

Train AV Training Room

Handover Pack Example

Demo handover packet example
Not for construction



SIMPLE
EASY TO USE



SMART
INTELLIGENT AV



RELIABLE
BUILT TO PERFORM



SUPPORT
WE'VE GOT YOU

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We're here to help.



www.trainav.co.uk

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SUPPORT



Common Issues & Troubleshooting

Microsoft teams Room

Use this guide to resolve common issues in your meeting room.

Your rooms equipment



Mtouch II



Smartvision 80



MCore 4
AI



Table
Microphone



Room
sensor



Tip: Try the simple checks first - most issues can be resolved in minutes



QUICK CHECKS - TRY THESE FIRST

1



Check Power

Ensure all devices are powered on and the display is on the correct input

2



Check cables

Check cables are secure at both ends (display, camera, microphone and console).

3



Check Network

Ensure the room has network connectivity. You can check this on the Mtouch Plus.

4



Restart Equipment

Restart the Mcore 4 AI PC from the Mtouch Plus (...> Restart System) If needed.

5



Check Mute

Ensure the table microphone is not muted (Led ring should be green)



COMMON ISSUES & WHAT YOU CAN DO

ISSUE	POSSIBLE CAUSE	WHAT YOU CAN DO	REQUIRED?
 No Image on display	- Display off or wrong input - Loose HDMI Cable - MCore 4 not started	- Check the display is on and select the right input. - Check HDMI cables are secure - Restart the MCore 4 from Mtouch Plus	If still no image, contact support
 Camera not working	- Privacy shutter closed - Camera cable loose - Software issue	- Ensure privacy shutter is open - Check camera cable is secure - Restart the system from Mtouch Plus	If camera still not working contact support
 No audio / can't hear others	- Volume too low /muted - Incorrect audio device - Network issue	- Check the volume on the Mtouch Plus - Ensure the table microphone is not muted (LED should be green) - Check network connection	If issue continues contact support
 Others can't hear you	- Microphone muted - Table mic disconnected - Wrong audio device	- Ensure the table microphone is not muted - Check microphone cable connection - Check audio device settings in Teams	If issue continues contact support
 Teams meeting won't join	- Network / internet issue - Meeting link invalid - Teams service issue	- Check network connectivity - Check meeting link or rejoin from calendar - Wait a few minutes and try again	If still unable to join contact support
 Room too hot or cold alerts	- Environmental out of range - Sensor reading	- Check room conditions - Ensure vents are blocked - Allow time for conditions to normalise	If alert persists contact support



NEED FURTHER HELP?

Train AV Support
01425 563719

SUPPORT HOURS



MON TO FRI
08:30 TO 17:30



ENGINEER RESPONSE
WITHIN 4 WORKING HOURS

HOW TO RAISE A SUPPORT REQUEST

We're here to help.

Follow these simple steps to log a support request with Train AV



Before raising a request

Check cables, power and connections. If the issue continues, please raise a support request

STEPS TO RAISE A SUPPORT REQUEST



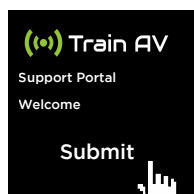
Go to Train AV Support Portal



Open your browser and go to support.trainav.co.uk



Click 'Submit a Request'



Click the green 'Submit a Request' button



Fill in Your Details

Your Name
Joe Bloggs
Email Address
Joe.Bloggs@act.com
Company
Act Example

Complete all fields so we can contact you



Describe the issue

Issue Summary
No image on display
Description
The room powers on but the display shows no image. We have checked the HDMI cable

Provide as much detail as possible including what you were doing and what have you tried



Add Photos (If needed)

Drag and drop files or click to upload
JPEG, PNG, MP4 and PDF

Attach photos or screenshots to help our team understand the issue faster



Review & Submit

Summary
No image on display
Category
Technical Issue
Priority
Medium

Submit

Check the details and submit.



Request Submitted

You will receive an email confirmation with your ticket number. A member of our team will respond as soon as possible



INCLUDE THIS INFORMATION



ROOM / LOCATION

Where is the issue occurring?



EQUIPMENT EFFECTED

Which device(s) are affected?



WHAT'S HAPPENING?

Describe the symptoms clearly



WHAT HAVE YOU TRIED?

Let us know the steps you have already taken.



PHOTOS / SCREENSHOTS

Attach any images that may help

SUPPORT INFORMATION



Phone Support

01425 563719

Mon - Fri 08:30 - 17:30



Email Support

trainme@trainav.co.uk

We aim to respond within 1 working hour during business hours



Engineer Support

Within 4 working hours

for critical room-impacting faults



Thank you for using Train AV

We are committed to keeping your AV systems working perfectly

trainav.co.uk

Contacts

Mike Lammas - Account Manager

1

Mike is your account manager, and has been working in the industry for 20 years. Mike will oversee your entire account

 +44 7718 592700

 mike@trainav.co.uk

Katherine French - Project Manager

2

Katherine has been a project manager for 10 years. Katherine will look after a managing of your project installations.

 01425 563719

 katherin@trainav.co.uk

Ron Hearing - Support Manager

3

Ron has worked in the industry for 30 years, starting his career as an engineer, before helping to develop the support department. Ron will oversee all support tickets

 01425 563719

 ron@trainav.co.uk

Support Team

4

The support team will initial handle any support tickets raised

 01425 563719

 support@trainav.co.uk

Raising a support ticket online

5

 www.trainav.co.uk/support



SERVICE CONTRACT

Service Level Agreement

AV Room Support and Managed Assistance

FICTIONAL EXAMPLE ONLY - This document is a sample SLA and signed contract example for demonstration purposes. It is not a live agreement, legal advice, or an offer to supply services.

Item	Example Detail
Supplier	Train AV Ltd
Example Customer	Example Client Organisation Ltd
Room / Area	Training Room
Service Term	12 months
Support Hours	Monday to Friday, 08:30 to 17:30, excluding UK public holidays
Engineer Response	Within 4 working hours for critical room-impacting faults
Example Annual Cost	£4,800 + VAT per annum

1. Purpose

This fictional Service Level Agreement sets out an example support arrangement for Train AV Ltd to look after the audio visual equipment within a training room. The intention is to demonstrate the type of document that could sit within a Train AV handover pack.

This example is written for demonstration only and should be reviewed, amended and approved by appropriate commercial and legal representatives before being used as a real contract.

2. Equipment Covered

The agreement covers all AV equipment within the room, including but not limited to displays, video conferencing equipment, cameras, microphones, speakers, touch panels, control systems, room booking panels, signal extenders, associated cabling and AV peripherals.

Area	Example Support Scope
Displays and visual equipment	Operational support, first-line fault guidance and escalation recommendations
Video conferencing equipment	Support for room camera, audio and meeting-room appliance behaviour
Audio systems	Support for microphones, speakers, audio routing and user-reported sound issues
Control interfaces	Support for touch panels, room control workflows and user guidance
Connectivity	Support for BYOD, HDMI, USB-C and room connection points
Documentation	Maintained handover notes, basic first-check guidance and user support material

3. Support Hours and Contact Method

Telephone support is available Monday to Friday between 08:30 and 17:30, excluding UK public holidays.

Support requests may be raised by authorised customer contacts. Train AV will record the issue, provide first-line guidance and determine whether an engineer response is required.

4. Service Levels

Priority	Example Criteria	Telephone Response	Engineer Response
Critical	Room unusable for planned session, display failure, meeting system failure or no audio/video	Telephone triage as soon as reasonably possible during support hours	Engineer response within 4 working hours
High	Room usable with reduced functionality or workaround available	Same working day telephone response	Engineer response by next working day where required
Standard	User query, minor fault, documentation	Within 1 working day	Scheduled response if

5. Engineer Response

For critical room-impacting faults, Train AV will provide an engineer response within 4 working hours during the defined support hours. Engineer response may include remote diagnostics, telephone-guided checks, scheduled onsite attendance or coordination with the customer and relevant third parties.

Where hardware replacement, manufacturer support or third-party intervention is required, Train AV will advise the customer of the recommended next step. Any chargeable works outside this example SLA would require separate approval.

6. Included Services

- Telephone support for authorised contacts during support hours.
- Remote fault triage and practical first-check guidance.
- Incident logging and status communication.
- Engineer response for critical faults within the stated response level.
- Quarterly review of recurring issues and recommendations.
- Maintenance of simple room support notes for inclusion in the handover pack.

7. Exclusions

- Replacement hardware, software licences, manufacturer subscriptions or warranty uplift costs.
- Faults caused by misuse, accidental damage, theft, environmental damage or unauthorised changes.
- Network, firewall, Microsoft 365 tenant, platform account or building infrastructure issues outside Train AV control.
- Out-of-hours support unless separately agreed.
- Major system redesign, upgrade works or new installation activity.

8. Customer Responsibilities

The customer will provide reasonable access to the room, nominated support contacts, safe working conditions and relevant system information where required. The customer is responsible for ensuring suitable network connectivity, power, licences and third-party service availability.

9. Reporting and Review

Train AV will provide a simple incident summary on request and will review recurring issues quarterly. The purpose of the review is to identify user guidance improvements, recommended preventative actions and any changes that could reduce future support calls.

10. Fictional Commercial

I Schedule

Commercial Item	Fictional Example Detail
Service	AV Room Support SLA - Training Room
Contract Term	12 months
Annual Example Cost	£4,800 + VAT
Payment Terms	Annual in advance
Start Date	1 September 2026
End Date	31 August 2027

The commercial figures, dates, customer details and signatures in this document are fictional and included for example purposes only.

11. Fictional Signed Contract Example

By signing below, the fictional parties acknowledge the example service scope, response levels and annual charge shown in this sample agreement. This signature page is included to demonstrate how a signed SLA could be presented in a handover pack.

For Train AV Ltd	For Example Client Organisation Ltd
Name: Mike Lammas	Name: Alex Morgan
Position: Managing Director	Position: Facilities Manager
Signature: M. Lammas	Signature: A. Morgan
Date: 06/08/2026	Date: 06/08/2026
Contract Value: £4,800 + VAT per annum	Contract Value Accepted: £4,800 + VAT per annum

12. Example Acceptance Statement

This fictional agreement is marked as an example only. It should not be relied upon as a legal contract. Any real Train AV service agreement should include accurate site details, agreed commercial terms, approved exclusions, insurance requirements, data protection clauses and legally reviewed terms and conditions.



MANUFACTURERS DOCUMENTATION



Yealink Microsoft Teams Rooms on Windows Setup Guide with Microsoft Configuration Platforms

About This Guide

This guide introduces how to set up Microsoft Teams Rooms on Windows (MTRoW) devices using the Microsoft configuration platform, including [Teams admin center](#), [Microsoft 365 admin center](#), [Microsoft Endpoint Manager admin center](#), and [Azure Active Directory admin center](#).

The MTRoW devices include:

MTRoW	Included Devices
MVC960	2 x UVC86
	MCore Pro
	MTouch II
	AVHub
MVC940	2 x UVC84
	MCore Pro
	MTouch II
	AVHub
MVC860	UVC86
	MCore Pro
	MTouch II
MVC840	UVC84
	MCore Pro
	MTouch II
MVC660	UVC86
	MCore Pro
	MTouch II
	MSpeech

MVC640	UVC84
	MCore Pro
	MTouch II
	MSpeech
MVC400	UVC40
	MCore Pro
	MTouch II
MVC320	UVC30 Room
	MCore Pro
	MTouch II
	MSpeech

Overview of Setting Up MTRoW

Steps	Introduction
1	Plan the license you need Create a user account Assign the corresponding licenses to users.
2	Sign in to the resource account
3	Manage devices on the Teams admin center.
6	Enroll devices on Intune Push apps from Intune to Windows devices Manage Device Compliance and Conditional Access Check the compliance status Check the sign-in logs
7	Troubleshooting: Export Windows management log files Export Company Portal App logs Export all MTRoW device logs Teams account sign-in failure Intune Enrollment failure Rooted device

Users & Licenses

Understand License Types

💡 The apps or services will be included in the [Microsoft cloud-based suite for Office 365 and Microsoft 365](#). You can go to **Billing > Purchase services** on the [Microsoft 365 admin center](#) to buy licenses.

The license takes into effect **10** minutes after your assignment or modification.

If you need other license types, please see [Microsoft Teams add-on licenses](#) or contact Microsoft.

Features you need	Services or apps you need
Sign in to Teams	Ensure that the selected license (e.g., the Common Area Phone) includes the Microsoft Teams app. Apps (6)  Show apps for: All licenses ☒ Select all ☒ Azure Active Directory Premium P1 Common Area Phone ☒ Exchange Online (Plan 2) Common Area Phone ☒ Microsoft 365 Phone System Common Area Phone ☒ Microsoft Intune Common Area Phone ☒ Microsoft Teams Common Area Phone ☒ Skype for Business Online (Plan 2) Common Area Phone
Intune (manage device and apply policies on Intune)	Ensure that the selected license (e.g., Microsoft 365 E3) includes the Microsoft Intune app.

