AudioCodes High Definition IP Phones Series

C450HD and C448HD IP Phones for Microsoft Teams

Version 1.3.40

Microsoft Partner

Gold Communications

audiocodes

Table of Contents

List of Tables

Notice

Information contained in this document is believed to be accurate and reliable at the time of printing. However, due to ongoing product improvements and revisions, AudioCodes cannot guarantee accuracy of printed material after the Date Published nor can it accept responsibility for errors or omissions. Updates to this document can be downloaded from https://www.audiocodes.com/library/technical-documents.

This document is subject to change without notice.
Date Published: Apr-06-2020

WEEE EU Directive

Pursuant to the WEEE EU Directive, electronic and electrical waste must not be disposed of with unsorted waste. Please contact your local recycling authority for disposal of this product.

Customer Support

Customer technical support and services are provided by AudioCodes or by an authorized AudioCodes Service Partner. For more information on how to buy technical support for AudioCodes products and for contact information, please visit our website at https://www.audiocodes.com/services-support/maintenance-and-support.

Stay in the Loop with AudioCodes

Abbreviations and Conventions

Each abbreviation, unless widely used, is spelled out in full when first used.

Related Documentation

Document Name
C450HD IP Phone for Microsoft Teams Quick Guide
C450HD IP Phone for Microsoft Teams User's and Administrator's Manual
https://docs.microsoft.com/en-us/MicrosoftTeams/phones-for-teams

Documentation Feedback

AudioCodes continually strives to produce high quality documentation. If you have any comments (suggestions or errors) regarding this document, please fill out the Documentation Feedback form on our website at https://online.audiocodes.com/documentation-feedback.

1   Introduction

This document describes the new features and known constraints of AudioCodes' C448HD and C450HD IP Phones for Microsoft Teams. The phone's firmware version is 1.3.40 and the Microsoft Teams application version is **1.0.94. 2020031901**.

1.1   Overview

The AudioCodes C450HD and C448HD IP phones are native Microsoft Teams high-end executive business phones with a large color touch screen and full UC integration for the Native Microsoft Teams Online market.

The Microsoft Teams C450HD and C448HD are equipped with a 5-inch color capacitive touch screen, 1280 x 720 resolution and optional integrated Wi-Fi and Bluetooth support (C450HD only) (contact your local AudioCodes representative for more information about regional availability of Wi-Fi / Bluetooth).

The phones can be managed by the Microsoft Teams & Skype for Business Admin Center. For more information, see https://docs.microsoft.com/en-us/MicrosoftTeams/phones-for-teams.

The C450HD phone also features the option to be used as a Microsoft Skype for Business IP phone, offered as part of AudioCodes' Managed IP Phones solution which defines the IP phone as an IT-managed entity and delivers unique and complete lifecycle management of end-user desktop devices. A single-click switchover between Microsoft Teams with native client experience and Skype for Business is supported. The C448HD phone currently doesn't support this option as it's for Native Teams only.

1.2   Specifications

The table below summarizes the software specifications of the C450HD and C448HD IP Phones for Microsoft Teams.

Table 1-1: C450HD and C448HD IP Phones for Microsoft Teams Software Specifications

Feature	Details
Media Processing	▪ Voice Coders: G.711, G.729, G.722, SILK Opus ▪ Acoustic Echo Cancelation: G.168-2004 compliant, 64-msec tail length ▪ Adaptive Jitter Buffer ▪ Voice Activity Detection ▪ Comfort Noise Generation ▪ Packet Lost Concealment ▪ RTP/RTCP Packetization (RFC 3550, RFC 3551), SRTP (RFC 3711)
Microsoft Teams phones feature set	▪ Authentication (Sign in with user credentials; Sign in using PC/Smartphone; Modern Authentication; Phone lock/unlock) ▪ Calling (Incoming/Outgoing P2P calls; In-call controls via UI (Mute, hold/resume, transfer, end call); PSTN calls; Visual Voicemail; 911 support ▪ Calendar and Presence (Calendar Access and Meeting Details; Presence Integration; Exchange Calendar Integration; Contact Picture Integration; Corporate Directory Access) ▪ Meetings (One-click Join for Meetings; Join Skype for Business meetings; Meeting Call controls [Mute/unmute, hold/resume, hang up, add/remove participant]; Meeting Details. See also https://docs.microsoft.com/en-us/MicrosoftTeams/phones-for-teams.

Feature	Details
Configuration / Management	▪ Microsoft Teams & Skype for Business Admin Center (Provisioning and Logging)
Debugging Tools	▪ Log upload to Microsoft server (certification for 3rd party Skype for Business clients) ▪ Remote logging via Syslog ▪ SSH Access ▪ Capturing the phone screen ▪ TCPdump ▪ Company Portal (Intune) logs ▪ Audio Debug recording logs ▪ Media logs (*.blog)
Localization Support	▪ Multi-lingual support; the language pack list is not yet final and is subject to modification.

C450HD Hardware	▪ Five-inch color capacitive touch screen, 1280 x 720 resolution, with an intuitive user interface.
	▪ Wired connectivity:
	  ✓ Two RJ-45 [Gigabit Ethernet (GbE)] (10/100/1000BaseT Ethernet) ports for WAN and LAN
	  ✓ RJ-9 port (jack) for headset
	  ✓ RJ-9 port (jack) for handset
	  ✓ 2 x USB ports for headset support (C450HD); 1 x USB port for headset support (C448HD)
	  ✓ RJ-11 interface
	▪ Wireless connectivity (C450HD only):
	  ✓ Single band 2.4GHz, 802.11b/g/n Wi-Fi support
	  ✓ Wi-Fi supported protocols: WEP, WPA-PSK/WPA2-PSK and WPA/WPA2 Enterprise (802.1X) PEAP only
	▪ Integrated optional Bluetooth support (C450HD only)
	▪ Mounting:
	  ✓ Wall and desktop mounting options
	  ✓ One angle for desktop mount, another angle for wall mount
	▪ Power:
	  ✓ DC jack adapter 12V
	  ✓ Power supply AC 100 ~ 240V
	  ✓ PoE Class 3: IEEE802.3af (optional)
	▪ Keys:
	  ✓ VOICE MAIL message hotkey (including LED)
	  ✓ 4-way navigation button with OK key
	  ✓ MENU
	  ✓ REDIAL
	  ✓ HOLD
	  ✓ MUTE (including LED)
	  ✓ TRANSFER
	  ✓ VOLUME control key
	  ✓ HEADSET (including LED)
	  ✓ SPEAKER (including LED)
	  ✓ BACK (the 'x' key)
	  ✓ CONTACTS (not yet supported in Teams)

2   Version 1.3.40

> **Note:** Version 1.3.40 includes Microsoft Teams Version **1.0.94. 2020031901**.

2.1   What's New in Version 1.3.40

- **Upgrade to Microsoft Teams version MicrosoftTeams-2020031901**. The new Microsoft Teams phone version includes multiple resolved limitations. Some of these fixes were for major issues. See Resolved Limitations in , Teams Application, to view the full list of fixes.
    - The phone now allows users to **add or remove contacts to / from 'Favorites'**.
    - The phone now supports **auto-dialing to call an extension**.
    - **Boss/Admin settings** are now supported.
    - The phone now supports **distinctive ringtones** per call type.
    - The **calls application has been improved** for basic calls and for advanced features.
    - The calls application's **Call History and Speed Dial have been improved**.
- **Upgrade to Microsoft Company Portal application version 5.0.4715.0.** See Resolved Limitations in , Teams Application, to view the full list of Company Portal fixes
- **Upgrade to Microsoft Admin Agent application version 207.** See Resolved Limitations in , Teams Application, to view the full list of Admin Agent fixes
- **A dumpstate option has been added to the Admin's debugging capabilities**. The feature allows the Admin who needs to get logs from the device, to dump the logs with a single touch to the phone's Secure Digital (SD) Card. The logs can be collected later using Secure Copy Protocol (SCP) based on Secure Shell (SSH) protocol.

    In the phone's 'Device Settings', a new **Diagnostic Data** option was added (**Device Administration** > **Debugging)**:

☰   Debugging
Log settings
Remote Logging
Diagnostic Data
Reset configuration
Restart Teams app
Company portal login

- Touch the **Diagnostic Data** option.

Diagnostic Data
Copy logs to sdcard?
CANCEL   OK

- Touch **OK** to confirm; the phone creates all necessary logs and copies them to its SD Card / Logs folder.
- To get the logs, the Admin must use SCP.

■ The term 'Switch to Skype for Business' has been changed to 'Switch to Teams Compatible' (in the device's Admin's 'Debugging' screen).

2.2   Resolved Limitations in Version 1.3.40

2.2.1   Teams Application

Here are the Teams application limitations that have been resolved in Version 1.3.40.

Table 2-1: Resolved Teams Application Limitations in Version 1.3.40

Incident	Description
-	Search history is available for CAP users.
-	The 'Emergency' call softkey does not function if the Teams application user does not have PSTN capability.
-	Unread voicemail count remains on the phone's screen even after the user reads the voicemail from Outlook / Desktop client.
-	The header bar overlaps the call-in progress text when dialing an emergency number.
-	In an Emergency call, the caller is by default displayed as muted and is able to mute/ unmute.
-	No notification is displayed in the Emergency calling screen when internet is unavailable.
-	The dialpad doesn't open when the user presses the speaker button in the contact card screen.
-	An Emergency call can be placed on hold using the HOLD hard key and the call gets disconnected immediately after putting the call on hold.
-	The hard MUTE key on the phone is not functioning when the device is connected to a PC in USB mode.
-	The soft dialpad is not displayed for DTMF when dialed into a meeting.
-	The user is unable to answer an incoming call using speaker and headset when the device is in locked state.
-	A few menu options displayed in the Device Details screen are irrelevant ('Remote desktop' for example).
-	During sign-in, the company portal displays an unnecessary pop-up message.

2.2.2   Device

Here are the device limitations that have been resolved in Version 1.3.40.

Table 2-2: Resolved Device Limitations in Version 1.3.40

Incident	Description
IPPAN-1421	The 'Redial' softkey in the Device Settings screen isn't functioning as expected.
IPPAN-1396	Audio doesn't flow through the handset when an emergency call is connected in Locked state.
IPPAN-1378	The alarm volume bar needs to be removed from the 'Sound' settings.
IPPAN-1277	Sign-out does not function correctly when the user performs sign-out from under Admin settings.

This page is intentionally left blank.

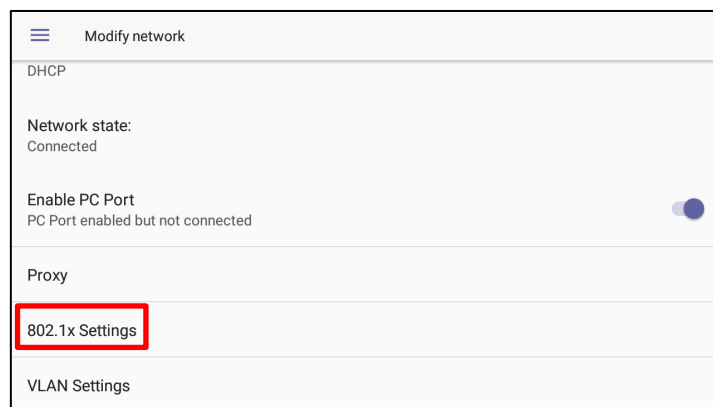# 3   Previous Releases

3.1   Version 1.2.196

⚠️ **Note:** Version 1.2.196 includes Microsoft Teams Version **1.0.94.2020020601**.

