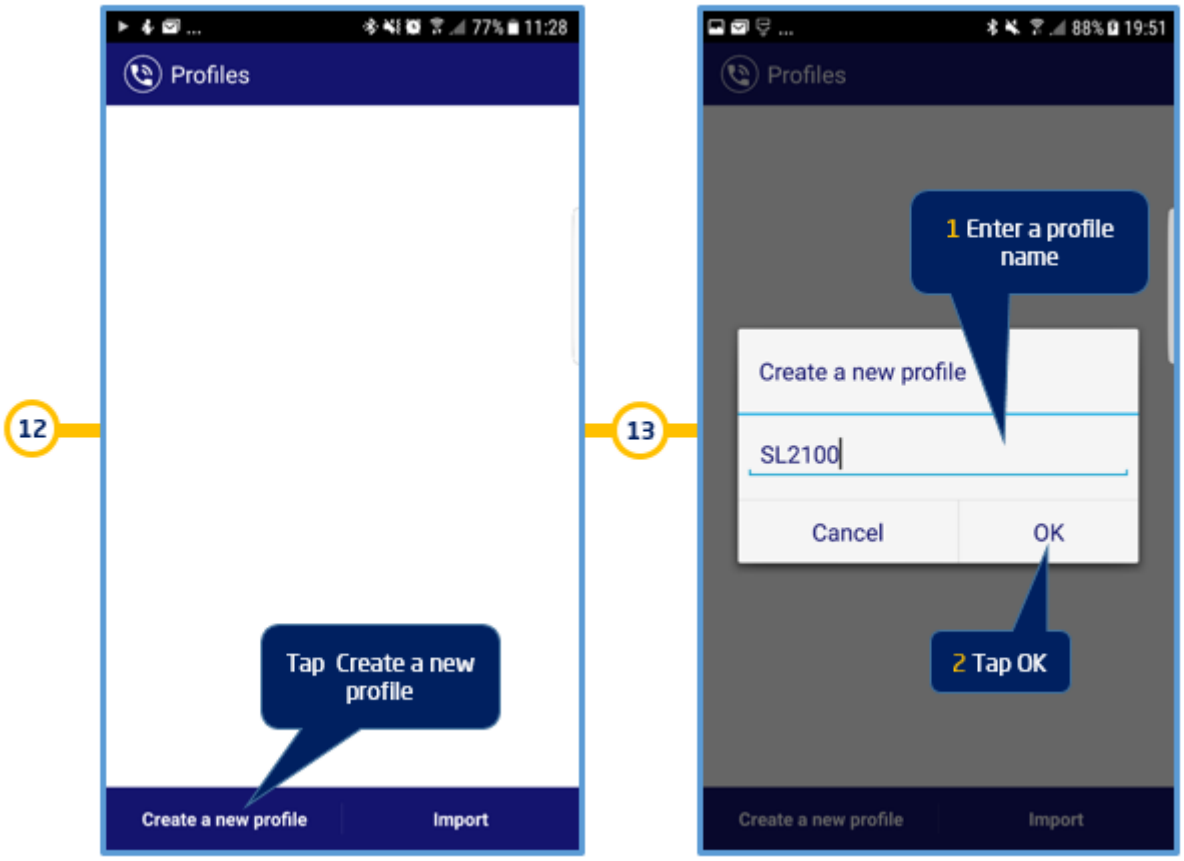


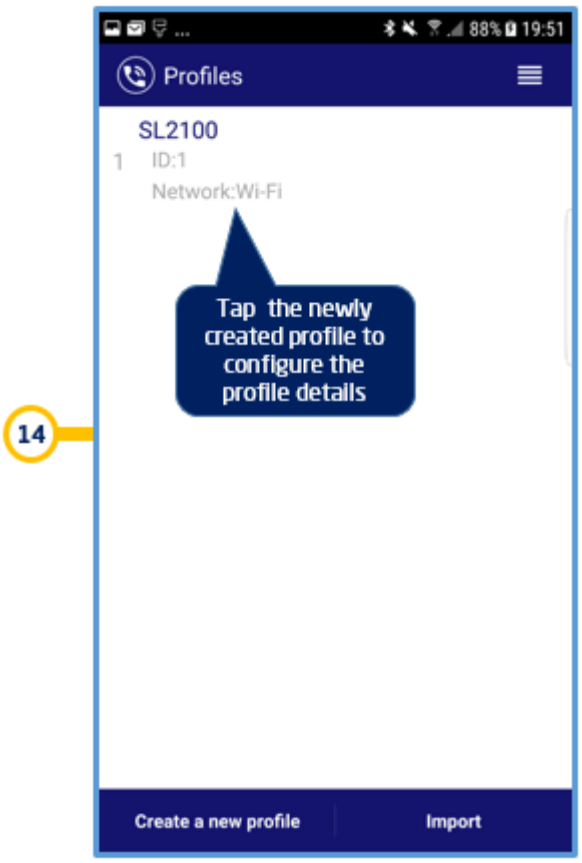
Starting the ST500 Mobile Client for the first time

Follow the steps 1 below to start using the UNIVERGE ST500 Mobile Client on your Android device.