	☒ Microsoft Defender for Endpoint Plan 1 Microsoft 365 E3 ☒ Microsoft Forms (Plan E3) Microsoft 365 E3 ☒ Microsoft Intune Microsoft 365 E3 ☒ Microsoft Kaizala Pro Microsoft 365 E3
Whiteboard	Ensure that the selected license (e.g., the Microsoft Teams Room Standard) includes the Microsoft 365 Phone System app. Show apps for: All licenses ☒ Select all ☒ Microsoft 365 Audio Conferencing Microsoft Teams Rooms Basic ☒ Microsoft Teams Microsoft Teams Rooms Basic ☒ Whiteboard (Plan 3) Microsoft Teams Rooms Basic
PSTN	1. Microsoft Teams Domestic or Domestic and International Calling Plan ☐ Microsoft Stream Trial Unlimited licenses available ☒ Microsoft Teams Domestic Calling Plan 0 of 42 licenses available ☐ Microsoft Teams Domestic and International Calling Plan You're out of licenses. If you turn this on, we'll try to buy an additional license for you. ☐ Microsoft Teams Exploratory 3 of 500 licenses available 2. Ensure that the selected license (e.g., the Office 365 E5 without Audio Conferencing) includes the Microsoft 365 Phone System app.

	☒ Microsoft 365 Apps for Enterprise Office 365 E5 without Audio Conferencing ☒ Microsoft 365 Communication Compliance Office 365 E5 without Audio Conferencing ☒ Microsoft 365 Defender Office 365 E5 without Audio Conferencing ☒ Microsoft 365 Phone System Office 365 E5 without Audio Conferencing ☒ Microsoft Bookings Office 365 E5 without Audio Conferencing ☒ Microsoft Communications DLP Office 365 E5 without Audio Conferencing Note: You need follow-up configuration to set up the PSNT feature.
Calendar feature	Ensure that the selected license (e.g., the Common Area Phone) includes the Exchange Online app. Apps (6) ^ Show apps for: All licenses ☒ Select all ☒ Azure Active Directory Premium P1 Common Area Phone ☒ Exchange Online (Plan 2) Common Area Phone ☒ Microsoft 365 Phone System Common Area Phone ☒ Microsoft Intune Common Area Phone ☒ Microsoft Teams Common Area Phone ☒ Skype for Business Online (Plan 2) Common Area Phone

Create a Microsoft Resource Account

1. Sign in to the [Microsoft 365 admin center](#) as an administrator.
2. Expand **Resources** and select **Rooms & equipment** > **Add resource**.

3. Set the resource parameters and click **Save**.



Add resource

Create a mailbox for things like a conference room, company car, or equipment that everyone needs to use, so that those resources are reservable.

[Learn more about resource types](#)

Resource type

Room

Name *

Demo room

The resource name appears in the address book, and in the To and From lines in meeting invitations and responses.

Email *

Demoroom

Domains

@ yealink7.onmicrosoft.com

The email address is used to send meeting invitations to the resource.

Capacity

10

The number of people who can fit in the room or use the equipment at the same time.

Location

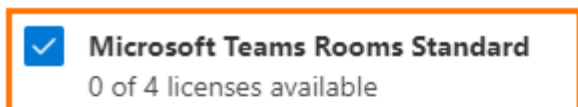
Phone number

Save

Assign Licenses to the Resource Account

Different features require different licenses. Therefore, you need to assign the corresponding licenses to the resource account.

1. Sign in to the [Microsoft 365 admin center](#) as an administrator.
2. Expand **Users** and select **Active users**.
3. Click the resource account you create and select **Licenses and apps**.
4. Assign the Microsoft Teams Room Standard for the user and click **Save changes**.



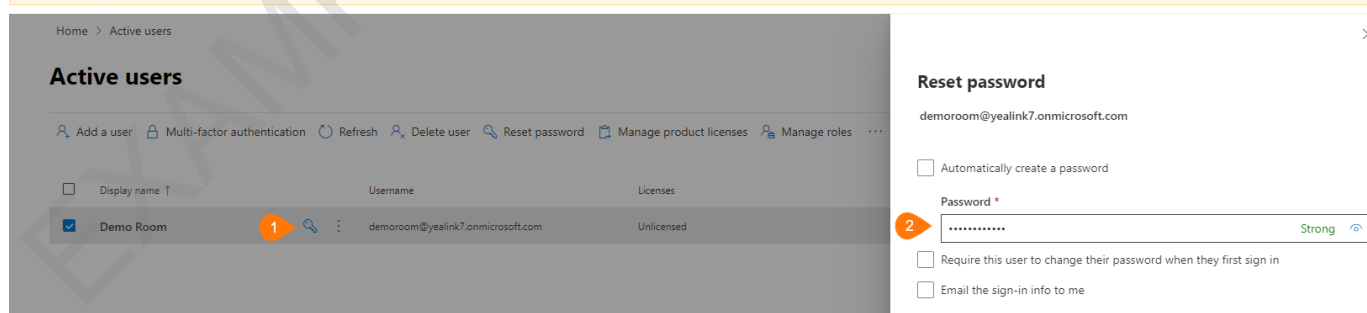
- ☒ **Microsoft Teams Rooms Standard**
0 of 4 licenses available
- ☐ **Office 365 E1**
50 of 215 licenses available
- ☐ **Office 365 E5 without Audio Conferencing**
11 of 135 licenses available
- ☐ **Power BI (free)**
Unlimited licenses available
- ☐ **Windows 10/11 Enterprise E5**
99 of 100 licenses available

Change Account Password

You can change the default password randomly generated by Microsoft to the desired one.

1. Sign in to the [Microsoft 365 admin center](#) as an administrator.
2. Expand **Users** and select **Active users**.
3. Find the resource account you created and click the key to reset the password.

💡 Leave the **Require this user to change their password when they first sign in** unchecked.



Optional: Assign a Location to the Resource Account

If you want to bind the resource account to a physical meeting room, you can assign the physical meeting room to the resource account. Therefore, when users schedule a meeting, they can select to hold the meeting in the meeting room instead of inviting the resource account.

1. Run PowerShell as an administrator.
2. Run the following commands to connect to Exchange Online session.

```
$LiveCred = Get-Credential $Session = New-PSSession -ConfigurationName  
Microsoft.Exchange -ConnectionUri https://ps.outlook.com/powershell/ -Credential  
$LiveCred -Authentication Basic -AllowRedirection Import-PSSession $Session
```

3. Run the following commands to create a meeting list. If you have one, you can skip this step.

💡 “MS TEAMS meeting room” is a custom option used to host resource accounts.

```
New-DistributionGroup -Name “MS TEAMS meeting room” -Roomlist
```

4. Run the following commands to add the created resource account mailbox to the room list.

💡 The room list name should be enclosed in quotation marks.

```
Add-DistributionGroupMember -Identity “MS TEAMS meeting room” -Member  
demoroom@yealink7.onmicrosoft.com
```

5. When you create a new meeting in Teams client, you can find the meeting room in **Add location** field.

New meeting Details Scheduling Assistant

Show as: Busy Category: None Time zone: (UTC+08:00) Beijing, Chongqing, Hong Kong, Urumqi Response options Require registration: None

Add title

Add required attendees + Optional

10/14/2022 3:00 PM → 10/14/2022 3:30 PM 30m All day

Does not repeat

Add channel

Add location

Online meeting ☒

- MS Mole Site
- MS Teams meeting room**
- test
- VCS Team Room
- Yealink_Company room

Sign In to the Resource Account

After you sign in to the resource account, you can manage the device on the Teams admin center.

1. On your Microsoft Teams Room devices, run the setup wizard or click **More > Settings > Account**.
2. On the **Account** tab, enter the account username and password.

Setup

App version 4.11.17.0 Windows version 10.0.19042.631 Provisioning version 15

EULA

Account

Cortana

Advanced

Finish

Email

demoroom@yealink7.onmicrosoft.com

Password

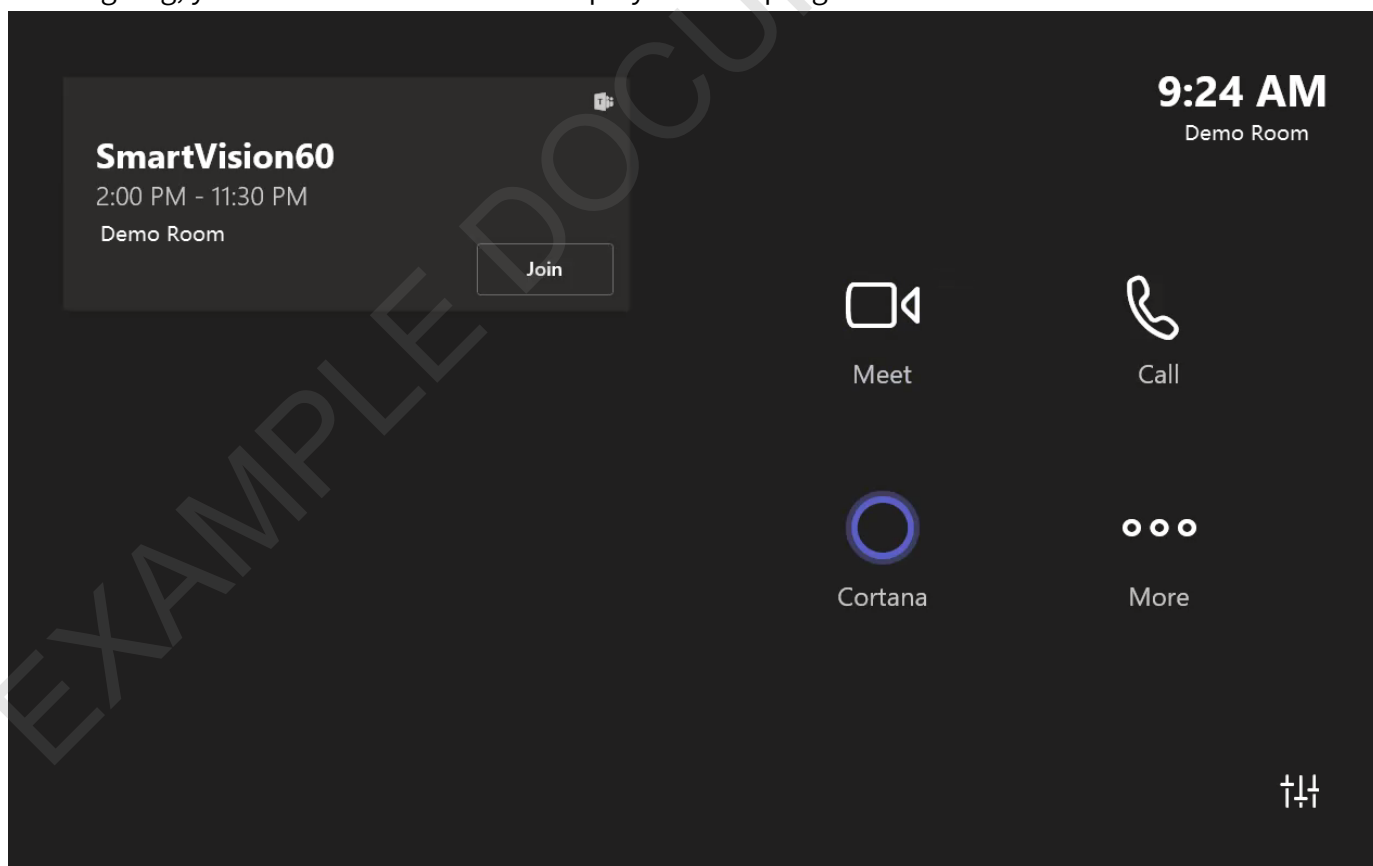
Supported meeting mode

Microsoft Teams only

Modern Authentication

Back Next

4. After signing, you can see the username display in the top-right corner:



Manage Devices on Teams Admin Center

After users sign in to Teams accounts on their devices, the devices are connected to the Teams admin

center. You can manage them, for example, by downloading device logs.

Download Device Logs

You can download a copy of a device's diagnostic log files if requested to do so by Microsoft support.

1. Sign in to the [Microsoft Teams admin center](#) as an admin.
2. Go to **Teams Devices > Teams Rooms on Windows**.
3. Click the display name of the device from which you want to download logs.
4. Select **Download device logs**. It can take several minutes for device logs to become available.
5. Select the **History** tab, then click **Download** to download the log file under the **Diagnostics file** column.
6. If the diagnostic log files are available to download, the status will change to "Successful".

Health

Details

Activity

History

History

Search

✓	Action	Status	Scheduled at	Modified on	Diagnostics file	Initiated by
	DeviceDiagnostics	Successful	-	Sep 19, 2022, 6:59 PM	Download	Peter Parker

Restart Devices

You can directly restart devices on the Teams admin center.