3.1.1   What's New in Version 1.2.196

■ **Upgrade to Microsoft Teams version MicrosoftTeams-2020020601**. The new Microsoft Teams phone version includes multiple resolved limitations. Some of these fixes were for major issues. See Resolved Limitations in , Teams Application, to view the full list of fixes.

   ■ Dynamic 911 support as per Kari's law

■ **Upgrade to Microsoft Company Portal application version 5.0.4623.0.** See Resolved Limitations in , Teams Application, to view the full list of Company Portal fixes

■ **Upgrade to Microsoft Admin Agent application version 204.** See Resolved Limitations in , Teams Application, to view the full list of Admin Agent fixes

■ **New model C448HD phone for Microsoft Teams** is now supported.
The C448HD phone for Microsoft Teams is identical to the C450HD phone for Microsoft Teams except for:

   • Bluetooth and Wi-Fi
   • Only one USB port
   • Does not support Expansion Module

   Support for 802.1X Authentication. IEEE Standard for Port-based Network Access Control (PNAC). See https://1.ieee802.org/security/802-1x/ for more information. 802.1X Authentication is currently supported for MD5 only. Support for EAP-TLS will be added in the next release. To enable the feature from the phone, open the 'Modify Network' screen (as an Admin) and then the 802.1x Settings screen:

   ☰   Modify network

   DHCP

   Network state:
   Connected

   Enable PC Port   ●
   PC Port enabled but not connected

   Proxy

   802.1x Settings

   VLAN Settings

802.1x Settings

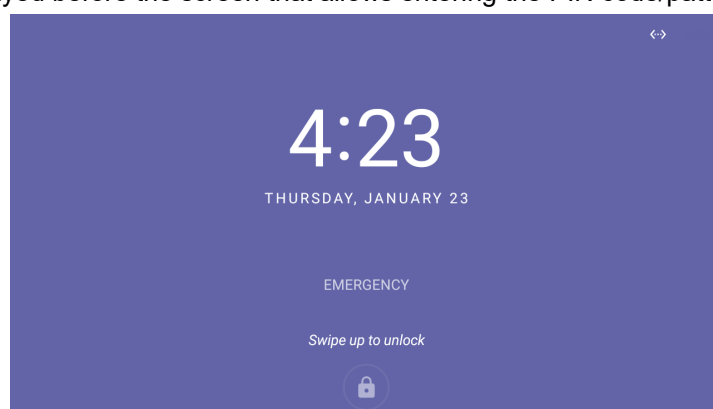Enable 802.1x

EAP method

MD5

Identity

Password

CANCEL   SAVE

■ **Enhanced E911**

- A new 'Emergency' key was added to the phone's idle lock screen, i.e., to the screen displayed before the screen that allows entering the PIN code/pattern.

4:23

THURSDAY, JANUARY 23

EMERGENCY

Swipe up to unlock

- Users can dial the E911 service from a locked screen without needing to press the 'Emergency' key. They only need to dial 911 and then trigger the call from the speaker/handset or wait for the timeout; they can pick up the handset or press the speaker button and dial 911 from the lock screen:

• • 1

1	2 ABC	3 DEF
4 GHI	5 JKL	6 MNO
7 PQRS	8 TUV	9 WXYZ
0 +	✓	
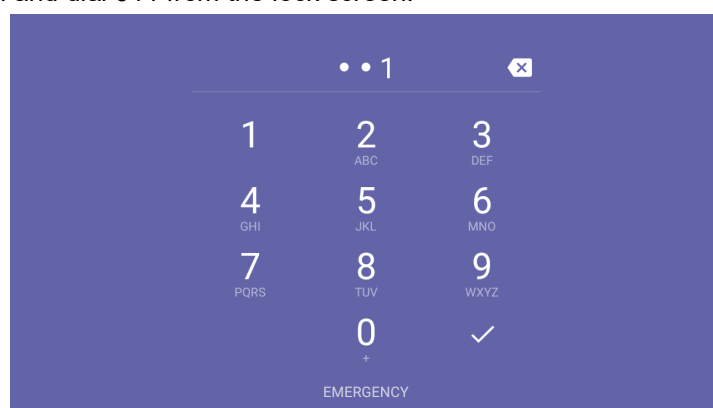
EMERGENCY

- The 'Emergency call' screen with the emergency dialed number is then displayed. Users can then perform the dialing.
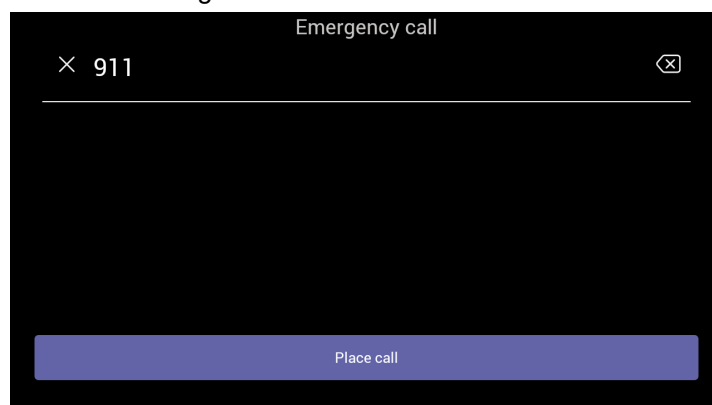

■ **Bluetooth support now provided under Android as a Beta**. Handsfree profile where the phone is able to connect to Bluetooth headset or speaker.

■ The **unlock feature on the C450HD phone for Microsoft Teams has been improved** using a smart PIN unlock mechanism. When users now use the PIN to lock the phone, to unlock they just need to type the PIN number for the phone to automatically unlock without requiring users to confirm using the **OK** button. Moriya

■ All 'Settings' fields that pop up and require the virtual keypad for inputting characters and/or numbers - such as when the network administrator needs to enter an IP address to debug or when they need to enter their PIN lock for the security tab - were improved so that **the keyboard/keypad now only takes up half the screen and not the full screen as was the case previously**. Example:
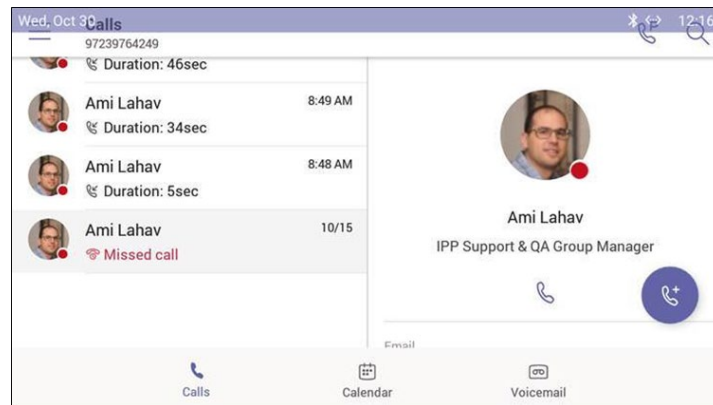
Numeric Keypad
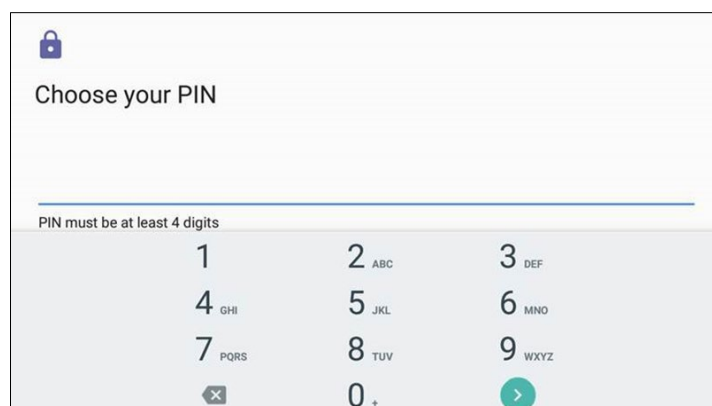
QWERTY Keypad
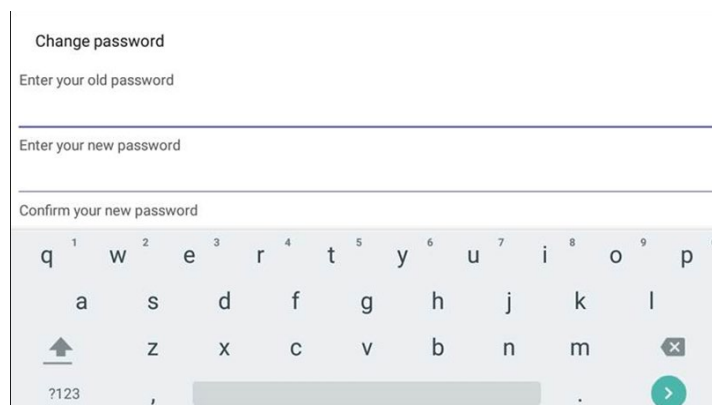
Transparent upper bar

The main screen is now free of obstructions and the status bar displays the date

Refresh icon

Improved look and feel compared to the previous

3.1.2   Resolved Limitations in Version 1.2.196

3.1.2.1   Teams Application

Here are the Teams application limitations that have been resolved in Version 1.2.196.

Table 3-1: Resolved Teams Application Limitations in Version 1.2.196

Incident	Description
139605	[Device Manager – Admin Agent] The current firmware version shows as 'null'.
139605	[Device Manager – Admin Agent] After update, the Admin agent reports an old Teams application and Company Portal application version.
137904	The dial pad disappears after a PSTN call.
127164	Digits are not displayed when dialing from the Calendar tab.
129038	After a HotDesk user signs out during a network outage, the host user is not signed in automatically.
-	The place call icon is retaining the previously dialed number.
-	Add/Remove participants to / from a meeting is not reflected in edit mode.
-	The Teams application user receives a HotDesk option when HotDesking is disabled.
139559	The user is unable to answer an incoming call from the phone screen when the screensaver is active.
-	[Intune – Company Portal] The Teams application gets stuck when signing out.
-	[Device Manager – Admin Agent] The password is displayed in plain text in Logs when changed from the Teams Admin Portal.
-	E911 auto dial on lock screen is not working via direct routing.

3.1.2.2   Device

Here are the device limitations that have been resolved in Version 1.2.196.

Table 3-2: Resolved Device Limitations in Version 1.2.196

Incident	Description
-	-

3.2   Version 1.1.96

> **Note:** Version 1.1.96 includes Microsoft Teams Version **1.0.94.2019110802**.

3.2.1   What's New in Version 1.1.96

- **Upgrade to Microsoft Teams version MicrosoftTeams-2019110802**. See Resolved Limitations in , Teams Application, to view the list of fixes in this release.

3.2.2   Resolved Limitations in Version 1.1.96

3.2.2.1   Teams Application

Here are the Teams application limitations that have been resolved in Version 1.1.96.