8
Orchestrating a brighter world
Do not optimise battery usage
ST500 will be able to run in the background and its battery usage will stop being optimised.
NO
YES
Tap Yes
Selecting No will end the Setup process.
9
Orchestrating a brighter world
Please enter an Activation Key
1b8ff2a283623dae
Cancel
OK
1 Enter the Activation Key: 1b8ff2a283623dae
2 Tap OK


10
Orchestrating a brighter world
Allow ST500 to take pictures and record video?
DENY
ALLOW
Tap Allow
11
Favourites
Create a profile.
OK
Tap OK

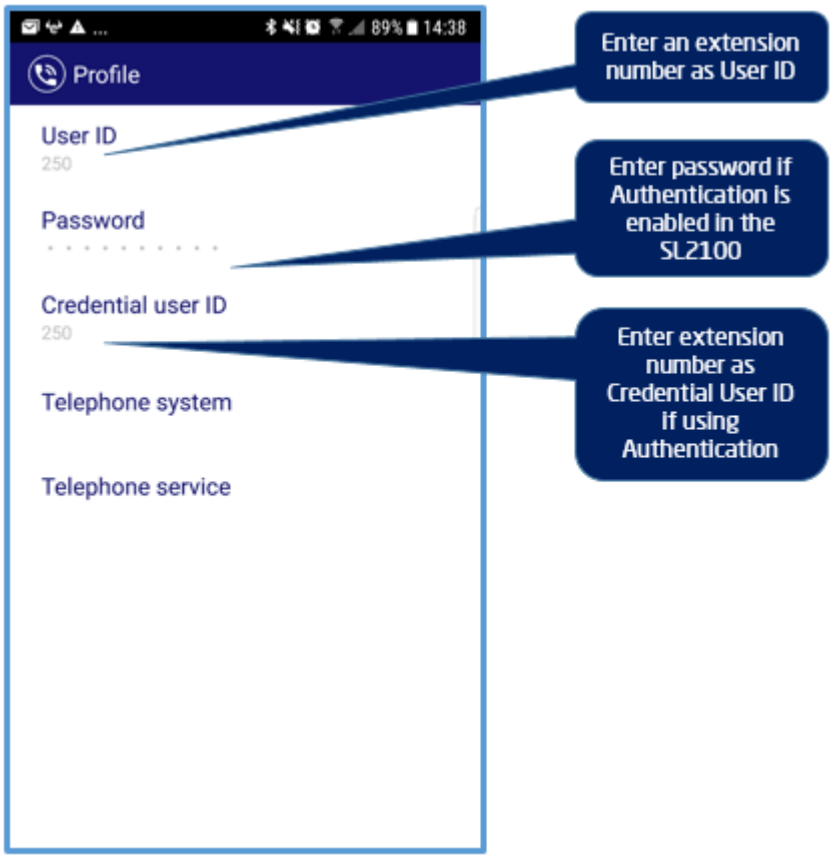

12
Profiles
Tap Create a new profile
Create a new profile
Import
13
Profiles
1 Enter a profile name
Create a new profile
SL2100
Cancel
OK
2 Tap OK
Create a new profile
Import


14
Profiles
SL2100
1 ID:1
Network:Wi-Fi
Tap the newly created profile to configure the profile details
Create a new profile
Import

Configure the ST500 Mobile Client

Follow the steps (1) below to configure the UNIVERGE ST500 Mobile Client on your Android device to connect to the SL2100 telephone system.