1. Sign in to the [Microsoft Teams admin center](#) as an admin.
2. Go to **Teams Devices > Teams Rooms on Windows**.
3. Select one or more devices, and click **Update**.
4. The device will restart automatically and immediately.

Remove Devices from Teams Admin Center

When you remove a device, all the associated data will be removed. Any user or resource accounts must be signed out of any device before it's removed. If this is the only device the account is used for, delete it from the [Microsoft 365 admin center](#).

1. Sign in to the [Microsoft Teams admin center](#) as an admin.
2. Go to **Teams Devices > Teams Rooms on Windows**.
3. Select one or more devices, and click **Remove**.

Manage Windows Devices on Intune

Enroll Devices on Intune

Step 1 - Enrollment Prerequisites

Before enrolling devices on Intune for management, licenses should have already been assigned to the accounts.

Related topics:

- Understand license types
- Assign licenses to Users

Step 2 - Enable Windows Automatic Enrollment

Automatic enrollment lets users enroll their Windows devices in Intune. To enroll, users add their work account to their personally owned devices or join corporate-owned devices to Azure Active Directory. In the background, the device registers and joins Azure Active Directory. Once registered, the device is managed with Intune.

1. Sign in to the [Azure Active Directory admin center](#) as an admin.
2. Go to **Azure Active Directory > Mobility (MDM and MAM) > Microsoft Intune**.
3. Configure **MDM User scope** to specify which users' devices should be managed by Microsoft Intune. These Windows 10 devices can automatically enroll for management with Microsoft Intune.

Azure Active Directory admin center

Dashboard > Yealink | Mobility (MDM and MAM) >

Configure

Microsoft Intune

Save Discard Delete

MDM user scope ① None Some **All**

MDM terms of use URL ① ✓

MDM discovery URL ① ✓

MDM compliance URL ① ✓

[Restore default MDM URLs](#)

MAM user scope ① None Some **All**

MAM terms of use URL ① ✓

MAM discovery URL ① ✓

MAM compliance URL ① ✓

[Restore default MAM URLs](#)

4. Use the default values for the following URLs:

- MDM Terms of use URL
- MDM Discovery URL
- MDM Compliance URL

5. Select **Save**.

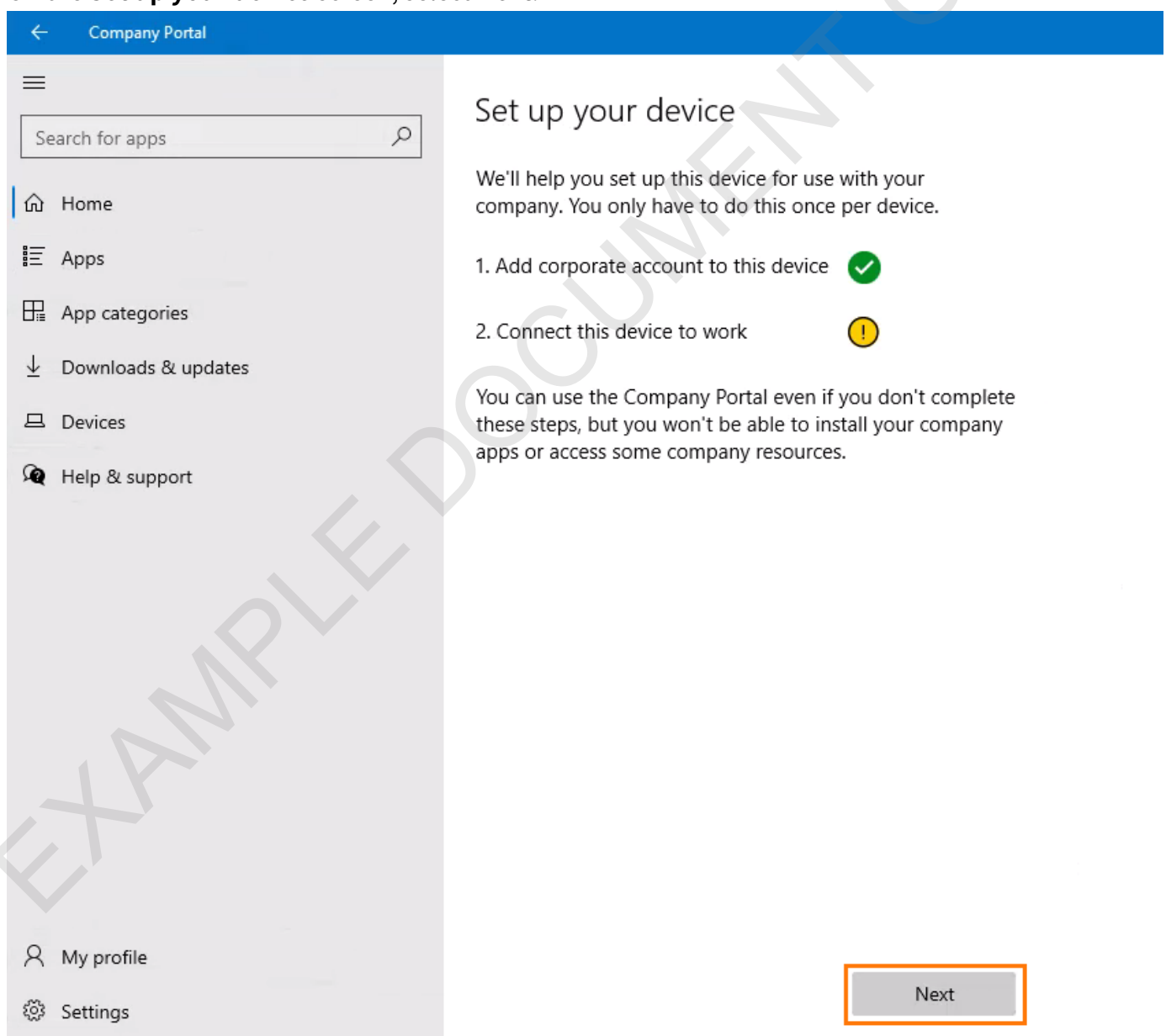
Step 3 - Enroll Windows 10 Devices in Intune

Generally, if you assign the Intune license to users, you can enroll Windows 10 devices through the Intune Company Portal website or app. To access Company Portal:

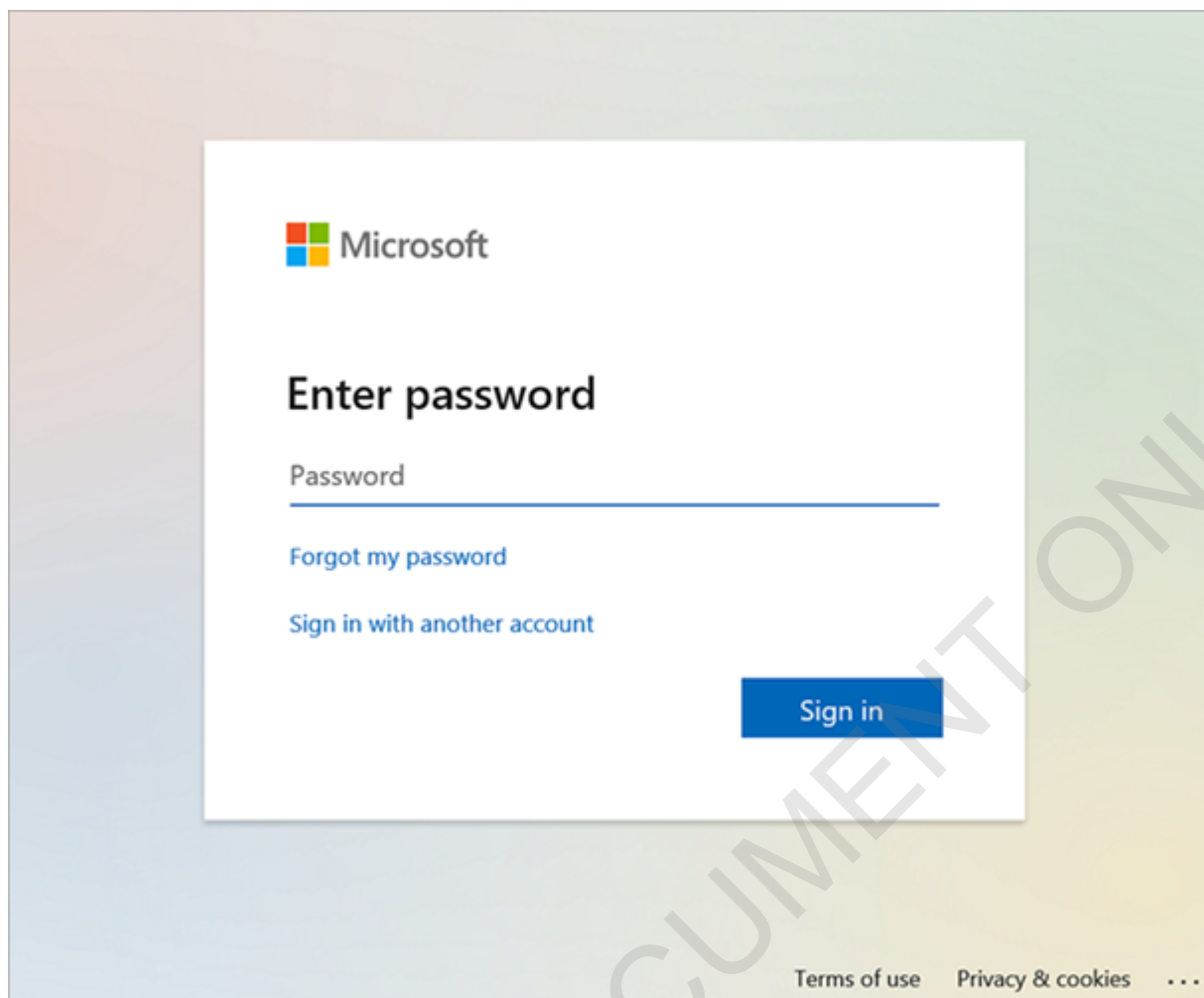
- Install the app from the [Microsoft App Store](#).
- [Sign in to the Company Portal website](#) with your work or school credentials.

💡 The actual sign-in process might be a little different from the one described below.

1. Open Company Portal and sign in with the user account.
2. On the **Set up your device** screen, select **Next**.

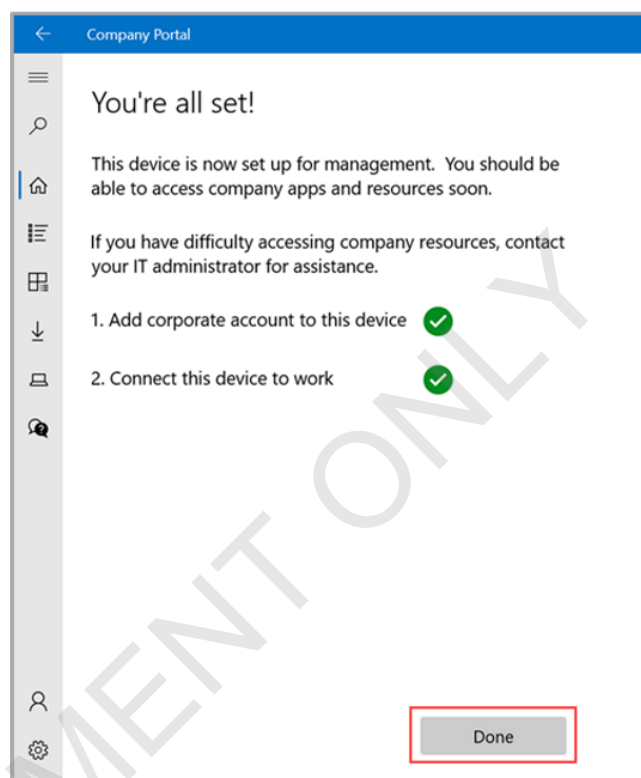
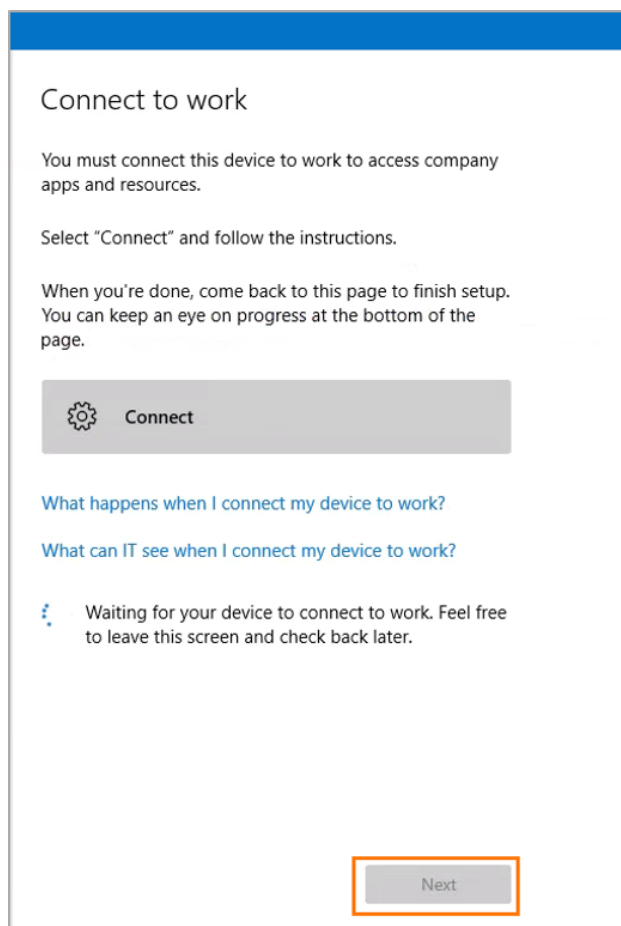


3. On the **Connect to work** screen, select **Connect**.
4. When prompted to, sign in with your work or school account again.