Table 3-3: Resolved Teams Application Limitations in Version 1.1.96

Incident	Description
-	[CAP] The soft keypad is automatically displayed in the screen after signing in.
-	The keypad remains visible after making an 'On behalf of' enquiry call.
-	The Meeting/Calendar tab sometimes doesn't sync correctly.
-	The group call name is incorrectly displayed in the Call Log screen.
-	The application crashes when the meeting role of the Teams application user is changed multiple times from Desktop user (Organizer).
-	The wrong text appears in the confirmation pop-up when the user touches **Mute all** in a conference.
-	[Dark theme] The placeholder text is not properly visible in the Search bar when the user navigates searching people via the **Make a call** icon.
-	The **Mute**/**Un-Mute** key doesn't function when accessing 'Device Settings'.
-	As the day progresses, the My Meetings view does not display upcoming meetings relative to the current time as it should.

3.2.2.2 Device

No device limitations were resolved in Version 1.1.96.

Table 3-4: Resolved Device Limitations in Version 1.1.96

Incident	Description
-	-

3.3   Version 1.1.92

> ⚠️ **Note:** Version 1.1.92 includes Microsoft Teams Version 1.0.94.2019110101.

3.3.1   What's New in Version 1.1.92

- **Upgrade to Microsoft Teams version MicrosoftTeams-2019110101**. The new Microsoft Teams phone version includes multiple resolved limitations. Some of these fixes were for major issues. See Resolved Limitations in , Teams Application, to view the full list of fixes.
- **Upgrade to Microsoft Company Portal application version 5.0.4569.0.** The new Company Portal application includes the following new features:
  - Consistent GUI design for IP phone enrollment
- **Upgrade to Microsoft Admin Agent application version 201.** The new Company Portal application includes the following new features:
  - **Resiliency**. The Admin Agent is resilient and can recover from crashes.

3.3.2   Resolved Limitations in Version 1.1.92

3.3.2.1   Teams Application

Here are the Teams application limitations that have been resolved in Version 1.1.92.

Table 3-5: Resolved Teams Application Limitations in Version 1.1.92

Incident	Description
516347	The phone does not ring when a remote Teams client calls. Instead, the phone gets a missed call notification when the remote Teams client disconnects the call.
660882	Although the phone rings, the 'Incoming call' screen occasionally is not displayed and the call can't be answered.
-	An incoming call fails to be established when the phone is in locked state though the incoming call immediately following this one succeeds.
658005	After restoring a phone to its factory defaults, the Teams application crashes.
627572	When the user signs out, the Teams application occasionally crashes and reverts to the idle screen.
572834	Contrary to the correct indication displayed in the phone screen, the dial pad does not generate a **+** symbol when long-pressing the **0** digit.
636726	The Teams application crashes when the phone left in idle state for a prolonged time.
638940	[Voicemail] An incoming call gets auto-rejected if it comes in while voicemail is playing.
558012	[Voicemail] If voicemail is playing, an incoming call does not work.
642135	If a user dials a PSTN number by quickly pressing the digits on the hard key pad, the phone 'misses' the second digit in the number.
625605	An incoming call cannot be answered using the speaker or headset button on the phone.
631249	The Teams phone does not display MUTE state while the call is in 'proceeding' state.

Incident	Description
578107	The Calling Name merges with the option tab when a remote Teams client forwards a Group Call to the phone.
611381	The user's name isn't displayed in a held call.
659450	After signing out and signing in multiple times consecutively, outgoing/incoming calls do not function.
-	[Emergency call] After dialing the emergency number in an unlocked device, auto-dial does not work.
643259	Incorrect information is displayed in the Participants screen when a far-end user unmutes a call.
624429	An incomplete Boss List is displayed on the screen when attempting to make an enquiry call.
664712	After entering an alpha numeric value to search for a user, a new dialpad screen opens.
628619	After discarding a call, the Delegates notification does not clear.
640882	[Multi call] The call switch option icon gets removed after switching from one call to another.
641002	The call recipient's name is not displayed in the title bar of the phone's Call screen.
658003	The read/unread calls are not differentiated from one another. The call counter doesn't reset after reading the latest unread entries.
659416	[CAP] The search history is available for a CAP user.
660911	[CAP] After dialing a number on the phone of a CAP-enabled user, the dial tone continues playing.
668447	[Application setting] The 'Third-party notices of use' notice option is missing in the 'About' screen.
588697	The 'Meetings' tab does not delete meeting objects completely; details relating to the last meeting still appear after deletion.
660675	[Intune – Company Portal] The Company Portal application occasionally doesn't launch after sign in and the phone screen gets stuck in a blue color.
477327	[Intune – Company Portal] When the user tries to sign in while the device is offline (network outage), the phone remains stuck on the Company Portal sign-in page.
675242	[Device Manager – Admin Agent] Several devices in Microsoft's Admin Portal are displayed as offline even though all are online and signed in.
634983	[Device Manager – Admin Agent] Admin Agent crashes randomly.

3.3.2.2 Device

Here are the device limitations that have been resolved in Version 1.1.92.

Table 3-6: Resolved Device Limitations in Version 1.1.92

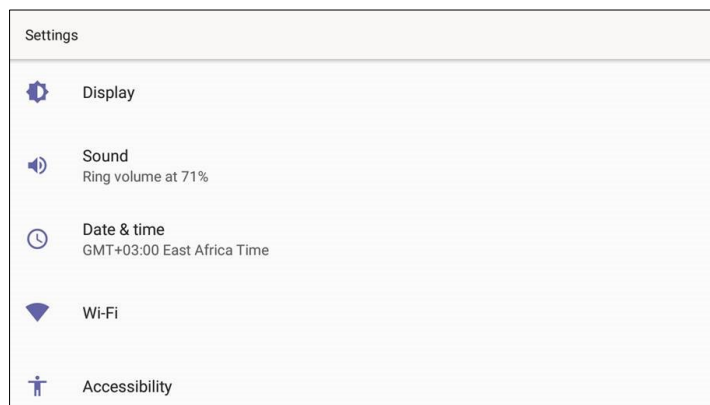| Incident	Description
IPPAN-1077	[C450HD] The phone reports as Half-Duplex in Cisco Discovery Protocol (CDP) even though it's using Full Duplex.

3.4   Version 1.1.77

> **Note:** Version 1.1.77 includes Microsoft Teams Version 1.0.94.2019082001.
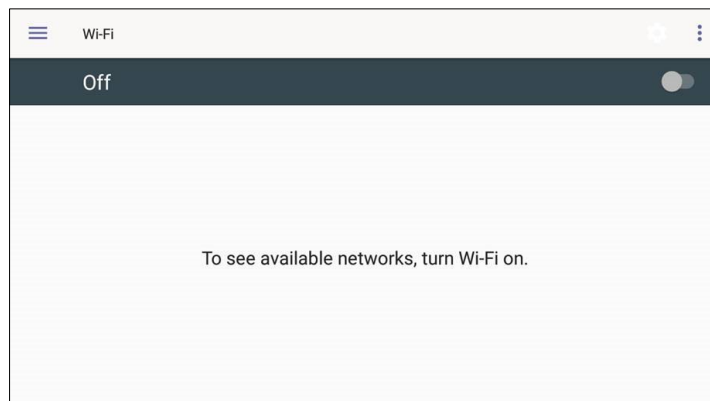
3.4.1   What's New in Version 1.1.77

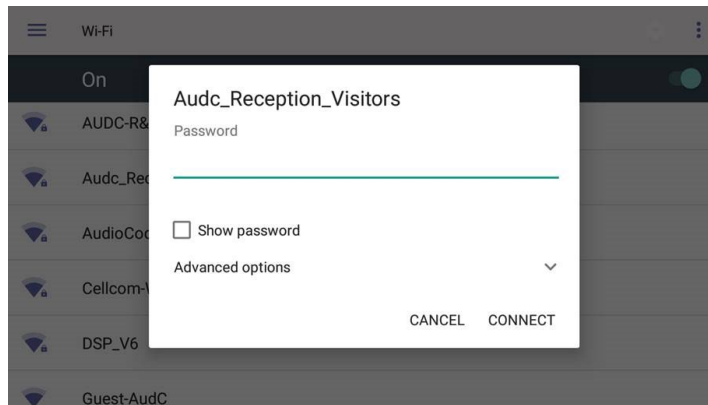■ **C450HD Wi-Fi capability**. The phone can connect to an Access Point via Wi-Fi. To enable Wi-Fi, users must:

1. Access the Device Settings screen and select **Wi-Fi**.

Settings	
Display	
Sound	Ring volume at 71%
Date & time	GMT+03:00 East Africa Time
Wi-Fi	
Accessibility	

2. Switch Wi-Fi to **On** to view the list of possible SSIDs:

≡ Wi-Fi	⚙ ⋮
Off	⚪

To see available networks, turn Wi-Fi on.

≡ Wi-Fi	⚙ ⋮
On	🔵
Cellcom-WiFi_6031	
iPrimus6CF8	
MP252	
Amitush	
Audc-Kids	

3. Select an SSID, configure the required credentials, and then touch **CONNECT**:

■ **Support for an unrooted device**. Starting from this release, the C450HD device will no longer be defined as a 'rooted/jailbroken device'.

■ **Upgrade to Microsoft Teams** version *MicrosoftTeams-2019082001.apk*. The new Teams version includes the following new features*:*

- **Improved user dialing experience**. Here are some examples:

    ♦ Touching the keypad icon located in the upper right corner of the screen shown in the figure below results in the phone activating the speaker, playing a dial tone and allowing the user to dial digits to make a call.
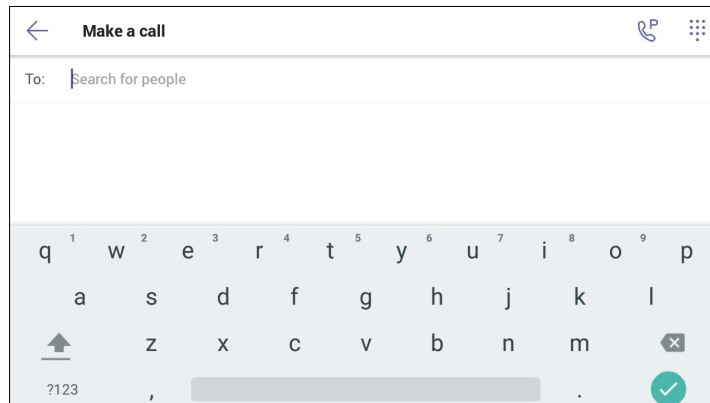
    ♦ After activating the speaker and then starting to dial a number, the user can touch the ⌫ key (shown in the figure below) if they decide they don't want to make the call; the speaker LED turns off.
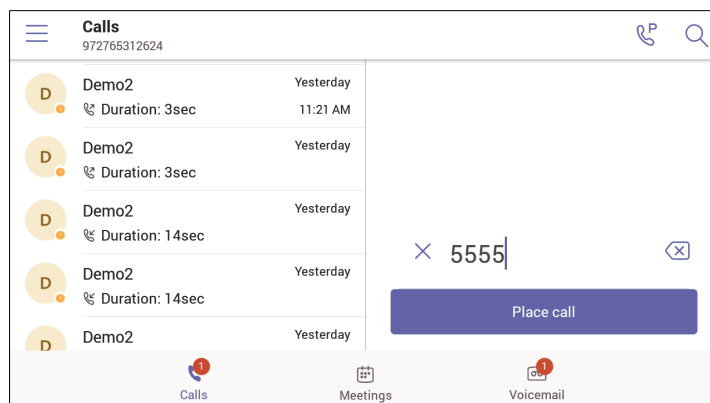
    ♦ User experience was improved with **multiple incoming calls ringing** scenarios.