Profile Settings

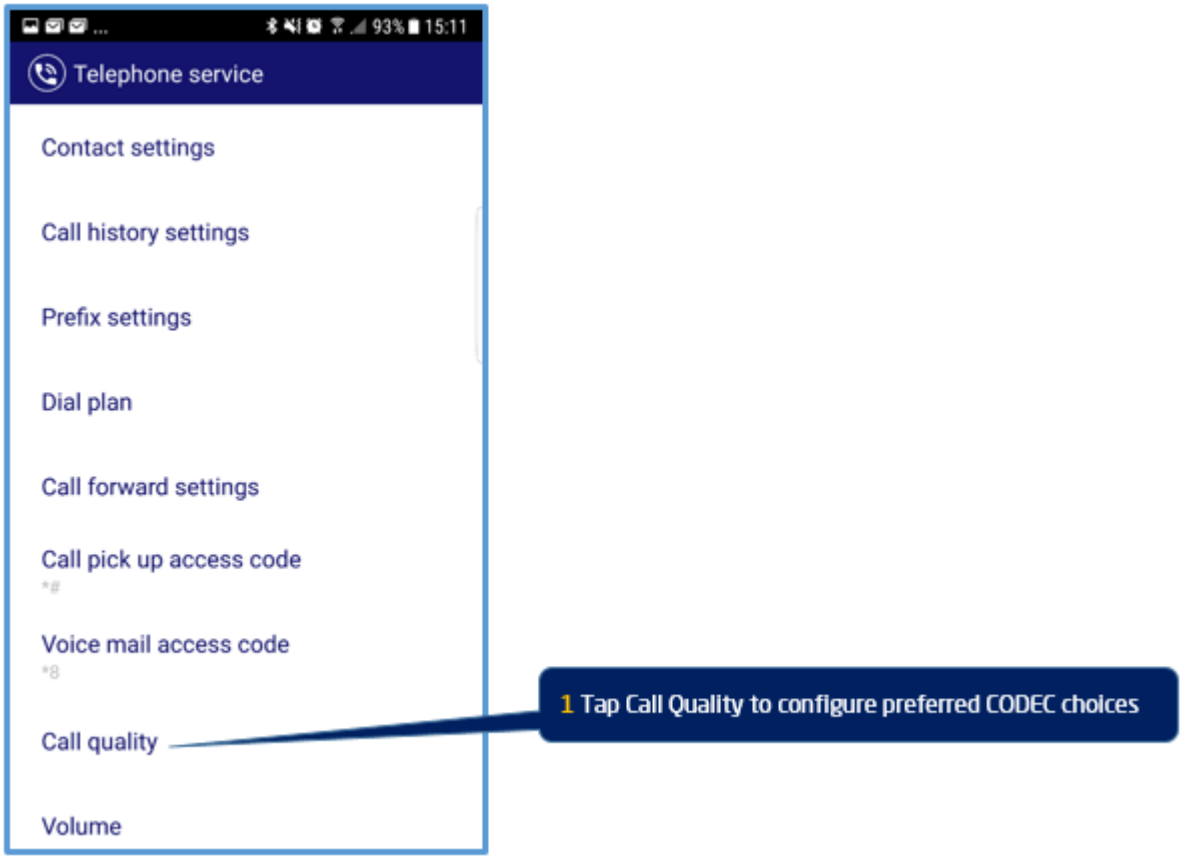


Telephone System Settings

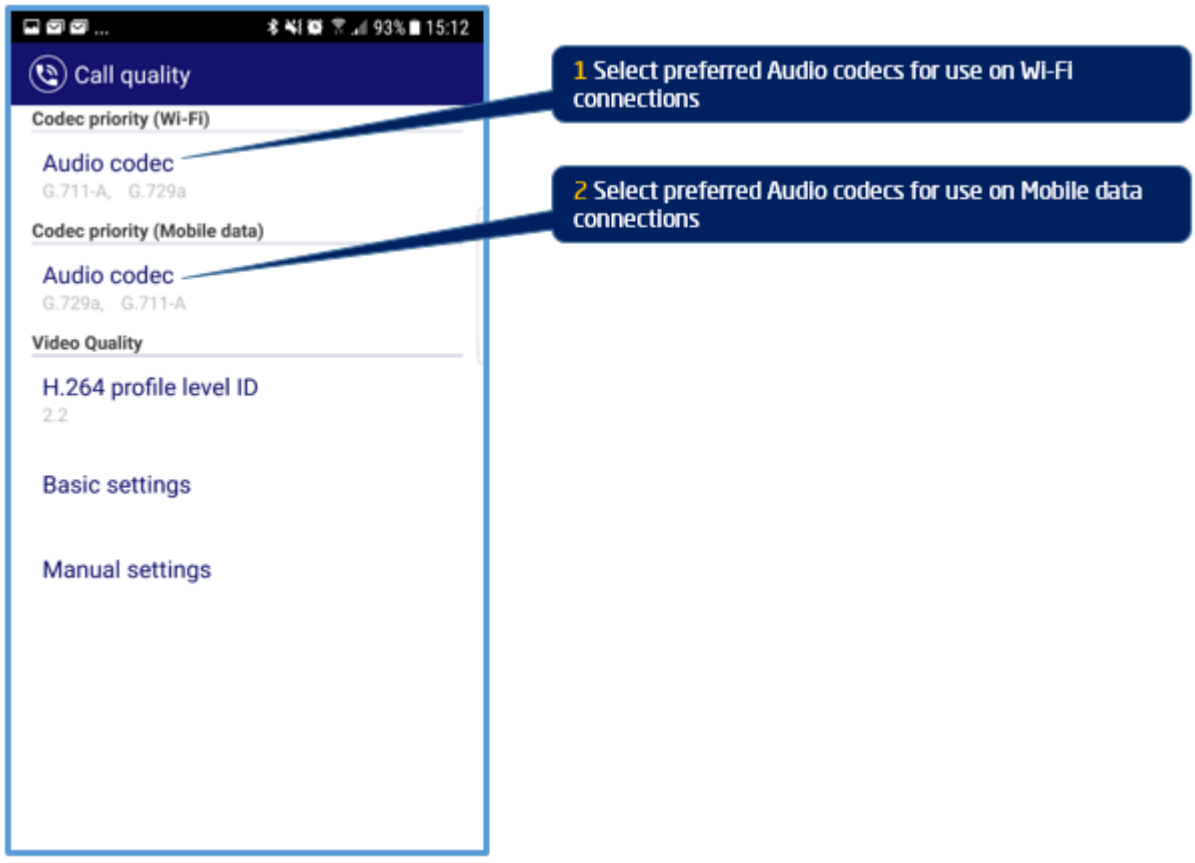
Note1: A Connection type set to Any is recommended if the UNIVERGE ST500 is to be used over Wi-Fi networks as well as remotely over 3G/4G mobile data.

Note2: Enter a Wireless LAN SSID and set the connection type to Wi-Fi and when the device connects to that SSID the configured profile will automatically be used.