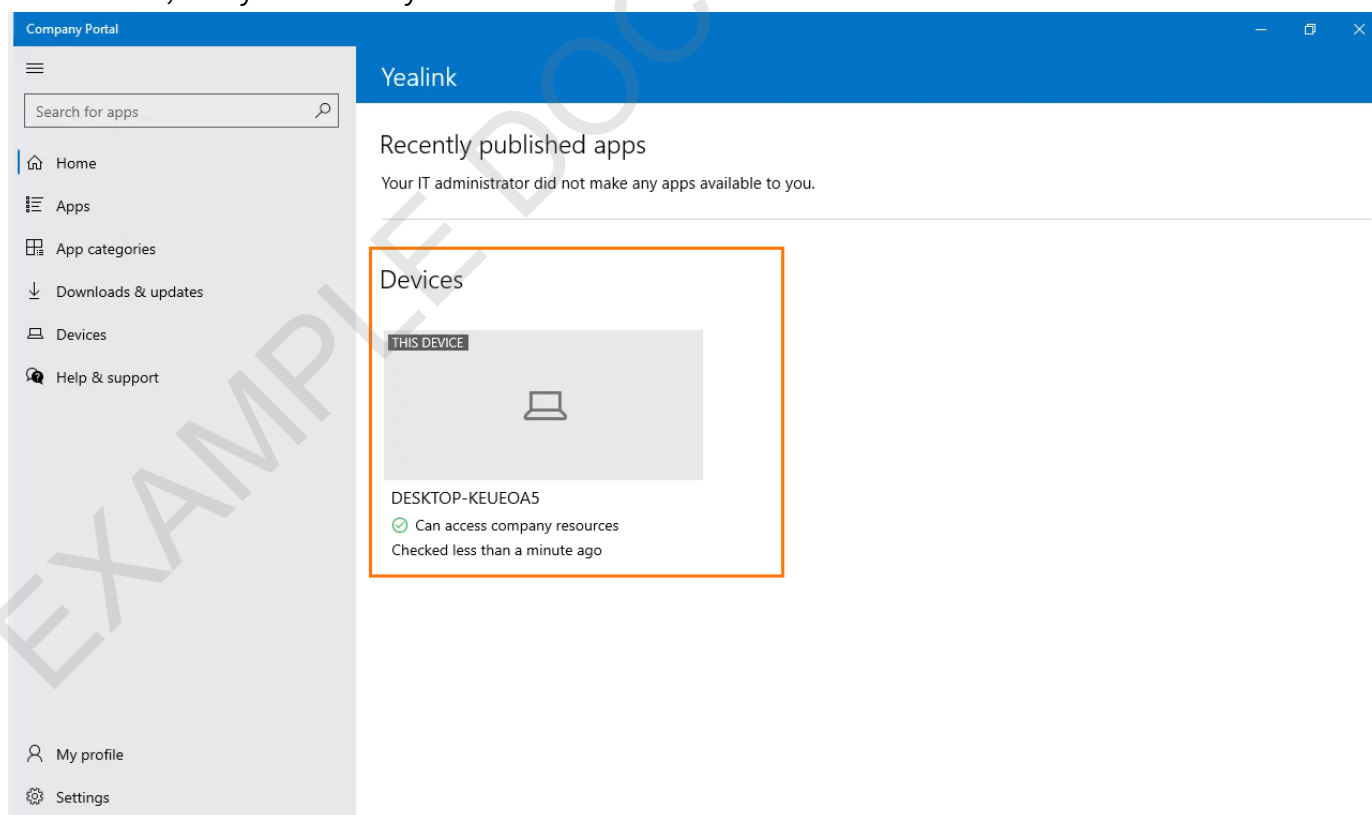


- ! You might be prompted to verify your identity with your mobile phone. Do the authentication according to the on-screen prompt.

5. On the **Setting up your device** screen, select **Go**.
6. After the setup is complete, return to the **Connect to work** screen and select **Next** > **Done** to finish the setup.



7. Click **Home**, and you can see your device information.



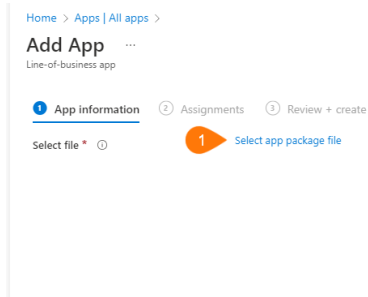
Push Apps from Intune to Windows Devices

After you enroll devices in Intune, you can push apps from Intune to Windows devices.

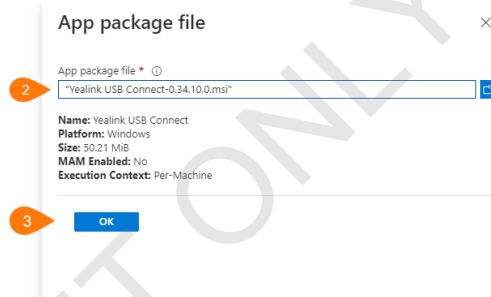
Prerequisites:

You have assigned the Intune licenses to the users.

1. Sign in to the [Azure Active Directory admin center](#) as an admin.
2. Go to **Apps > All apps > Add**.
3. Select **Line-of-business app** from the drop-down menu and click **Select**.
4. Add the app package file and click **Next**.



5. Set the app information and click **Next**.



[Home](#) > [Apps | All apps](#) >

Add App

Windows MSI line-of-business app

1 App information 2 Assignments 3 Review + create

Select file * ⓘ

Yealink USB Connect-0.34.10.0.msi

Name * ⓘ

Yealink USB Connect

Description * ⓘ

Yealink USB Connect

[Edit Description](#)

Publisher * ⓘ

Yealink

App install context ⓘ

☐ User ☒ Device

Ignore app version ⓘ

☐ Yes ☒ No

Command-line arguments

Category ⓘ

0 selected

Show this as a featured app in the
Company Portal ⓘ☐ Yes ☒ No

Information URL ⓘ

Enter a valid url

Privacy URL ⓘ

Enter a valid url

Developer ⓘ

Owner ⓘ

Notes ⓘ

[Previous](#)[Next](#)

7.

6. Assign the app to a group and click **Next**.

Home > Apps | All apps >

Add App

Windows MSI line-of-business app

App information 2 Assignments 1 Review + create

Required

Group mode Group Filter mode Filter

No assignments

+ Add group + Add all users + Add all devices

Available for enrolled devices

Group mode Group Filter mode Filter

No assignments

+ Add group + Add all users

Uninstall

Group mode Group Filter mode Filter

No assignments

+ Add group + Add all users + Add all devices

Previous Next

Select groups

Azure AD groups

Search

marketing@yealink7.onmicrosoft.com

Marketing-Teams phone

Marketing-Teamsphone@yealink7.onmicrosoft.com

mcutest

mcutest@yealink7.onmicrosoft.com

MSIT

MSIT@yealink7.onmicrosoft.com

Novus&Yealink

NovusYealink@yealink7.onmicrosoft.com

OHL & Yealink Tech Support

OHLYealinkTechSupport@yealink7.onmicrosoft.com

Selected items

GF Group for Windows platform Remove

Select

7. Review the parameters and click **Create**.

8. After you add the app, you can see the added app in the All apps list.

+ Add Refresh Filter Export Columns

Search by name or publisher

Name	Type	Status	Version	Assigned
com-kakao-talk-2109270-56727416-0811ddfcc...	Android line-of-business app		9.2.7 (2109270)	Yes
Intune Company Portal	Managed Google Play store app			No
Managed Home Screen	Managed Google Play store app			No
Microsoft Authenticator	Managed Google Play store app			No
Microsoft Defender	Android store app			Yes
Microsoft Intune	Managed Google Play store app			No
Play Store 24.9.17.apk	Android line-of-business app		24.9.17-16 [0] [PR] 367727371 (82491700)	Yes
Yealink USB Connect	Windows MSI line-of-business app		0.34.10.0	Yes
Yealink Wireless Presentation Pod	Windows MSI line-of-business app		1.0.0	Yes

8. Click the created app in the All apps list and click **Device install status** to see the app installation status.

It takes a while to install the app and synchronize the status. You can wait and check it later.

Home > Yealink USB Connect

Yealink USB Connect | Device install status

Client Apps

Search Refresh Columns Export

Overview

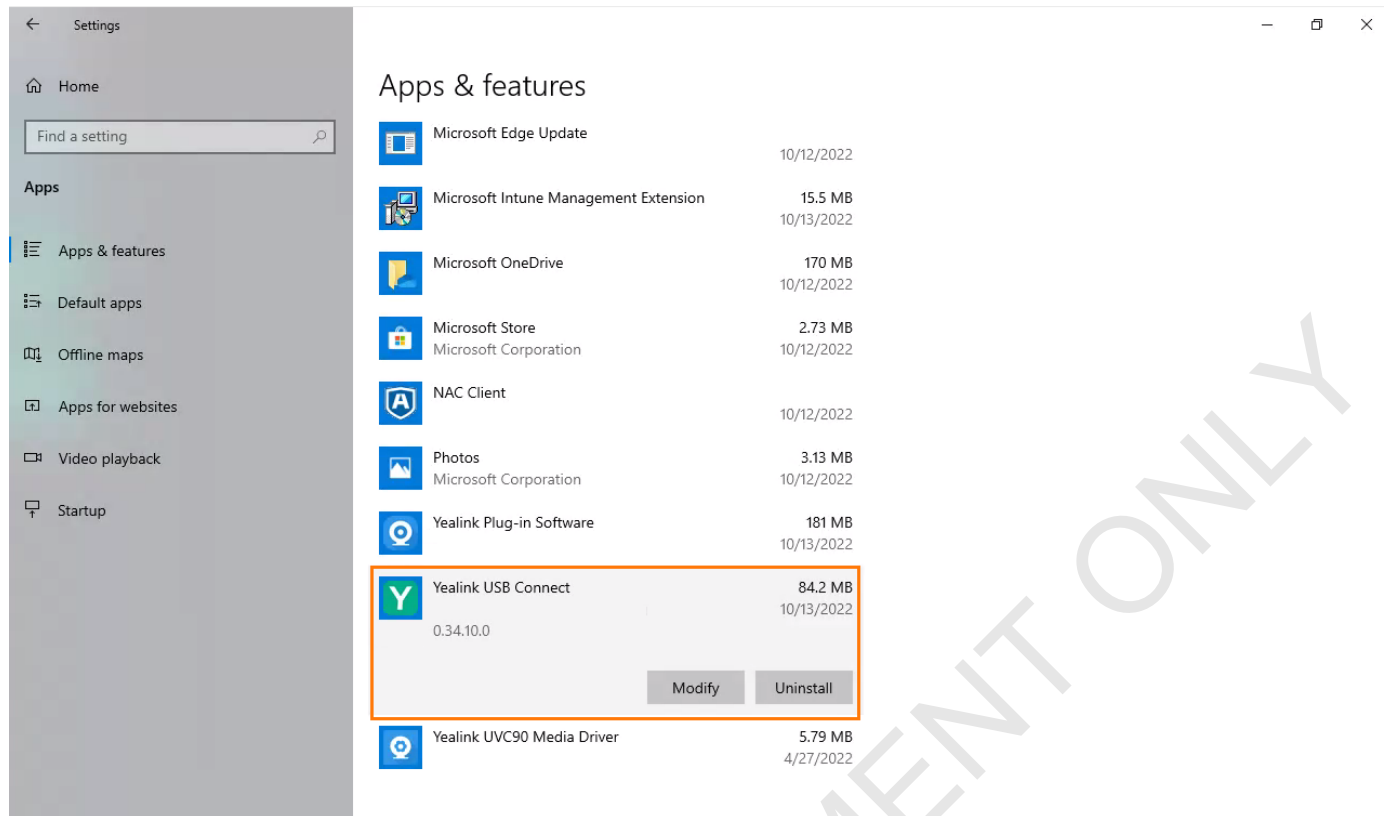
Search by Device Name... Add filter

Showing 1 to 2 of 2 records

Device Name	UPN	Device Platform	App Version	Status	Status Details	Filter	Last modified time
DESKTOP-KEUEOA5	Mole_resource_test@yeali...	Windows 10.0.19042.2130	0.34.10.0	Installed			10/13/2022, 11:07:09 AM
DESKTOP-TJ6GJVT	wuyy01@yealink7.onmicro...	Windows 10.0.19044.2130	0.34.10.0	Installed			10/13/2022, 11:11:07 AM

< Previous Page 1 of 1 Next >

You can also go to **Start > Settings > Apps & features** to see the installed app from your Windows devices.