    ♦ Support for **Common Area Phone** (CAP) users who can sign in with a CAP account. See the next feature (below) for how to use TeamsIPPhonePolicy to correctly sign-in to the device as a CAP user.

    ♦ Support for **IP phone policies**. Using TeamsIPPhonePolicy, the following users can be created who can then sign in to the phone:

- UserSignin: All features are available, i.e., calls, meetings and voicemail
- MeetingSignIn: Only meetings are available
- CAP SignIn (SearchOnCommonAreaPhoneMode=Enabled): The user has calling and searching capability
- CAP SignIn (SearchOnCommonAreaPhoneMode=Disabled): The user has calling capability

■ The **Microsoft Admin agent** has been updated to version 49.

■ **LLDP/CDP can be configured** via the Admin device settings.

■ **Regional tone settings can be configured** from the Admin device settings.

■ **Support for enterprise HTTP/S proxy servers** enabling phones in an enterprise to send packets via the enterprise's proxy server instead of sending packets directly to the server. The new support enables customers to leverage their proxy as security when accessing cloud services.

3.4.2   Resolved Limitations in Version 1.1.77

3.4.2.1   Teams Application

Here are the Teams application limitations that have been resolved in Version 1.1.77.

Table 3-7: Resolved Teams Application Limitations in Version 1.1.77

Incident	Description
586353	After cancelling an outgoing call, the Ring Back tone continues playing in the Teams application.
531541	The mute LED on the device does not reset when a second call is placed.
607976	After answering a call, the notification displayed in the screen is not updated if two calls are received and two notifications are displayed.
609373	The Teams application does not ring when a Teams Desktop Client user calls a Teams application user (device) and gets a Missed Call notification.
613475	The Teams application user is taking cached credentials while signing-in.

3.4.2.2   Device

Here are the device limitations that have been resolved in Version 1.1.77.

Table 3-8: Resolved Device Limitations in Version 1.1.77

Incident	Description
IPPAN-918	The Status bar line remains permanently displayed after receiving multiple incoming calls.
IPPAN-908	A delay of one second occurs when changing voice from the headset to the speaker.
IPPAN-937	[Device Settings] The phone displays the last known language in the Settings screen for 1~2 seconds.
IPPAN-938	Setting the screensaver type 'Photo Table' or 'Photo Frame' does not activate the device when pressing a numeric key or when touching the screen. Currently, the options to set 'Photo Table' and 'Photo Frame' as the screensaver are disabled.
IPPAN-944	[Device Settings] The Dark Theme is not functioning in the 'Setting Home' menu .
IPPAN-948	[Device Settings] The phone does not display a pop-up error message when setting an invalid IP address.
IPPAN-947	[Device Settings] Dark Theme does not work in the language setting screen.

Incident	Description
IPPAN-695	The phone locks itself when the lock timeout is reached even if it is not signed in.
IPPAN-957	The Teams application restarts when choosing the current language as the new language.
IPPAN-697	The phone speaker can't be enabled from the headset when the phone is in a call.
IPPAN-958	After changing VLAN Discovery Mode, the phone sometimes can't get an IP address without restarting the phone.
IPPAN-972	After canceling an outgoing call, the speaker LED does not switch off.
IPPAN-979	Partner Agent can't be installed separately.
IPPAN-980	The Teams application does not launch when the user power cycles the phone.
IPPAN-969	[HTTP Proxy] The phone doesn't re-download the proxy auto-config (PAC) file after reboot; a patch version is ready and can be made available on request.

3.4.3 Known Limitations in Version 1.1.77

3.4.3.1 Teams Application

Here are the Teams application limitations known to exist in Version 1.1.77.

Table 3-9: Known Teams Application Limitations in Version 1.1.77

Incident	Description
104016	In Direct Route mode, a PSTN number cannot be added to an existing call (to escalate the existing call to a conference call).
114402	[Dial pad activity] Switching on handset / headset / speaker mode after dialing the digits does not place the call; the user needs to touch the Place call softkey instead.
114808	[CAP user] When signing in using the phone as a CAP (Common Area Phone) user and then attempting to dial from the idle screen, the digits go directly to the Search area.
114404	[CAP user] After signing in as a CAP user, the main screen of the phone is aesthetically unsatisfactory and the user status is offline.
114406	[Voice mail] Occasionally, the phone incompletely displays the icon indicating an unread message.
115100	[Voice mail] The unread voice message count sometimes increases after deleting a message.
114407	When signing in, entering an incorrect Username or Password may cause the Company Portal application to get stuck.

3.4.3.2 Device

Here are the known device limitations in Version 1.1.77.

Table 3-10: Known Device Limitations in Version 1.1.77

Incident	Description
IPPAN-982	[Wi-Fi] A manual reconnection is required after rebooting (by accessing the Wi-Fi setting, selecting the required Service Set Identifier (SSID) and then touching the **Connect** key)
IPPAN-963	[Wi-Fi] When connecting to a Wi-Fi network's SSID with a Wired Equivalent Privacy (WEP 64), access is allowed after entering a password that is too short, but then the **Connect** key does not respond.

| Incident	Description
IPPAN-962	[Wi-Fi] The phone can't connect to Wi-Fi after inputting a new, correct password following inputting an incorrect one.
IPPAN-933	[Wi-Fi] The phone displays multiple lines of the same SSID.
IPPAN-899	On rare occasions, the Device Settings application doesn't respond.

3.5   Version 1.0.69

> ⚠️ **Note:** Version 1.0.69 includes Microsoft Teams Version 1.0.94.2019052106.

3.5.1   What's New in Version 1.0.69

■ **Upgrade to Microsoft Teams** version *MicrosoftTeams-2019062601.apk.* For more information about the resolved limitations, see Section 2.2.2 below.

   • **Dark Theme**. Example screen:
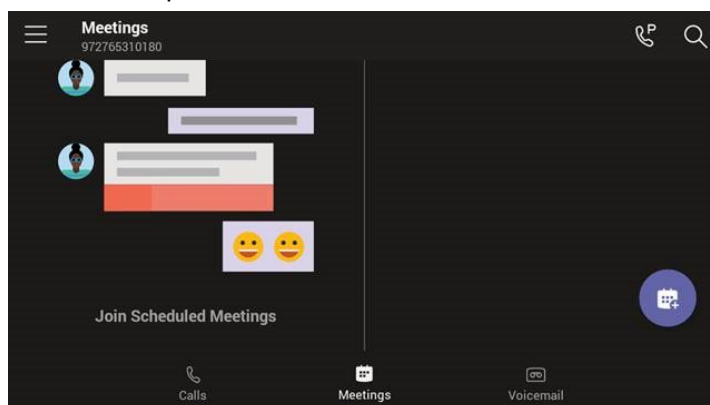
■ **Link Layer Discovery Protocol (LLDP) and Cisco Discovery Protocol (CDP)** support, allowing directly connected LLDP and CDP-capable neighbors to advertise themselves and their capabilities to one another. The feature is enabled/disabled from SSH. By default, it is enabled.

■ **A 'No Network' indication is displayed** in a locked screen if the network is down.

■ **Voice quality was improved** after equalizer coefficients were added and the gains fine-tuned.

3.5.2   Known Teams Application Limitations in Version 1.0.69

Here are the Teams application limitations known to exist in Version 1.0.69.

Table 3-11: Known Teams Application Limitations in Version 1.0.69

Incident	Description
-	-

3.5.3   Resolved Device Limitations in Version 1.0.69

Here are the device limitations that have been resolved in Version 1.0.69.

Table 3-12: Resolved Device Limitations in Version 1.0.69

Incident	Description
IPPAN-828	After logging out from Teams, the speaker LED stays on.
IPPAN-838	The Teams application does not transition to the idle screen (Calls screen) after the far end PSTN user disconnects the call.
IPPAN-771	Some of the checkboxes in the Setting page have a circle which are meaningless and superfluous.
IPPAN-770	When pressing digits to dial after the phone's screensaver has been activated and/or after a prolonged idle period, double digits are outputted.
IPPAN-695	Even if it is not signed in, the phone locks itself when the lock timeout is reached.
IPPAN-689	The reset configuration action does not reset the language.

3.5.4   Known Device Limitations in Version 1.0.69

Here are the known device limitations in Version 1.0.69.

Table 3-13: Known Device Limitations in Version 1.0.69

Incident	Description
IPPAN-912	CDP/LLDP is disabled if the C450HD is restored via the 'Reset' configuration option.

3.6   Version 0.314

> **Note:** Version 0.314 includes Microsoft Teams Version 1.0.94.2019052106.

3.6.1   What's New in 0.314

- **Upgrade to Microsoft Teams** version *MicrosoftTeams-2019052106.apk* and **Company Portal** *com.microsoft.windowsintune.companyportal_20190204.apk*. For more information about the resolved limitations, see Section 3.6.3.1.

  - New Microsoft Teams capability allowing a user to **park a call**, i.e., put a call on hold, park it, receive from the Teams application a unique code, communicate the code to another user who can then pick up the call on their device.

    - The user on the other device touches a new **Call park** icon displayed in their device's main Calls screen; the following screen opens:
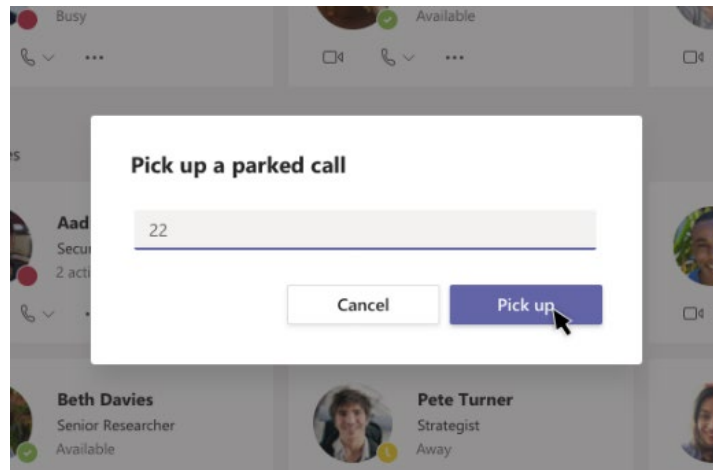
♦ The user on the other device enters the code communicated to them and then touches the 'Pick up' button to pick up the call.

■ A **Lock now** option has been added to the phone. Long-pressing the **x** button on the phone for three seconds displays it. To enable it, the phone must first be configured with the option to be locked, via the Settings menu > Security.

■ The **phone can be accessed via SSH** (Secure Shell daemon). Although SSH access is opened by default, network administrators must know their user name and password (Default: 'admin' and '1234'). The new SSH support gives network administrators more debugging capabilities.