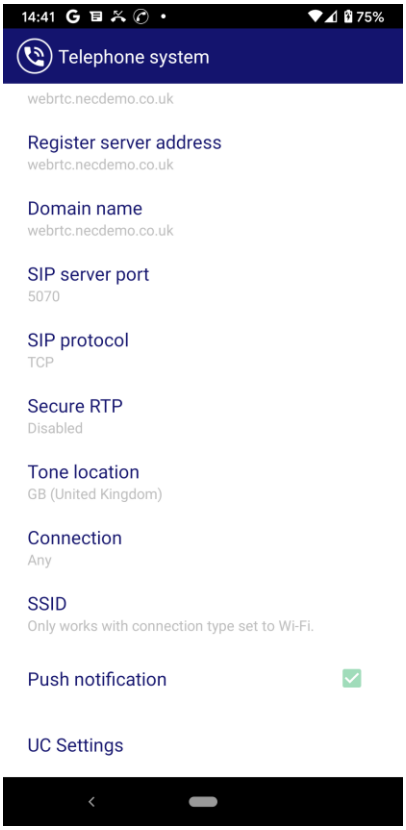
Telephone Service Settings



Call Quality Settings

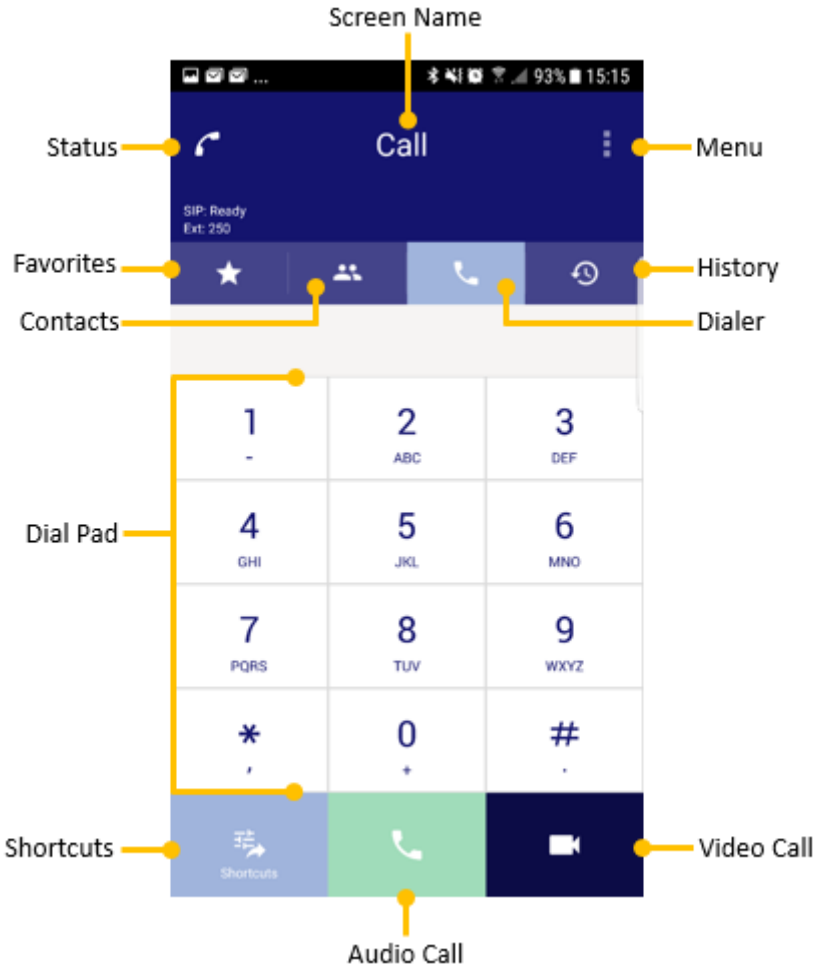


Android PUSH Notification can be enable as below:



12 If the SV9100 is configured to use it. Enable the iOS Push Notification Service for the ST500 client here.

Exit the Profile configuration settings and the UNIVERGE ST500 Mobile Client will attempt to register to the SL2100. If the client fails to connect re-check your configuration settings and try again.



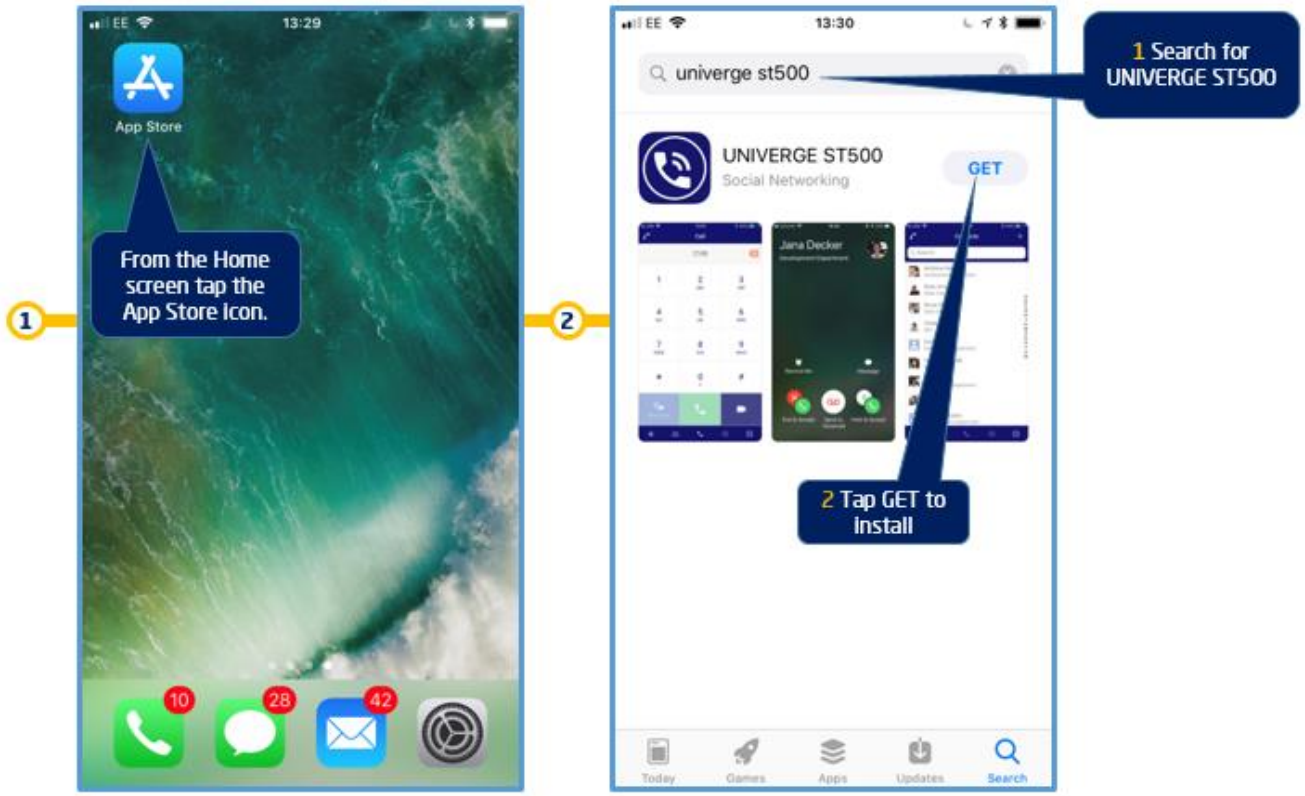
You should now be ready to use your UNIVERGE ST500 mobile client.