Manage Device Compliance and Conditional Access

Compliance Policy and Conditional Access are two different features inside of Microsoft Intune. We can use them cooperatively to manage devices and improve device security.

What are Device Compliance and Conditional Access?

- **Device Compliance:** Tells you if your device is compliant or not.
- **Conditional Access:** Determines what to do with these devices depending on their compliance status.

For example, restrict users from enrolling on Intune unless their Windows OS versions are later than 10.

Step 1 - Create a Group

Skip this step if you already have a group that includes the user. Or you can add the user to the existing group.

1. Sign in to the [Microsoft Endpoint Manager admin center](#) as an admin.
2. Go to **Groups > New group** to create a group that includes the users whose device platform is restricted.

Home > Groups | All groups >

New Group

Got feedback?

Group type *

Group name *

Group description

Azure AD roles can be assigned to the group ☐ Yes ☒ No

Membership type

Owners

No owners selected

Members

2 members selected

Create

Add members

Search

Only the first 50 results are shown. Please include a search term to get more specific results.

Selected items

Item	Remove
DR Demo Room wuyy01@yealink7.onmicrosoft.com	Remove
MO Mole_resource_test Mole_resource_test@yealink7.onmicrosoft.com	Remove

Select

Step 2 - Set Conditional Access

For more parameters on setting Conditional Access, see Microsoft's doc on [creating a device-based Conditional Access policy](#).

1. Sign in to the [Microsoft Endpoint Manager admin center](#) as an admin.
2. Go to **Endpoint security > Conditional access > Policies > New policy**.

Microsoft Endpoint Manager admin center

All services > Endpoint security | Conditional access > Conditional Access

Endpoint security | Conditional Access | Policies

Overview (Preview)

Policies

Insights and reporting

Diagnose and solve problems

Manage

Named locations

Custom controls (Preview)

Terms of use

VPN connectivity

Authentication context (Preview)

Classic policies

Monitoring

Sign-in logs

Audit logs

Troubleshooting + Support

Monitor

Conditional access

Policy Name

MFA-yealink-SFB

test 1030

YEALINK-TEAMS

MFA-mike.chen

mingyu

uploadblock

ada test

test for signin

Jackson-test

wangyh-test

MFA-VJ03

test-linzi

AllenAccess

3. Enter the policy name.
4. Under the **Users or workload identities** field, select the users or groups to which the policy applies.



- Do not select the check box of **All users**. Otherwise, the administrator is locked out.

- Select the users who will use their accounts to log into Teams phones and do the Intune authentication after you complete setting conditional access and device compliance.
- After you select the users, you can also click **...** > **Remove** to delete the selected users.

5. Under the **Cloud apps or actions** field, select the desired apps or actions to which this policy applies.

6. Under the **Conditions** field, set the device platform to which this policy applies.



- If you want to restrict the login location, you can set the Locations under the Conditions tab.
- Select Android as the device platform because the operating system of Teams phone is Android.

Home > Endpoint security | Conditional access > Conditional Access | Policies >

New ...

Conditional Access policy

Control access based on Conditional Access policy to bring signals together, to make decisions, and enforce organizational policies. [Learn more](#)

Name * 2

Device platforms 3

Assignments

Users or workload identities 4

Cloud apps or actions 5

Conditions 6

Access controls

Grant 7

Session

Enable policy

☐ Report-only ☐ On ☐ Off

Device platforms

Apply policy to selected device platforms. [Learn more](#)

Configure

Include Exclude

☐ Any device

☒ Select device platforms

☐ Android

☐ iOS

☐ Windows Phone

☒ Windows

☐ macOS

☐ Linux

7. Under the **Grant** field, select the controls to be enforced.



- You must select the check boxes of **Require device to be marked as compliant** and **Require approved client app**. Therefore, these two rules will be verified when the policy verifies Yealink Teams phones.
- If your company has other restrictions on the controls, for example, MFA, you can select the check box of Require multi-factor authentication.

Home > Endpoint security | Conditional access > Conditional Access | Policies >

New ...

Conditional Access policy

Control access based on Conditional Access policy to bring signals together, to make decisions, and enforce organizational policies. [Learn more](#)

Name *
Sample Policy for Windows platform ✓

Assignments

Users or workload identities ⓘ
[Specific users included](#)

Cloud apps or actions ⓘ
[1 app included](#)

Conditions ⓘ
[1 condition selected](#)

Access controls

Grant ⓘ
[0 controls selected](#)

Session ⓘ
[0 controls selected](#)

Enable policy
[Report-only](#) On Off
[Create](#)

Grant ✕

Control access enforcement to block or grant access. [Learn more](#)

☐ Block access

☒ Grant access

☐ Require multifactor authentication ⓘ

☐ Require authentication strength (Preview) ⓘ

☒ Require device to be marked as compliant ⓘ

⚠ Don't lock yourself out! Make sure that your device is compliant.

☐ Require Hybrid Azure AD joined device ⓘ

☒ Require approved client app ⓘ
[See list of approved client apps](#)

☐ Require app protection policy ⓘ
[See list of policy protected client apps](#)

For multiple controls

☒ Require all the selected controls

☐ Require one of the selected controls

[Select](#)

8. Enable this policy and click **Create**.

Enable policy

[Report-only](#) **On** Off

[Create](#)

Step 3 - Set Device Compliance

For more parameters on setting Device Compliance, see Microsoft's doc on [creating a compliance policy](#).

1. Sign in to the [Microsoft Endpoint Manager admin center](#) as an admin.
2. Go to **Endpoint security > Device compliance > Policies > Create policy**.

Policy name	Platform
huxl-test	Android device administrator
Check-in USB	Android device administrator
Jason_test	Android device administrator
linh_test	Android device administrator
AllenGooglePlayProtect	Android device administrator
vmvn	Android Enterprise
rooted device compliance	Android device administrator
test	Android device administrator
testplan for teams	Android device administrator
Karl-test	Android device administrator
encrytion-2	Android device administrator
testplan for teams2	Android device administrator
lhzz	Android device administrator
AllenRootPolicy	Android device administrator
ccc	Android device administrator
test3-zyt	Android device administrator
test3-zyt	Android device administrator

3. Select a **Platform** for this policy and click **Create**.

Create a policy

Platform

Windows 10 and later

Profile type

Windows 10/11 compliance policy

4. Under the **Basics** tab, specify a **Name** that helps you identify it later and click **Next**.

5. Under the **Compliance settings** tab, set the following settings and click **Next**.

6. Set the operating system version:

Device Properties

Operating System Version ⓘ

Minimum OS version ⓘ

10 ✓

Maximum OS version ⓘ

11 ✓

Minimum OS version for mobile devices ⓘ

Not configured

Maximum OS version for mobile devices ⓘ

Not configured

Valid operating system builds

Not configured

Not configured

Not configured

Export

6. Under the **Assignments** tab, assign this policy to the desired groups to which the users belong and click **Next**.

! Do not assign this policy to all users. Otherwise, the administrator is blocked out.

Home > Endpoint security | Device compliance > Compliance policies | Policies >

Windows 10/11 compliance policy

Windows 10 and later

✓ Basics ✓ Compliance settings ✓ Actions for noncompliance **Assignments** ⓘ Review + create

Included groups

1 Add groups Add all users Add all devices

Groups	Group Members ⓘ	Filter	Filter mode
No groups selected			

Excluded groups

! When excluding groups, you cannot mix user and device groups across include and exclude. [Click here to learn more about excluding groups.](#)

+ Add groups

Groups	Group Members ⓘ
No groups selected	

Select groups to include

Azure AD Groups

sample group

SG Sample group for Windows platform Selected

SG SAMPLE GROUP-ZVD

Selected items

2 SG Sample group for Windows platform Remove

3 Select

Previous Next

7. Preview the policy and click **Create**.

Check the Status of the Compliance Policy

After you apply your policy, you can see the device sign-in status.

1. Sign in to the [Microsoft Endpoint Manager admin center](#) as an admin.
2. Go to **Devices > Compliance policies**.
3. Click the name of the policy you create.

4. Click **Device status** or **User status** to check the corresponding compliance status.

Check the Sign-In Logs

After you apply your policy, you can see the device sign-in status.

1. Sign in to the [Azure Active Directory admin center](#) as an admin.

2. Go to **Azure Active Directory > Monitoring > Sign-in logs**.

Download Export Data Settings Troubleshoot Refresh Columns Got feedback?

This view will be soon replaced with a view that includes refresh tokens and application sign-ins. Try out our new sign-ins preview. →

9/22/2022, 9:57:23 AM	232f2d4d-c652-4bfe-9...	vcso1 Yealink	Office 365 Exchange O...	Failure	46.101.140.131	Frankfurt Am Main, He...	Not Applied	Single-factor authentic...
9/22/2022, 9:57:00 AM	0f46549b-d53a-4ff2-a...	vcso1 Yealink	Office 365 Exchange O...	Failure	46.101.140.131	Frankfurt Am Main, He...	Not Applied	Single-factor authentic...
9/22/2022, 9:56:59 AM	08bba69f-376a-4409-8...	vcso1 Yealink	Office 365 Exchange O...	Failure	46.101.140.131	Frankfurt Am Main, He...	Not Applied	Single-factor authentic...
9/22/2022, 9:56:58 AM	1ab86cbd-1d15-4e26-...	vcso1 Yealink	Office 365 Exchange O...	Failure	46.101.140.131	Frankfurt Am Main, He...	Not Applied	Single-factor authentic...
9/22/2022, 9:56:22 AM	dbffc97b-4dd4-4043-b...	Peter Parker	Azure Portal	Success	117.28.234.43	Fuzhou, Fujian, CN	Not Applied	Single-factor authentic...
9/22/2022, 9:56:18 AM	b0089bce-04c8-460b-...	ParkHae Jin	Office 365 Exchange O...	Success	170.114.10.202	San Jose, California, US	Not Applied	Single-factor authentic...
9/22/2022, 9:56:15 AM	307eb0ba-f7ce-431d-9...	vcso1 Yealink	Office 365 Exchange O...	Failure	46.101.140.131	Frankfurt Am Main, He...	Not Applied	Single-factor authentic...
9/22/2022, 9:55:38 AM	6f74519e-f1f6-4782-ae...	Gao Sense	Microsoft Authenticati...	Success	117.28.234.43	Fuzhou, Fujian, CN	Not Applied	Single-factor authentic...
9/22/2022, 9:55:09 AM	cec73cbe-589f-4f92-a...	MiMi Pan	Microsoft Authenticati...	Success	117.28.234.43	Fuzhou, Fujian, CN	Not Applied	Single-factor authentic...
9/22/2022, 9:54:56 AM	3afe47f3-ec85-482a-8...	MiMi Pan	Microsoft Authenticati...	Failure	117.28.234.43	Fuzhou, Fujian, CN	Not Applied	Single-factor authentic...
9/22/2022, 9:53:22 AM	69bf7fa9-1182-40dd-8...	Peter Parker	Microsoft Authenticati...	Success	117.28.234.43	Fuzhou, Fujian, CN	Not Applied	Single-factor authentic...
9/22/2022, 9:53:19 AM	6df55d07-c45b-449c-a...	Peter Parker	Microsoft Authenticati...	Failure	117.28.234.43	Fuzhou, Fujian, CN	Not Applied	Single-factor authentic...
9/22/2022, 9:53:11 AM	65b1827b-7a06-4ade-...	ZoeY	Microsoft Teams Web ...	Interrupted	117.28.234.43	Fuzhou, Fujian, CN	Not Applied	Single-factor authentic...
9/22/2022, 9:52:27 AM	d9fe933d-1ad3-45a8-...	lh12	Microsoft Teams	Success	117.28.234.43	Fuzhou, Fujian, CN	Not Applied	Single-factor authentic...
9/22/2022, 9:52:00 AM	0f46549b-d53a-4ff2-a...	Wang Siri	Microsoft Authenticati...	Success	117.28.234.43	Fuzhou, Fujian, CN	Not Applied	Single-factor authentic...