■ **Remote Logging** (Syslog) is now supported in addition to the Device Diagnostics Logs that are collected via the Microsoft Admin Portal. Remote logging gives the same log level as the Device Diagnostics Logs with some additional information that may be relevant to *device* issues (not *Teams application* issues). The main difference between Syslog and the Device Diagnostics Logs is that the Device Diagnostics Logs are saved to the device's sdcard via the Microsoft Admin Portal and collected after the event, while Remote Logging (Syslog) collects logs in real time.

■ The phone's Settings Language Wizard now displays the languages that users can select as the phone's user interface language, **in the names of the languages**, for example, **Español** is displayed to indicate the option to select Spanish as the phone's user interface language.

■ The phone's **default sleep timeout is now by default set to 10 minutes**.

■ The **Android Debug Bridge (ADB) command-line tool can be enabled** on the phone from the Admin Debug page. ADB is by default disabled.

■ The following items in the Settings menu are newly modified:

• Settings > More - options such as VPN, etc. were removed until they become available

• Settings > Security - the **Power** button instantly locks

• Settings > Languages and Input methods - the **Point Speed** option was removed

• Settings > Sound - the **Do not disturb** option was removed

■ Localization: The Device Settings menu fully supports the following languages:

• Hebrew

• German

• Dutch

• Spanish

• Italian

• German

• French Canadian

3.6.2   Known Limitations in Version 0.314

3.6.2.1   Teams Application Limitations

Here are the Teams application limitations known to exist in Version 0.314:

Table 3-14: Known Teams Application Limitations in Version 0.314

Incident	Description
74557	Meeting participant phones' Meetings screen: The response of the meeting organizer is sometimes displayed as 'No response'; at other times, it's displayed as the organizer's Meetings screen instead of the participant's Meetings screen (AudioCodes issue IPPAN-413).
74556	If a participant accepts an invitation to a meeting, the screen showing that they accepted the meeting is inconsistent with the screen displayed on the participant's phone (AudioCodes issue IPPAN-412).
74392	After pressing the hard speaker key on the phone to initiate a call and then pressing the hard **x** key or touching the ← softkey to terminate the action, the phone does not close the speaker.
73378	The voicemail counter is not updated with new voice messages (AudioCodes issue IPPAN-370).
73318	[Voicemail] The user sometimes cannot play and pause voice messages (AudioCodes issue IPPAN-315).

3.6.2.2   Device Limitations

Here are the device limitations known to exist in Version 0.314:

Table 3-15: Known Device Limitations in Version 0.314

Incident	Description
IPPAN-430	On rare occasions, after performing Restore to Default, the phone displays abnormal characters and the screen undergoes rotation.

3.6.3   Resolved Limitations in Version 0.314

3.6.3.1   Teams Application Limitations

Here are the Teams application limitations that have been resolved in Version 0.314:

Table 3-16: Resolved Teams Application Limitations in Version 0.314

Incident	Description
76437	The Teams application stops after attempting to report an issue from the 'Settings' menu. A newer Teams application available in Microsoft Admin Portal resolves the issue.
74598	Canceled meetings are displayed in the 'Meetings' tab of the meeting organizer's phone (AudioCodes issue IPPAN-414).
74508	The virtual keyboard does not launch automatically after touching the icon to make a call.
74448	The phone displays abnormal characters in the screen after calls end (AudioCodes issue IPPAN-383).
73366	The phone displays a message such as 'The device is currently not enrolled in Microsoft Intune' while the phone has been logged (AudioCodes issue IPPAN-339).

Incident	Description
73363	After a call ends, the phone sticks for more than five minutes on the screen that is displayed (AudioCodes issue IPPAN-300).
-	Home tabs (Calls / Meetings / Voicemail) on rare occasions do not load after the phone is restarted; only the thin lines between the keys are visible. Workaround: Restart the phone (again). If the workaround does not succeed, perform **Restore to defaults**.
-	The Teams application may sporadically crash. In most cases, the phone is automatically recovered from this state.
-	The phone on rare occasions displays the message 'Admin agent stopped'. The phone is automatically recovered from this state.
481509	The Teams application crashes if the user selects 'Emergency call' in the phone's locked screen.
461304	No notification is displayed in the phone's screen to admit the user in the lobby.
475217	After ending a call, the Teams application may crash if the device's Settings screen is displayed.
474138	The Teams application crashes after selecting 'Learn more' in the Sign-in screen.
455960	The Teams application takes a long time to connect and shows the call roster when accepting a group call.
454145	Performance issues need to be fixed and general improvements need to be made.
455965	The user's name is cut off and partially displayed when a group call comes in.
455989	The soft keypad does not disappear from the phone's screen after pressing the Call Park icon and then canceling

3.6.3.2 Device Limitations

Here are the limitations that have been resolved in Version 0.314:

Table 3-17: Resolved Limitations in Version 0.314

Incident	Description
IPPAN-533	Users cannot configure the phone's lock timeout to be less than the screensaver timeout; if they do, the phone is locked and the screensaver doesn't function correctly.
IPPAN-442	The user is not automatically signed out after more than five incorrect PIN attempts.
IPPAN-321	The reset configuration does not function flawlessly.
IPPAN-629	The phone rejects incoming calls when voicemail is active.
IPPAN-633	The audio channel should not be USB headset when the speaker LED is lit.
IPPAN-687	The Microsoft Intune app is not given Runtime permission. This may cause sign in issues.
IPPAN-616	The phone immediately self-locks if an unlock is performed for a third time.
IPPAN-770	When initiating a call by quickly pressing the hard keys (to dial) when the phone is in idle mode (i.e., without first activating the phone speaker), duplicated digits occur. For example, when quickly pressing 123**45**6, the output may be 123**44455**6.

3.7   Version 0.225

> **Note:** Version 0.256 includes Microsoft Teams Version 1.0.94.2018121201.

3.7.1   What's New in 0.225

This is the first version release of the C450HD IP phone for Microsoft Teams.

3.7.2   Known Limitations in Version 0.225

3.7.2.1   Teams Application Limitations

Here are the Teams application limitations known to exist in Version 0.225:

Table 3-18: Known Teams Application Limitations in Version 0.225

Incident	Description
76437	The Teams application stops after attempting to report an issue from the 'Settings' menu. A newer Teams application available in Microsoft Admin Portal resolves the issue.
74598	Canceled meetings are displayed in the 'Meetings' tab of the meeting organizer's phone (AudioCodes issue IPPAN-414).
74557	Meeting participant phones' Meetings screen: The response of the meeting organizer is sometimes displayed as 'No response'; at other times, it's displayed as the organizer's Meetings screen instead of the participant's Meetings screen (AudioCodes issue IPPAN-413).
74556	If a participant accepts an invitation to a meeting, the screen showing that they accepted the meeting is inconsistent with the screen displayed on the participant's phone (AudioCodes issue IPPAN-412).
74508	The virtual keyboard does not launch automatically after touching the icon to make a call.
74448	The phone displays abnormal characters in the screen after calls end (AudioCodes issue IPPAN-383).
74392	After pressing the hard speaker key on the phone to initiate a call and then pressing the hard **x** key or touching the ← softkey to terminate the action, the phone does not close the speaker.
73378	The voicemail counter is not updated with new voice messages (AudioCodes issue IPPAN-370).
73366	The phone displays a message such as 'The device is currently not enrolled in Microsoft Intune' while the phone has been logged (AudioCodes issue IPPAN-339).
73363	After a call ends, the phone sticks for more than five minutes on the screen that is displayed (AudioCodes issue IPPAN-300).
73318	[Voicemail] The user sometimes cannot play and pause voice messages (AudioCodes issue IPPAN-315).

*   This issue is planned to be fixed in the next version release.

3.7.2.2 Device Limitations

Here are the device limitations known to exist in Version 0.225:

Table 3-19: Known Device Limitations in Version 0.225

Incident	Description
IPPAN-430	On rare occasions, after performing Restore to Default, the phone displays abnormal characters and the screen undergoes rotation.
IPPAN-533	Users cannot configure the phone's lock timeout to be less than the screensaver timeout; if they do, the phone is locked and the screensaver doesn't function correctly.