Please refer to the UNIVERGE ST500 for Android – Operation Manual or UNIVERGE ST500 for Android – Quick Reference Guide for further information on how to operate your client.

6- ST500 Installation and Configuration on iOS Devices

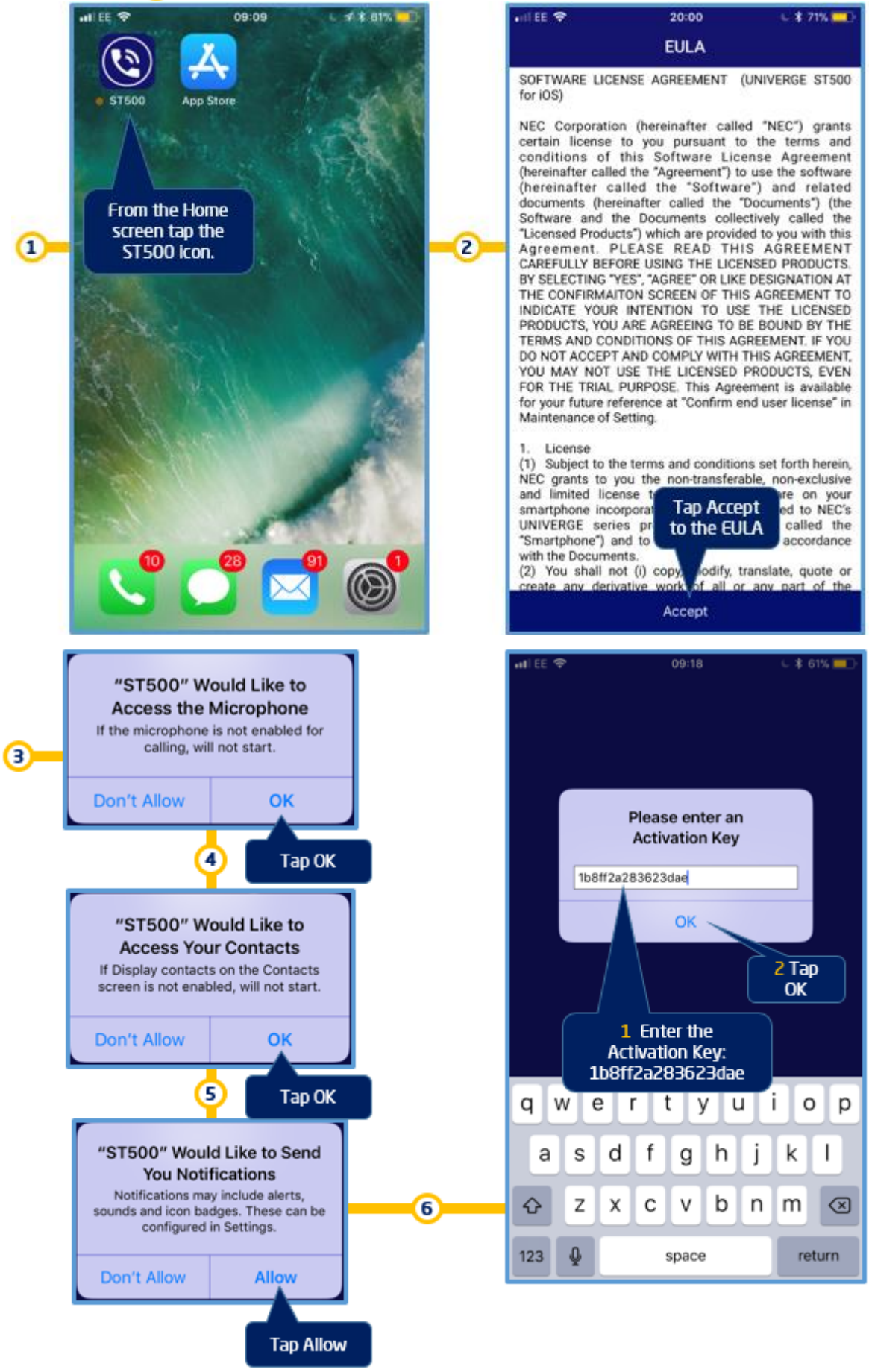
Installation from iOS App Store