3. Click the log to see more detailed information. For example, check the sign-in error code to find out why a user failed to sign in.

Dashboard > Yealink

Yealink | Sign-in logs

Activity Details: Sign-ins

Basic info Location Device info Authentication Details Conditional Access Report-only

Date 9/22/2022, 9:51:41 AM

Request ID 2f4965ec-3fc8-46d7-b664-d29485bc0f01

Correlation ID 83f4f75a-471e-41cc-8fd7-66c753c1b2b9

Authentication requirement Single-factor authentication

Status Failure

Continuous access evaluation No

Sign-in error code 50126

Failure reason Error validating credentials due to invalid username or password.

Additional Details The user didn't enter the right credentials. It's expected to see some number of these errors in your logs due to users making mistakes.

Troubleshoot Event Follow these steps:
Launch the Sign-in Diagnostic.
1. Review the diagnosis and act on suggested fixes.

User Wang Siri

Username test01@yealink7.onmicrosoft.com

User ID 53732d9e-d85e-4d40-93cd-6fba6f1f3c6

Sign-in identifier test01@yealink7.onmicrosoft.com

User type Member

Cross tenant access type None

Application Microsoft Authentication Broker

Application ID 29d9ed98-a469-4536-ade2-f981bc1d605e

Resource Device Registration Service

Resource ID 01cb2876-7ebd-4aa4-9cc9-d28bd4d359a9

Resource tenant ID da574a7f-d308-4fe7-93d7-f055275b863d

Home tenant ID da574a7f-d308-4fe7-93d7-f055275b863d

5. For other activity details, refer to Microsoft's doc on [Sign-in logs in Azure Active Directory](#).

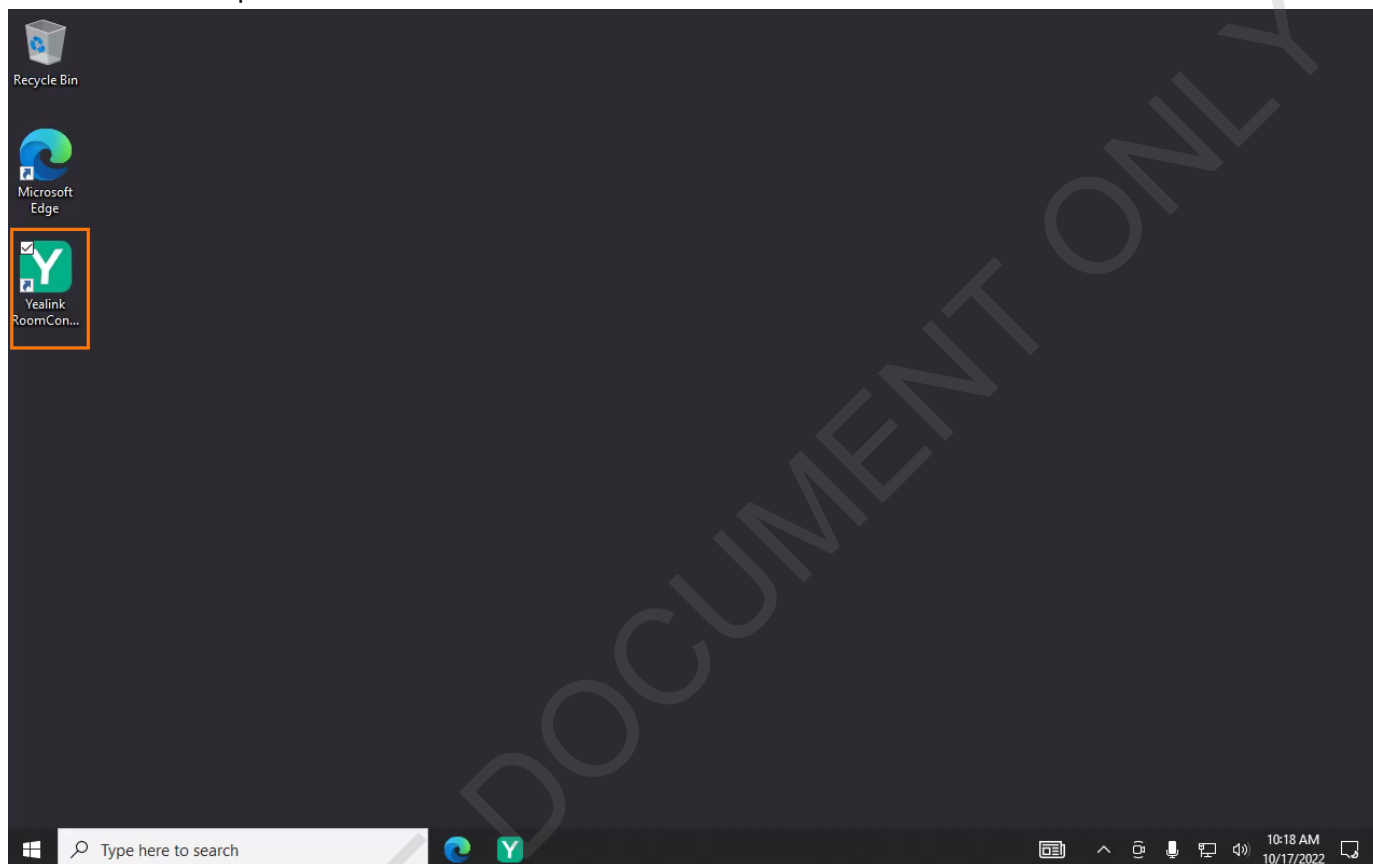
Troubleshooting

Export All MTRoW Device Logs

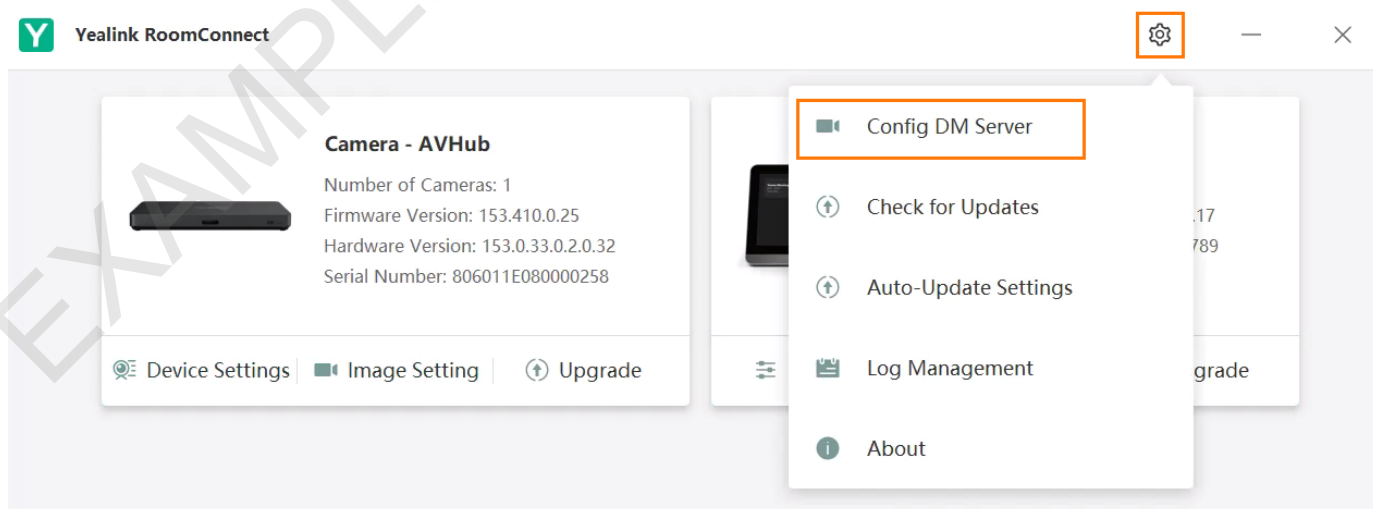
To export all device logs, you need to connect the MTRoW to Yealink Meeting Management Platform (YDMP) or Yealink Management Cloud Service (YMCS) via the pre-installed Yealink RoomConnect app, and use Yealink RoomConnect to export device logs.

Step 1: Connect to YDMP/YMCS with Yealink RoomConnect

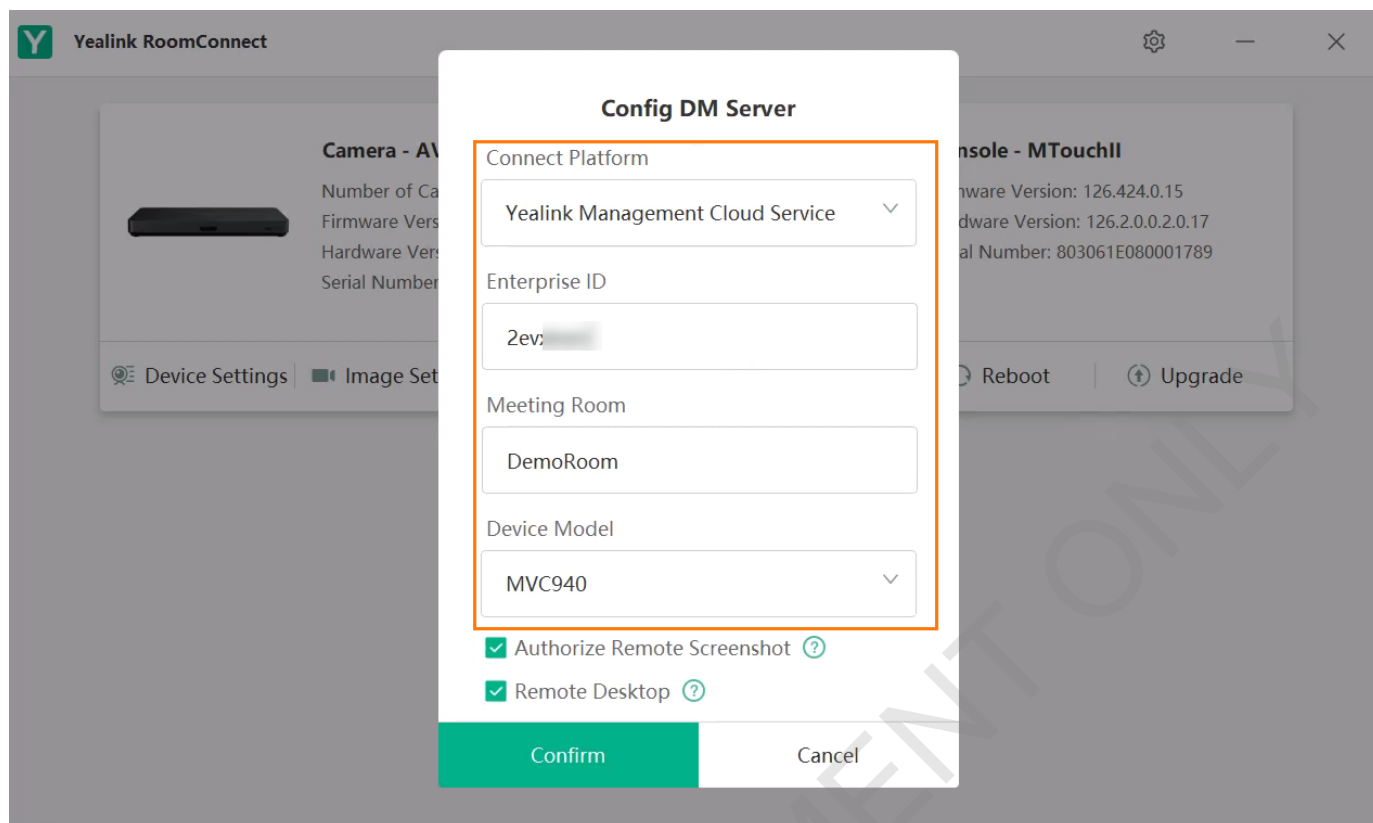
1. Double-click to open Yealink RoomConnect.