4 Device Functions

The C450HD phone is delivered with its functions set to factory default settings. Customers can customize these function settings to suit enterprise requirements. The Settings screen, accessed from the hard MENU key on the phone or optionally via the item **Device Settings** in the Calls screen's ☰ menu, allows customers to perform customization.
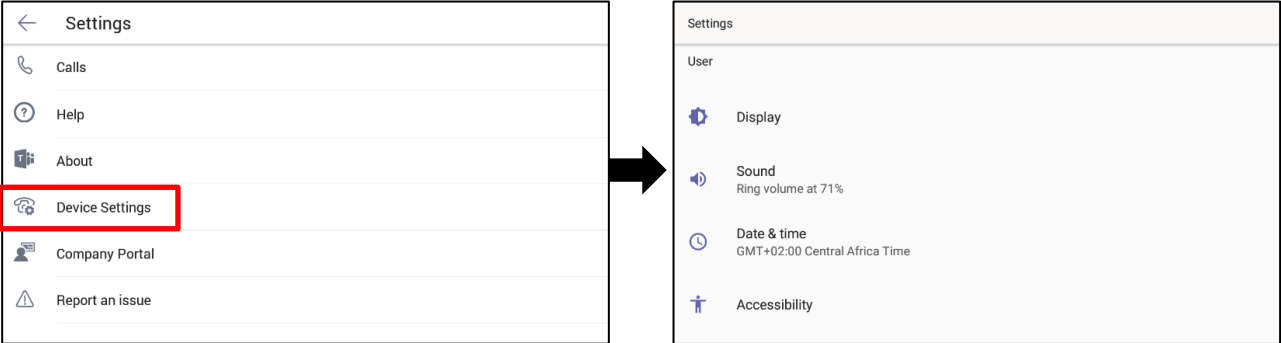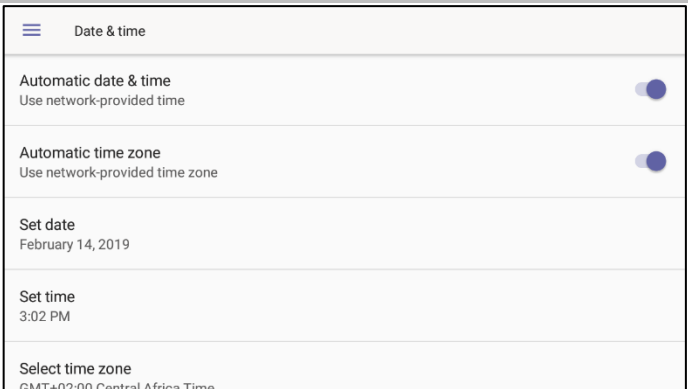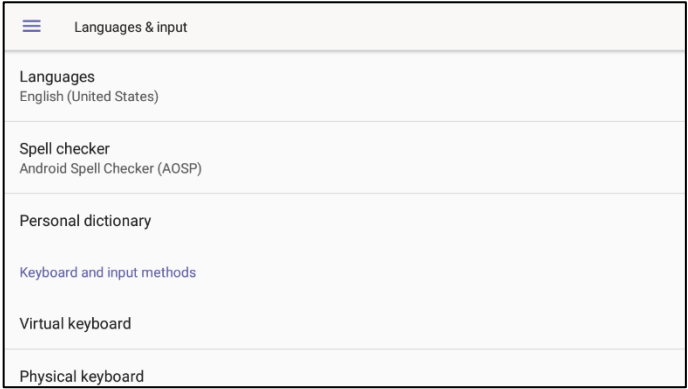
Table 4-1: Device Function Settings Descriptions
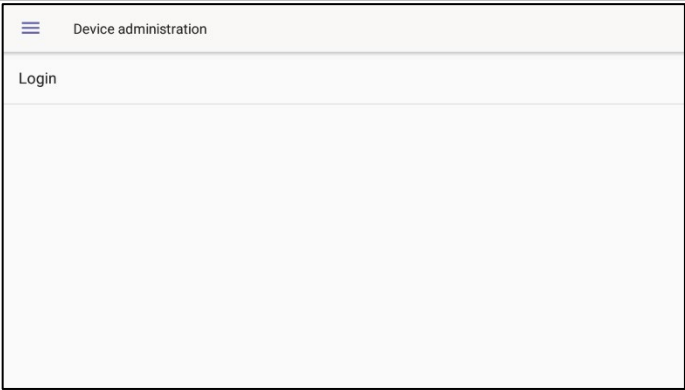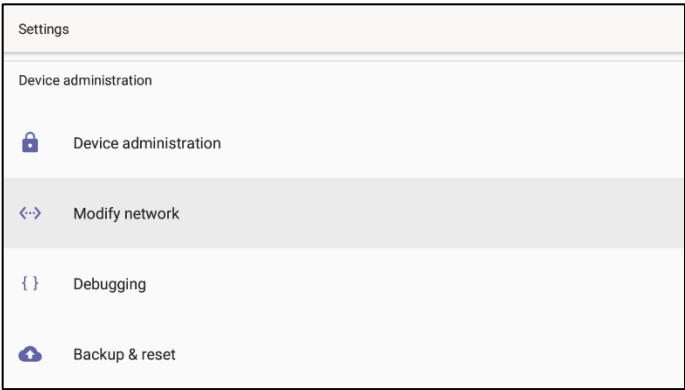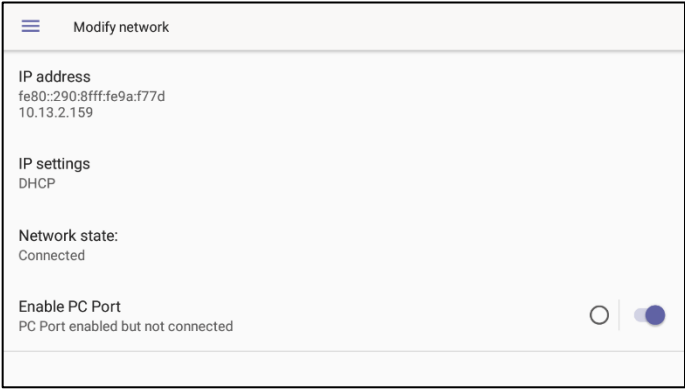
Setting	Description
Login to the Device as Regular User	
Display	Opens the 'Display' screen [Brightness level]. The phone's screen supports different brightness levels. Customers can choose the level that best suits requirements. • Sleep • Screen saver
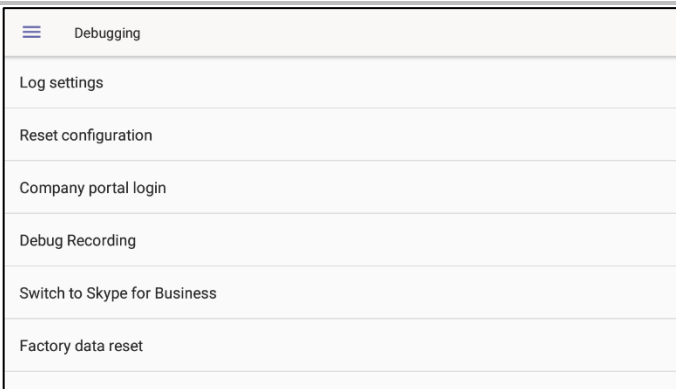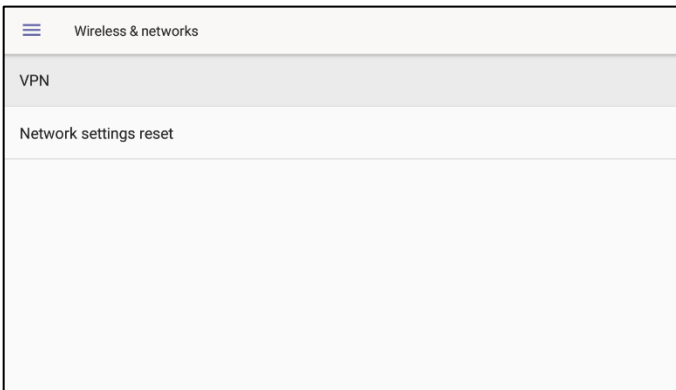
- Font size

Sound	Allows you to customize phone volume to create a friendlier user experience. **Ring volume at n%**
Date & time	Date and time are automatically retrieved from the deployed Network Time Protocol (NTP) server.

	• Use 24-hour format [Allows you to select the Time format]
Accessibility	Allows making the screen reader friendlier.
Power Saving	Allows users to contribute to power saving in the enterprise. • Enable power saving • Office hours start time [The device consumes minimal energy before the user arrives at the office] • Office hours end time [The device consumes minimal energy after the user leaves the office]
Debugging	Log in as Administrator (MENU key on the phone > Admin) for more debugging settings to be available. This 'Debugging' setting enables you to reboot the device.

	Debugging Reboot
Security	Helps secure the enterprise telephony network against breaches. Security Device security Screen lock None Passwords Make passwords visible Screen lock [The phone automatically locks after a configured period to secure it against unwanted use. If left untouched for 10 minutes (default), it automatically locks and is inaccessible to anyone who doesn't know its lock code.] • Make passwords available • Storage type • Trusted credentials • User credentials • Install from SD card • Clear credentials
Touch screen	Allows users to disable the phone's touch screen.
Languages & input	Allows users to customize inputting to suit personal requirements. Languages & input Languages English (United States) Spell checker Android Spell Checker (AOSP) Personal dictionary Keyboard and input methods Virtual keyboard Physical keyboard
About [Android 7.1.2]	Enables users to determine device information.

≡   Tablet status

Status

Legal information

Model
C450HD

Android version
7.1.2

Android security patch level
July 1, 2017

Version info

To determine the device's IP address, select the 'Status' option.

←   Status

IP address
fe80::290:8fff:fe9a:f77d
10.13.2.159

MAC address
00:90:8F:9A:F7:7D

Serial number
SC10155901

Up time
51:04:34

Login to the Device as Admin

Device administration	Allows the user to log in as Administrator. It is password protected. Default password: 1234. After logging in as an Administrator, the user can log out | change password.

Settings

🖐   Touch screen

🌐   Languages & input
        English (United States)

ⓘ   About
        Android 7.1.2

Device administration

🔒   Device administration

	Device administration Login 	
Modify network	Enables the Admin user to determine network information and to modify network settings. Settings Device administration 🔒 Device administration ‹·› Modify network { } Debugging ☁ Backup & reset ≡ Modify network IP address fe80::290:8fff:fe9a:f77d 10.13.2.159 IP settings DHCP Network state: Connected Enable PC Port PC Port enabled but not connected ○ ⬤ • IP Address [Read Only] • IP Settings [DHCP or Static IP] • Network state [Read Only] • Enable PC port	
Debugging	Allows the Admin user to perform debugging for troubleshooting purposes. Available after logging in as Admin.	

• Log settings
• Remote Logging
• Reset configuration
• Restart Teams App
• Company portal login
• Debug Recording (for Media/DSP debugging)
• Switch to Skype for Business
• Factory data reset (the equivalent of restore to defaults; including logout and device reboot).
• ADB (Disable/Enable) |
| Backup & Reset | Enables the Admin user to perform a factory data reset.

 |
| …. More | Enables the Admin user to access the Wireless & Networks screen.

The 'Network settings reset' options enables resetting all network settings including Wi-Fi and Bluetooth. |

4.1 Restoring Phones to Default Settings

Users can restore their phones to default factory settings at any time. The feature can be used if a user forgets their password, for example. Two kinds of restore are available:

- Hard restore
- Soft restore

4.1.1 Hard Restore

Users can perform a hard restore by long-pressing the HOLD key on the phone (more than 15 seconds). The user is then notified that the phone is being restored to its default settings.
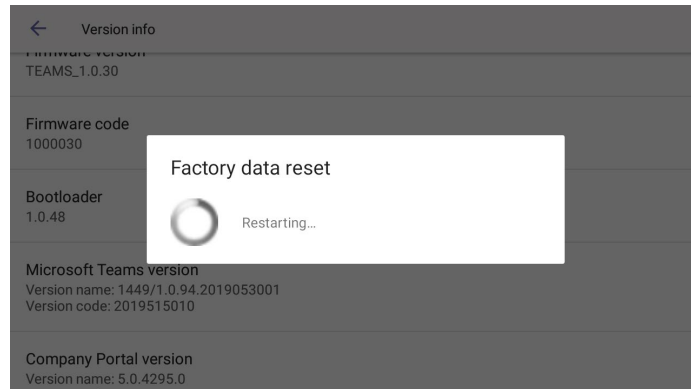
After the restore, the phone automatically reboots and goes through the Wizard and sign-in process.

4.1.2 Soft Restore

Users can perform a soft restore in the 'Debug' screen after logging in as Administrator. The user then presses the x key on the phone and in the device's Settings screen, selects the **Debug** option and then the **Factory data reset** option.

4.2 Upgrade of Phones whose Firmware is Version 0.124 - 0.150

Note: If your phone's firmware is *between* Version 0.124 and 0.150 inclusive, follow the instructions below. If it's *earlier* than Version 0.124, contact AudioCodes Support for assistance.