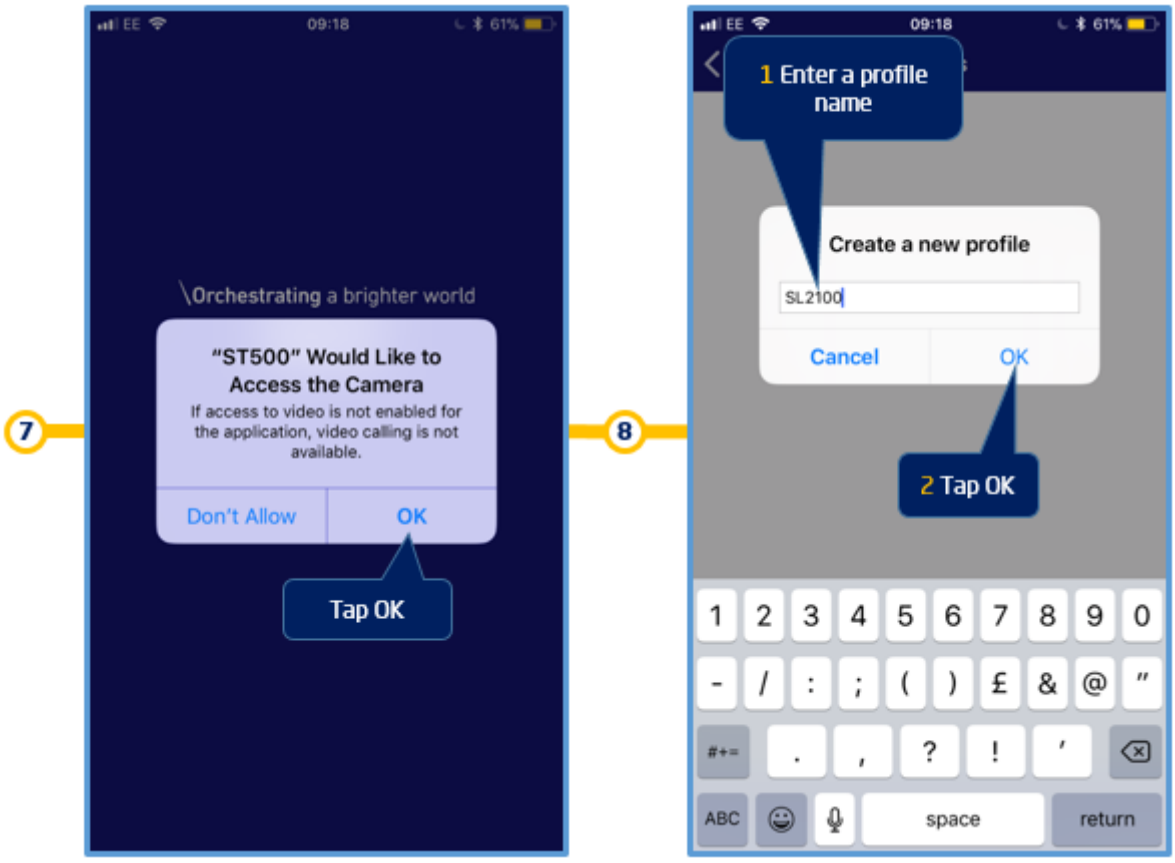
Follow the steps 1 below to get the UNIVERGE ST500 Mobile Client installed on your iOS device.

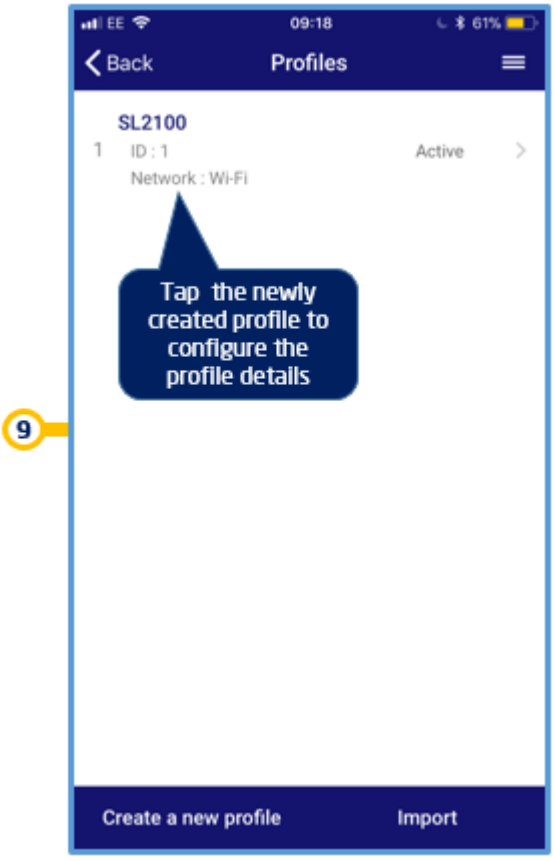


Starting the ST500 Mobile Client for the first time

Follow the steps 1 below to start using the UNIVERGE ST500 Mobile Client on your iOS device.