2. Click  > **Configure DM Server**.

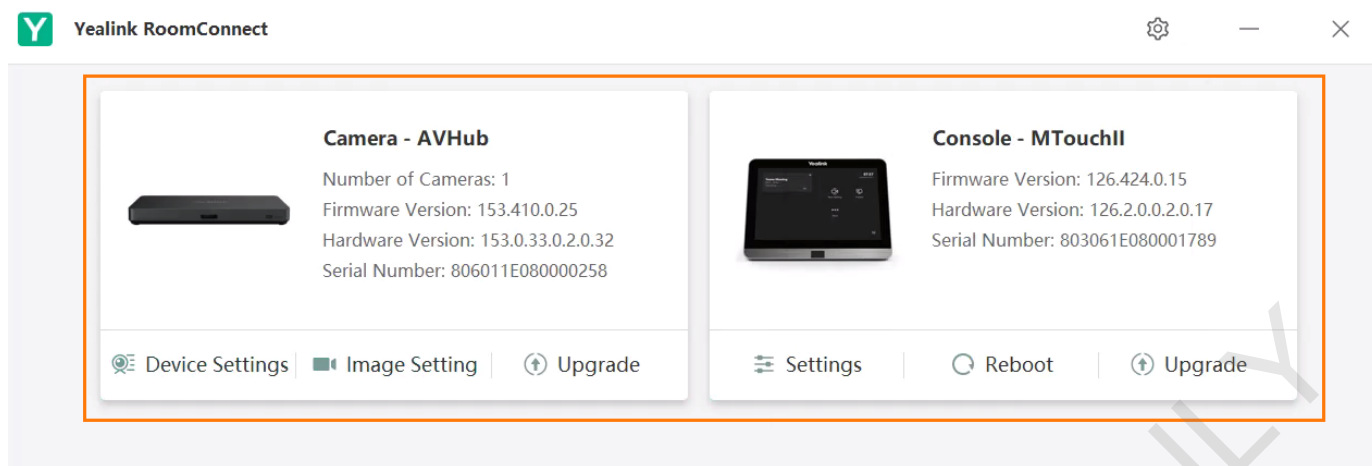


3. Configure the DM server parameter.



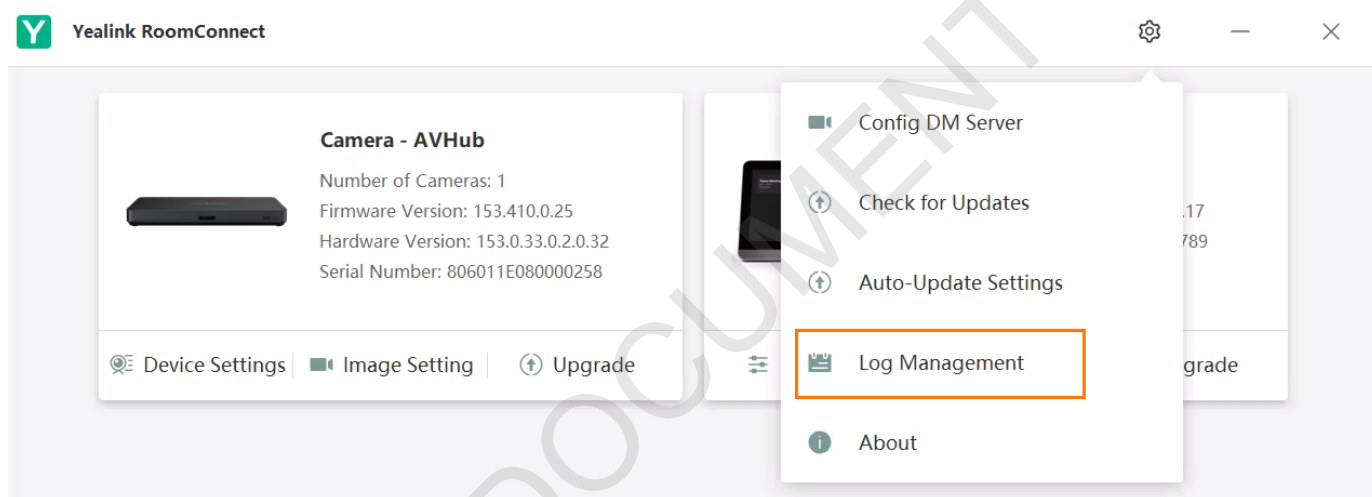
Parameters	Introduction
Connect Platform	If your enterprise has subscribed to the YMCS service, select Yealink Management Cloud Service . If your enterprise has deployed the YDMP server locally, select Yealink Device Management Platform .
Enterprise ID	If you select Yealink Management Cloud Service , enter your enterprise ID.
Server Address	If you select Yealink Device Management Platform , enter your YDMP address. For example, 10.12.13.14:8090.
Meeting Room	Set a descriptive name for the room.
Device Model	Select the device model.

4. Select the checkboxes of **Authorize Remote Control** and **Remote Desktop**, then click **Confirm**.
5. Click **OK** in the prompted window, and you can see the device card on Yealink RoomConnect.

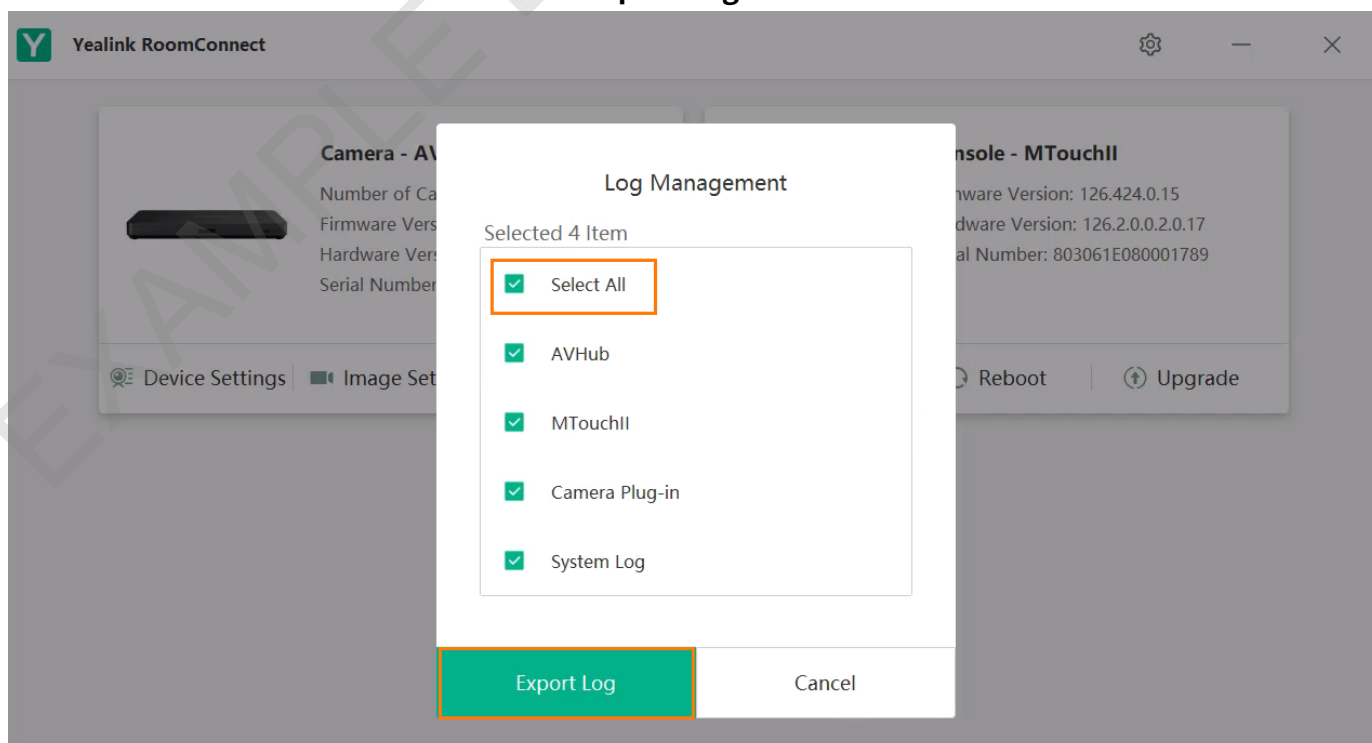


Step 2: Export All Device Log Files

1. Click  > **Log Management**.



2. Select the checkbox of **Select All** and click **Export Log**.



3. Select a directory and click **Select Folder** to save the log file to your local directory. It will take a while to export the log.

EXAMPLE DOCUMENT ONLY

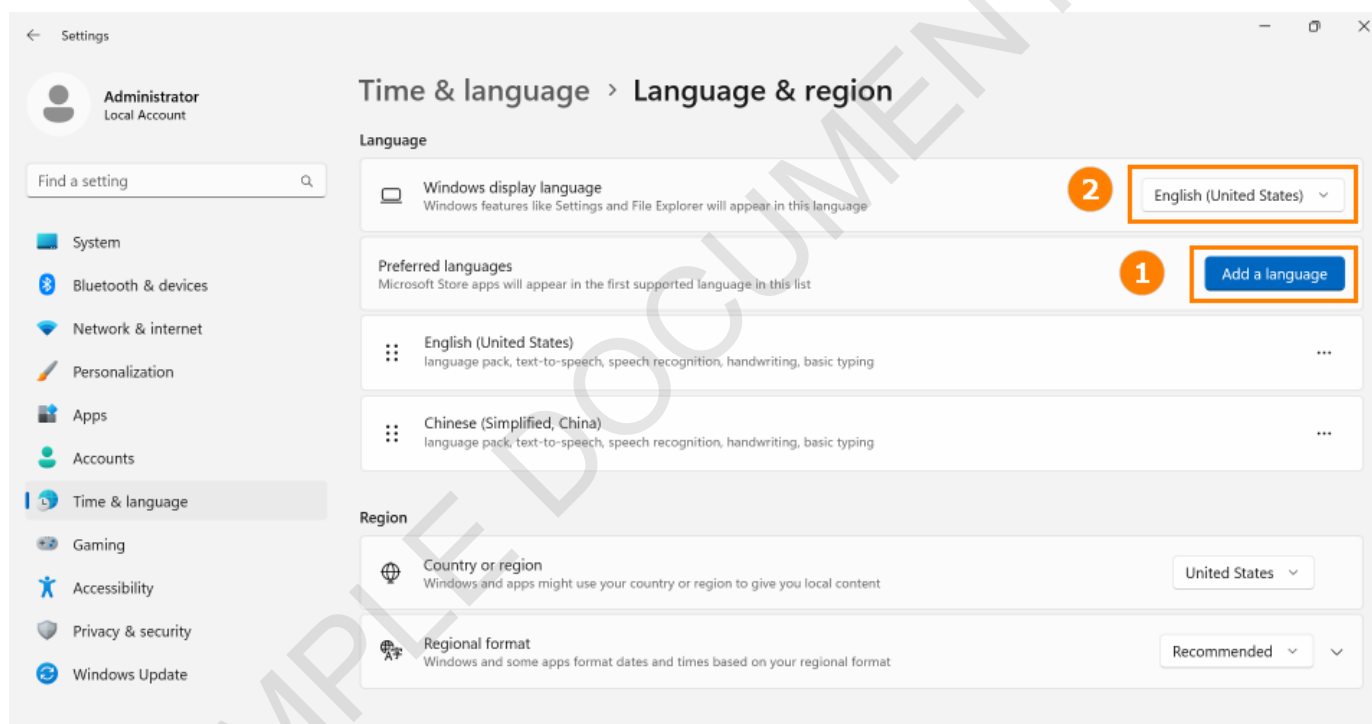
Language

Introduction

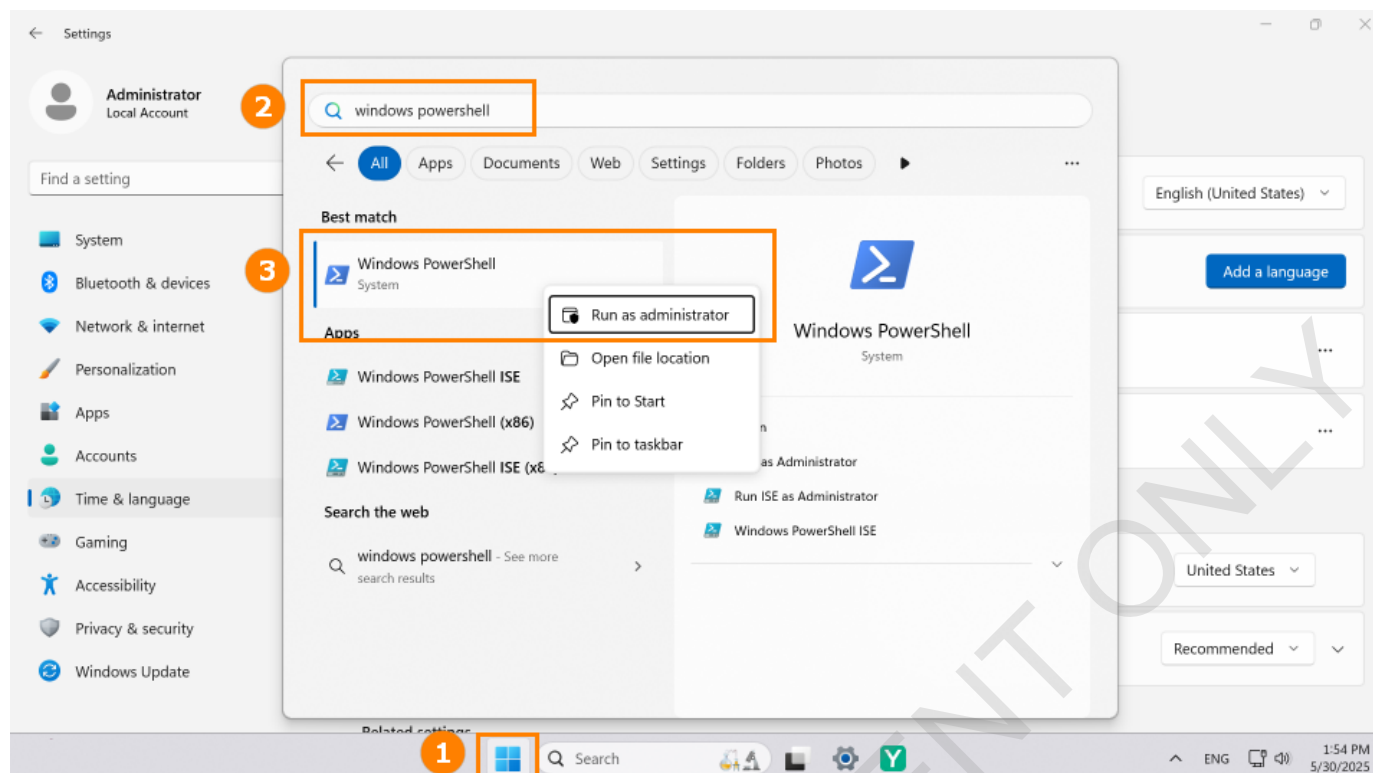
MVC supports switching display languages.