Network administrators can upgrade the C450HD phone whose firmware is Version 0.124 - Version 0.150 using the Microsoft Teams & Skype for Business Admin Center. Here's how:

1. In the Microsoft Teams & Skype for Business Admin Center, open the Manage Devices screen.
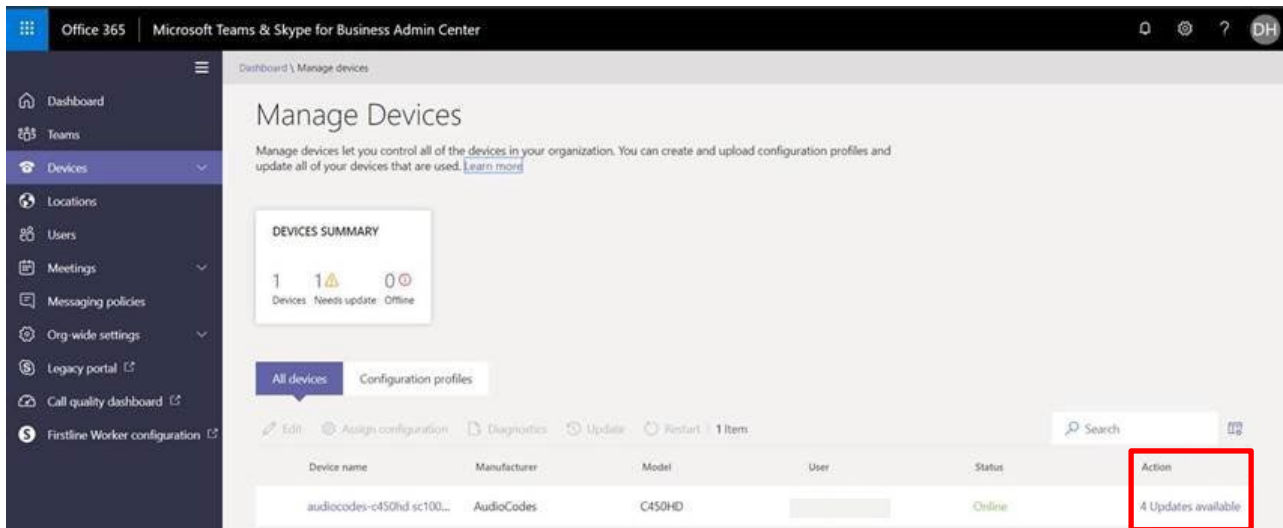
2. Under the **All devices** tab, double-click the updates link under the **Action** column.
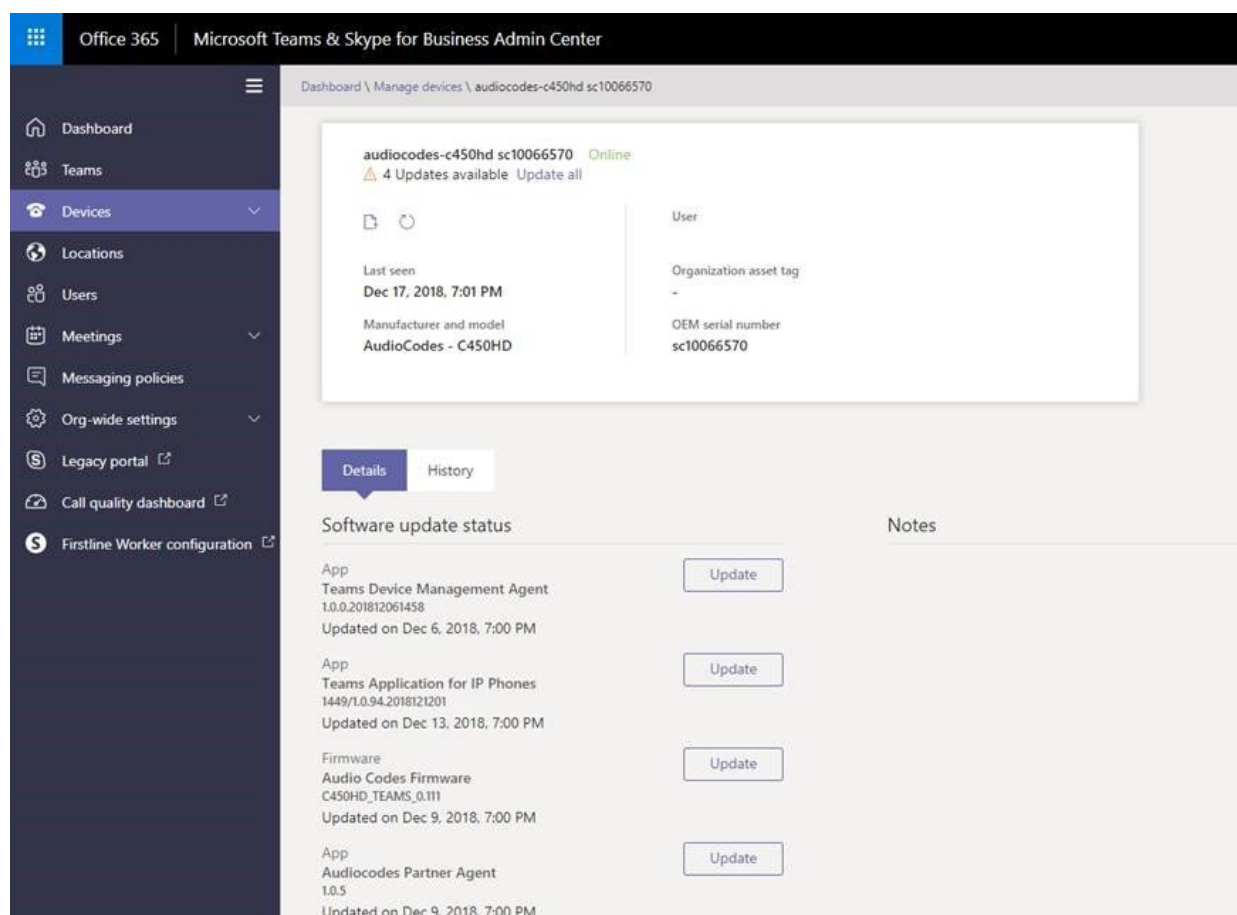
3. Select **Update** adjacent to AudioCodes Firmware and follow the instructions.

4. Verify the successful completion of the upgrade procedure from the C450HD phone's About screen (press the hard MENU key and scroll down to **About**).
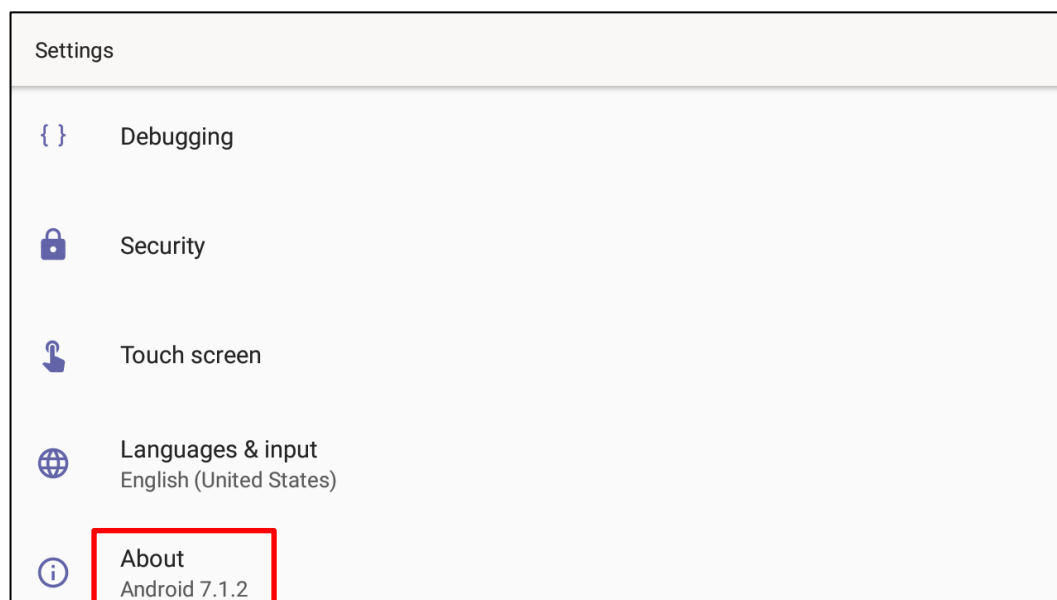
5. Touch the **About** option.

6. In the About screen, scroll down to **Version info**

☰ Tablet status
Legal information
Model C450HD
Android version 7.1.2
Android security patch level July 1, 2017
Version info

⚠️ **Note:** After upgrading firmware for phones whose firmware is between Version 0.124 and Version 0.150 inclusive, the upgrade may be displayed as failed in the Microsoft Teams & Skype for Business Admin Center. Touch **Version info** and confirm that the phone's **Firmware version** is upgraded to Version 0.158 and later. All future upgrades will be indicated as 'Completed'.

← Version info
Firmware version C450HD_TEAMS_0.281
Firmware code 281
Bootloader 1.0.43
Microsoft Teams version Version name: 1449/1.0.94.2019031201 Version code: 2019436010
Company Portal version

5   Teams Application Functions

Some of the Teams Application functions supported by the C450HD phone in this version are:

■ **Sign-in**

Sign-in must be performed before using the phone for security purposes. Sign-in can be performed with user credentials or using the user's PC/Smartphone. 'Modern Authentication' is also supported.

• **Signing-in with credentials**
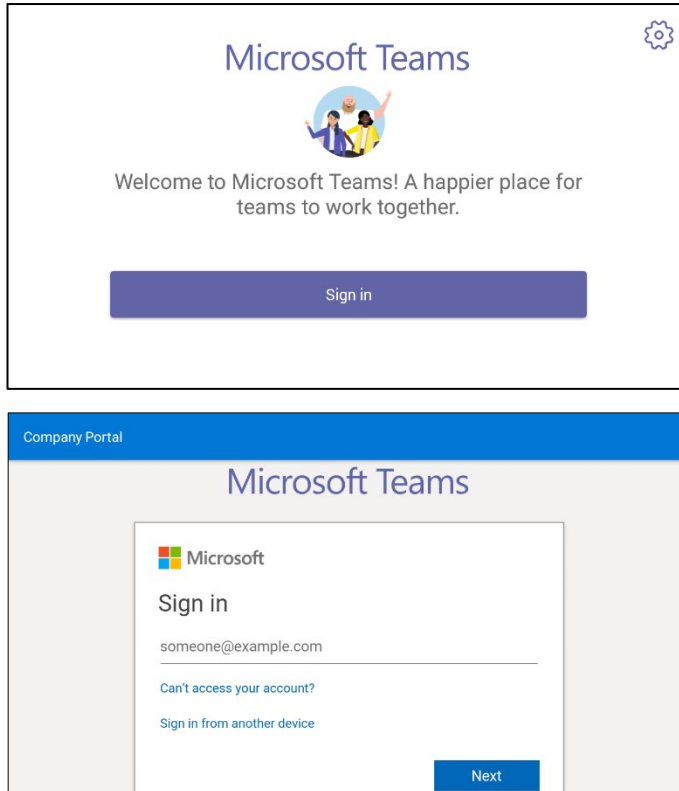
Note that after touching the sign in field, the keyboard in the sign-in screen that opens eclipses the sign-in field; users must scroll up to view the text displayed.