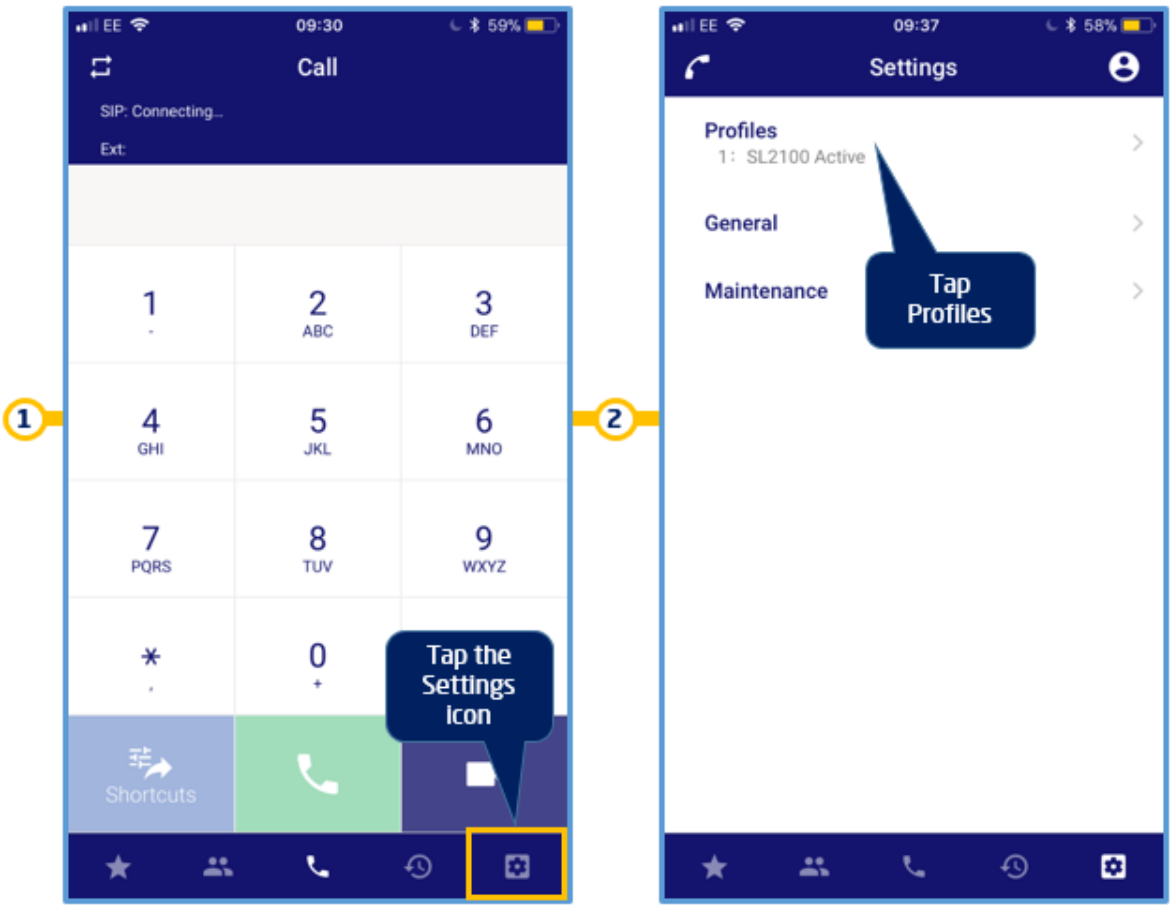



7
Orchestrating a brighter world
"ST500" Would Like to Access the Camera
If access to video is not enabled for the application, video calling is not available.
Don't Allow
OK
Tap OK
8
1 Enter a profile name
Create a new profile
SL2100
Cancel
OK
2 Tap OK


9
Back
Profiles
SL2100
1
ID : 1
Active
Network : Wi-Fi
Tap the newly created profile to configure the profile details
Create a new profile
Import

Configure the ST500 Mobile Client

Follow the steps 1 below to configure the UNIVERGE ST500 Mobile Client on your Android device to connect to the SL2100 telephone system.

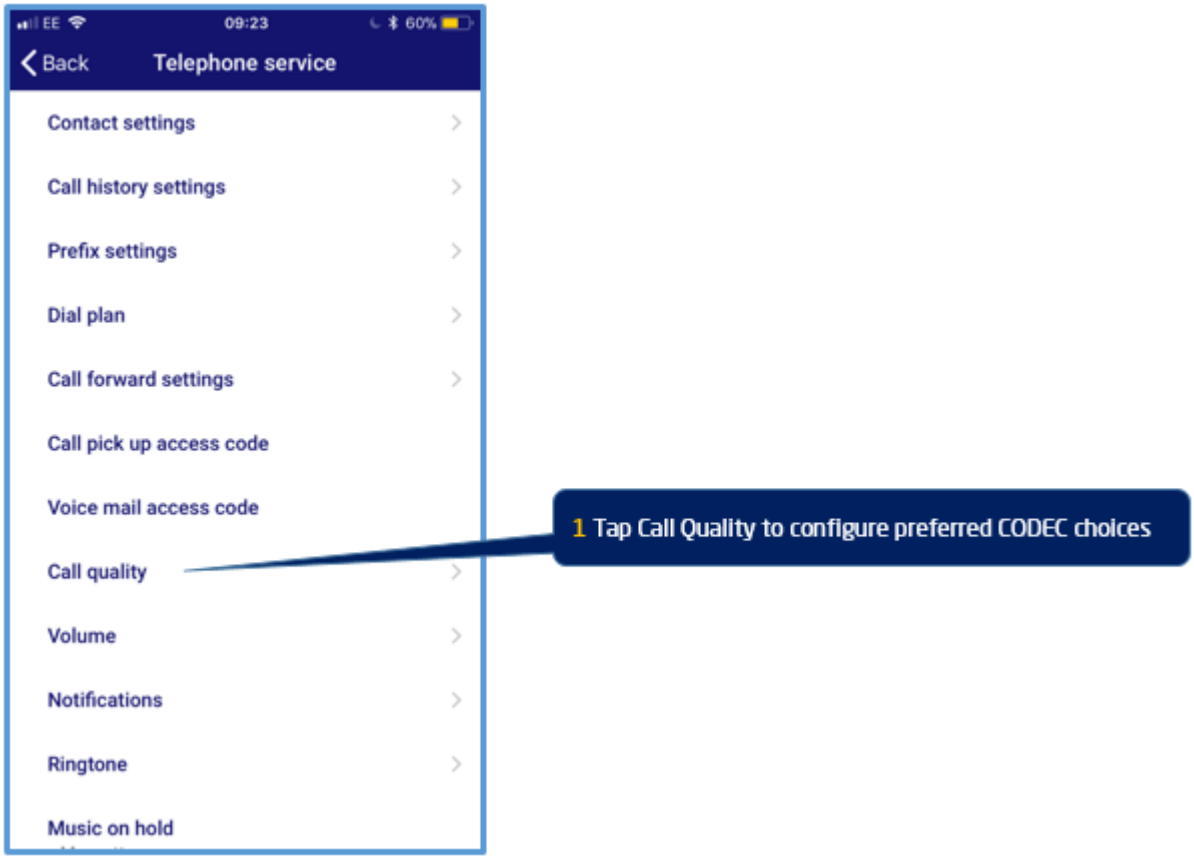


Profile Settings

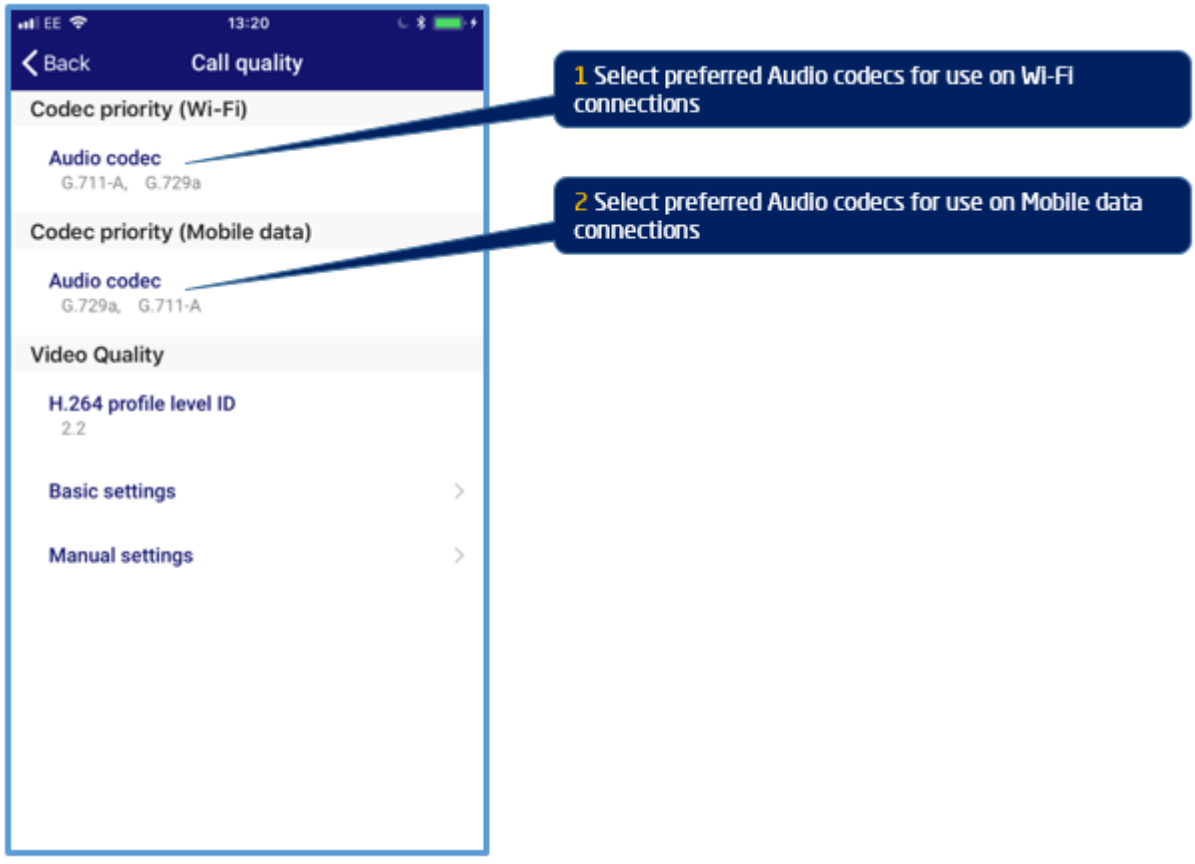
Telephone System Settings

NOTE1: Push notification is a newer notification feature from Apple and available to iOS 11 or higher supported devices. This is also supported by the SL2100 when using R1.7 or higher main software.

Telephone Service Settings



Call Quality Settings



Exit the Profile configuration settings and the UNIVERGE ST500 Mobile Client will attempt to register to the SL2100. If the client fails to connect re-check your configuration settings and try again.

You should now be ready to use your UNIVERGE ST500 mobile client.

Please refer to the UNIVERGE ST500 for iOS – Operation Manual or UNIVERGE ST500 for iOS – Quick Reference Guide for further information on how to operate your client.