• **Signing-in via PC/smartphone**
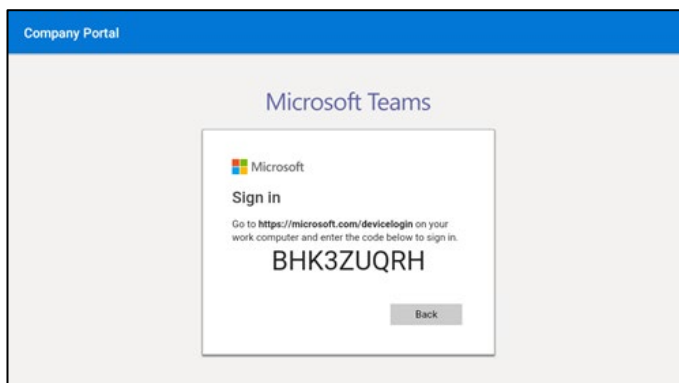
■ **Personal/shared mode**

After successful sign-in, the user can choose whether the device will be used for personal use or in a shared conference room.
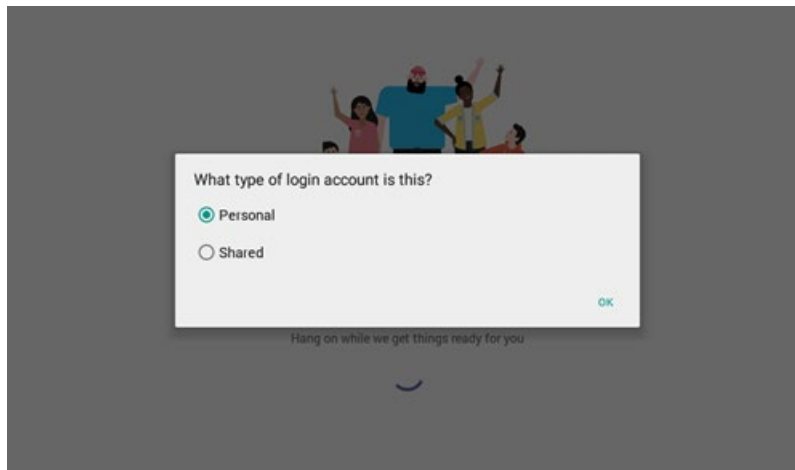
The user's experience is optimized based on their selection.

- **Personal mode**
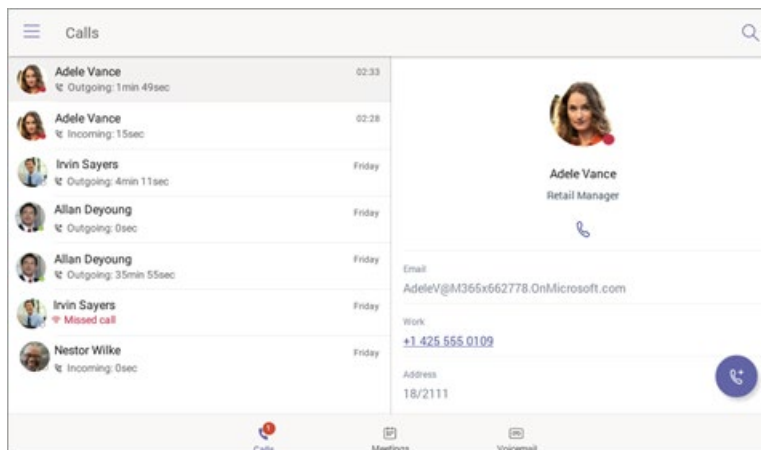
- **Shared mode**
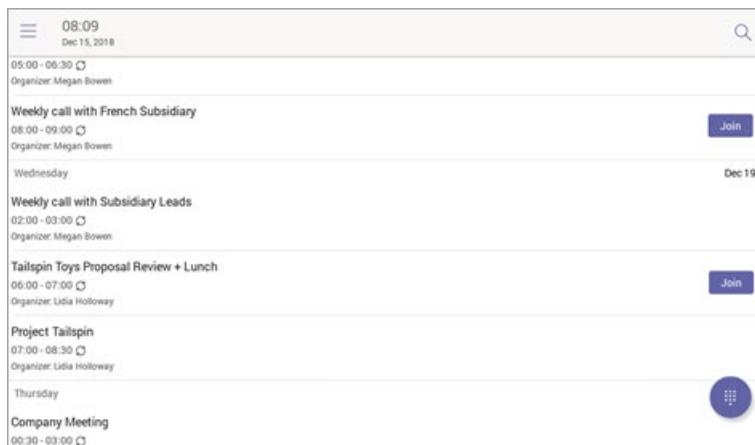
■ **Calling**

The user can lift the handset or press the speaker button to launch the dial pad on the calling screen. Alternatively, the user can use the hardware buttons (if available) to dial out a number.
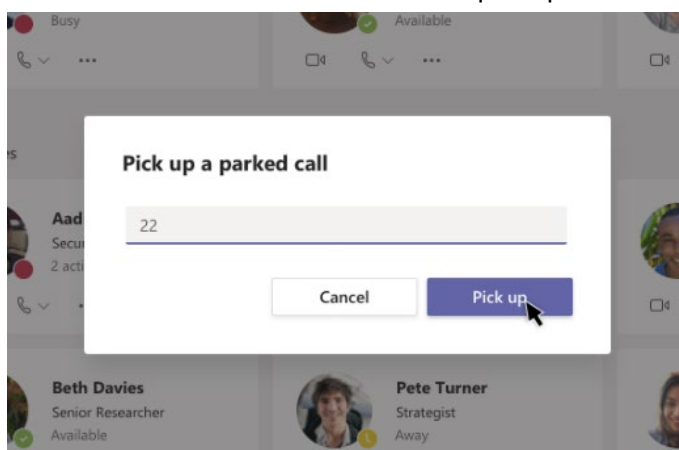
- **On-screen dial pad**
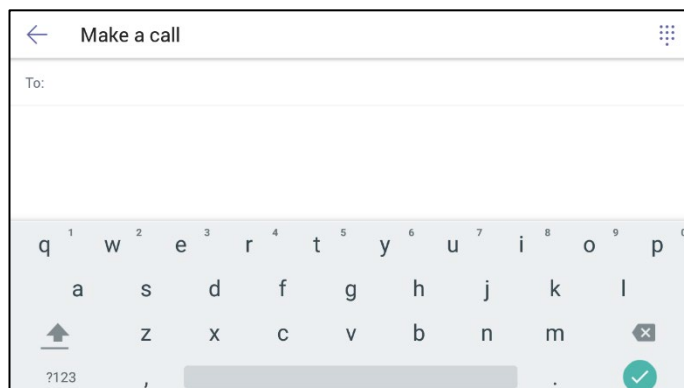

- **Calling screen**
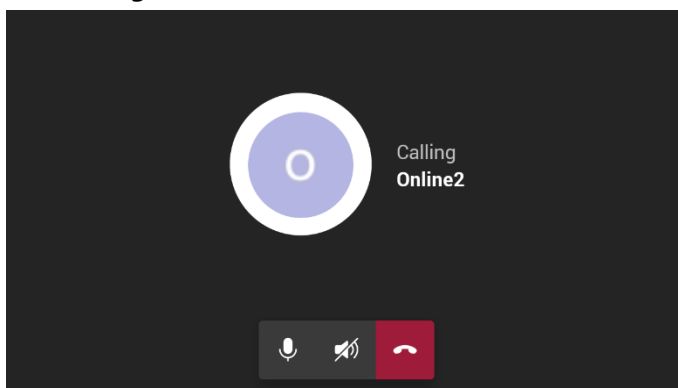
■ **Call Park**

A user can put a call on hold, park it, receive from the Teams application a unique code, communicate the code to another user who can touch a new **Call park** icon displayed in their phone's main Calls screen and then enter the code to pick up the call.

■ **Meeting**

The user can navigate to the Meetings tab to view their meetings and use the **Join** button to join their Teams meetings.
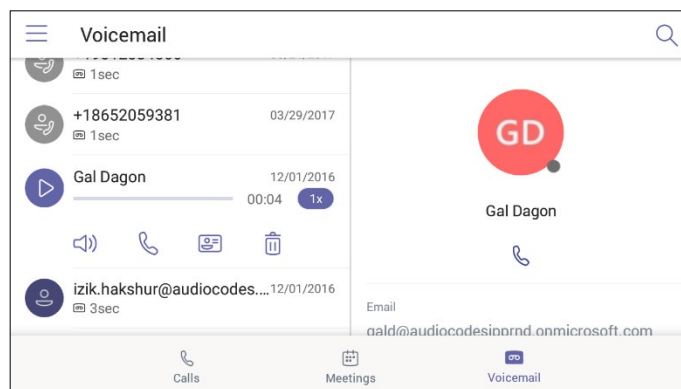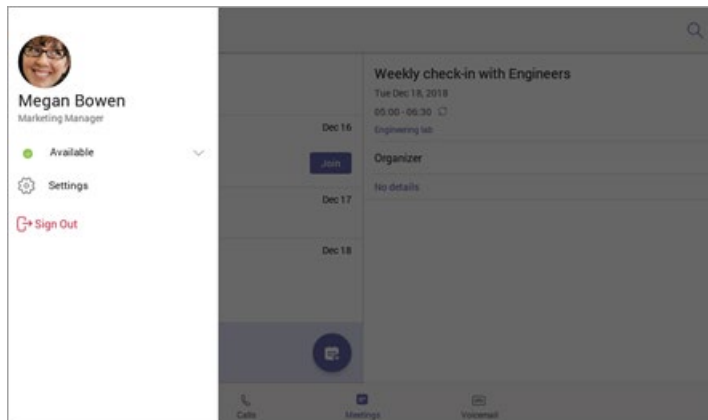
• **Meetings**
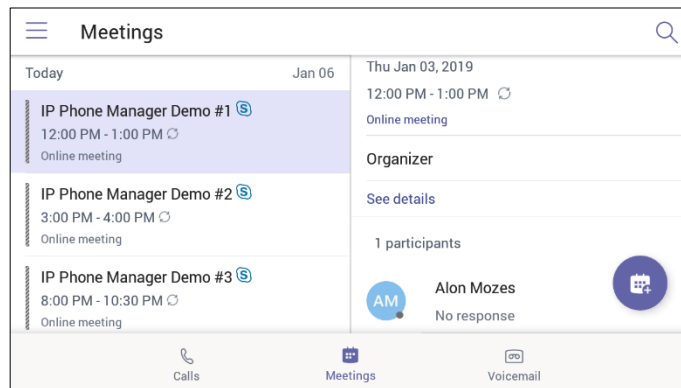
• **Calendar view**
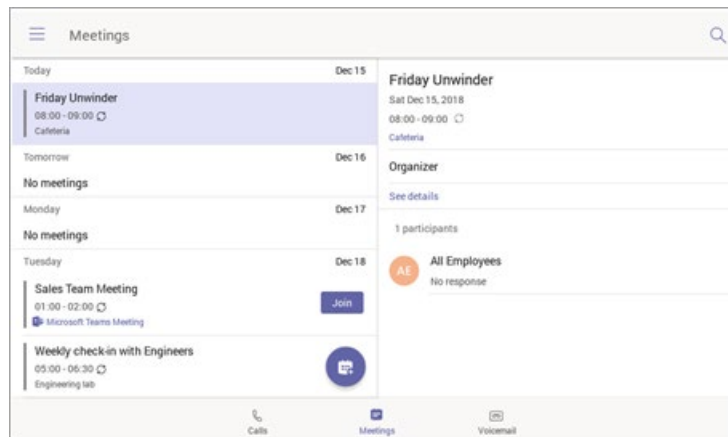
■ **Voicemail**

The user can access their voicemail when they navigate to the **Voicemail** tab.

■ **User sign-out**

The user can sign out of the phone.

International Headquarters

1 Hayarden Street,

Airport City

Lod 7019900, Israel

Tel: +972-3-976-4000

Fax: +972-3-976-4040

AudioCodes Inc.

200 Cottontail Lane

Suite A101E,

Somerset, NJ 08873

Tel: +1-732-469-0880

Fax: +1-732-469-2298

Contact us: https://www.audiocodes.com/corporate/offices-worldwide

Website: https://www.audiocodes.com/

Document #: LTRT-08464