Change the Display Language

1. In the Windows mode, select  >  > **Time & language** > **Language & region**.
2. Tap **Add a language** to choose a language and install it.
3. Select the language from the **Windows display language** drop-down menu.



4. Tap **sign out** to apply the new language.
5. Tap  > type **Windows Powershell** in the search bar, and right-click **Run as administrator**.



6. To set the Teams mode to use the same language, run the command below.

```
powershell -executionpolicy unrestricted c:  
\Rigel\x64\scripts\provisioning\scriptlaunch.ps1 ApplyCurrentRegionAndLanguage.ps1
```

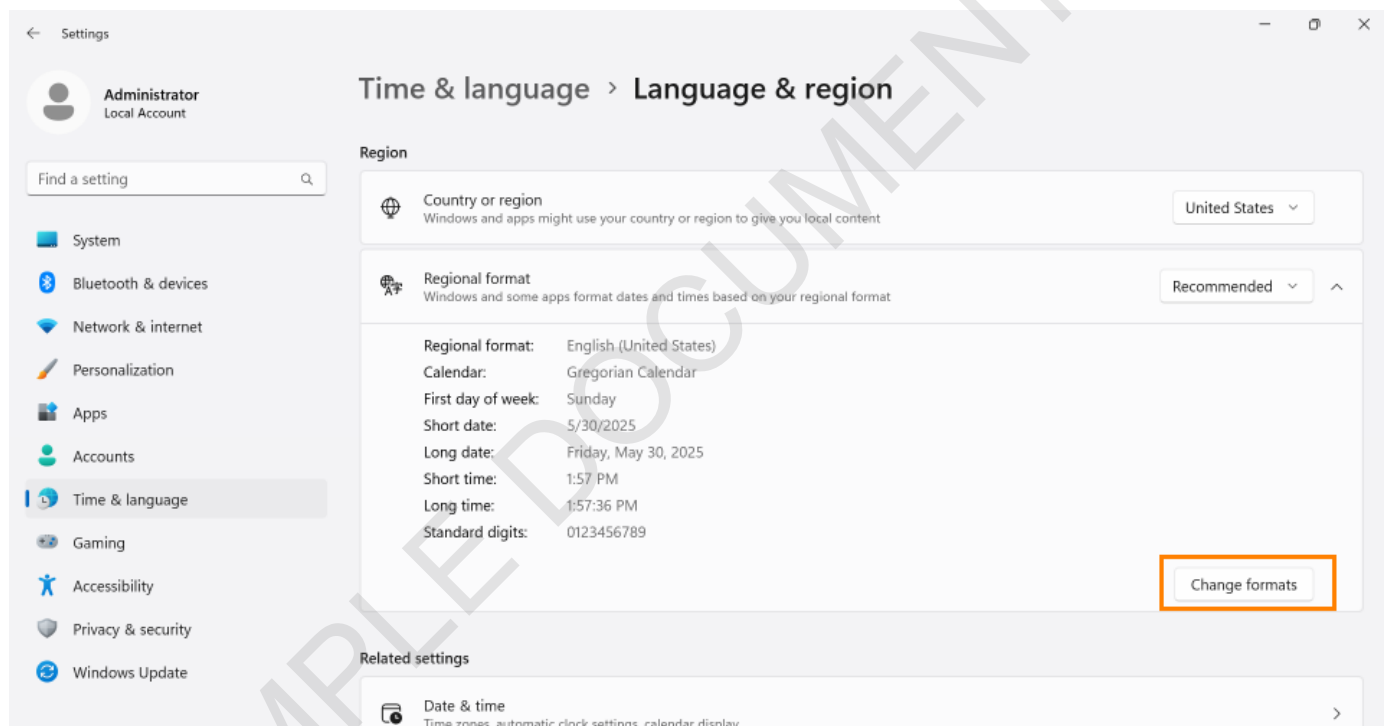
Time and Date

Introduction

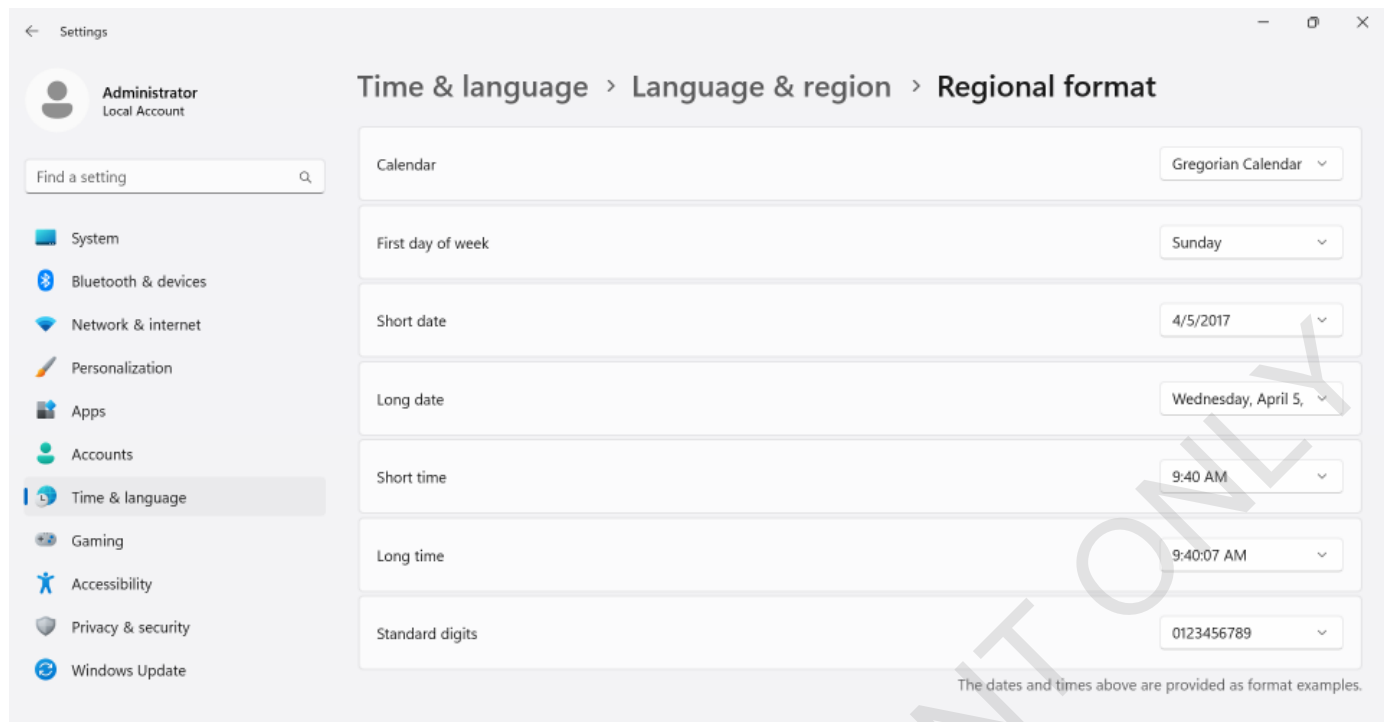
MVC supports setting the time/date format. For example, you can set the time to be displayed in a 12-hour or 24-hour format.

Set the Time/Date Format

1. In the Windows mode, select  >  > **Time & language** > **Language & region**.
2. Tap **Region format** > **Change formats**.



3. Select the time/date format from the drop-down menus.



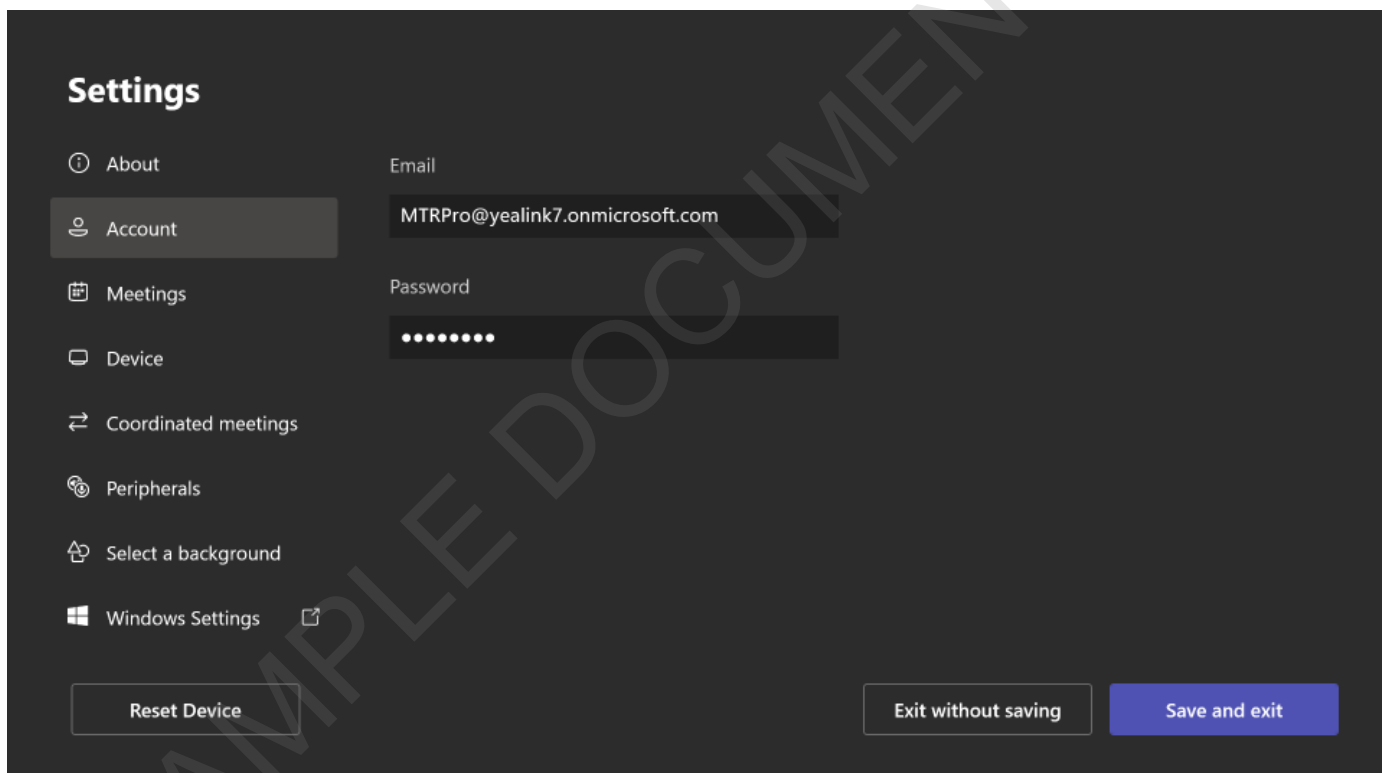
Log In

Introduction

The MVC device supports logging in to the Teams account, and you can use related functions such as meetings after logging in.

Log In to Account

1. In the Teams mode, select **More** > **Settings** (default: sfb).
2. Select **Account**.
3. Enter the email address and password, and select **Save and exit**.



Settings

- About
- Account**
- Meetings
- Device
- Coordinated meetings
- Peripherals
- Select a background
- Windows Settings

Email: MTRPro@yealink7.onmicrosoft.com

Password:

Reset Device Exit without saving Save and exit

Switch Account

Introduction

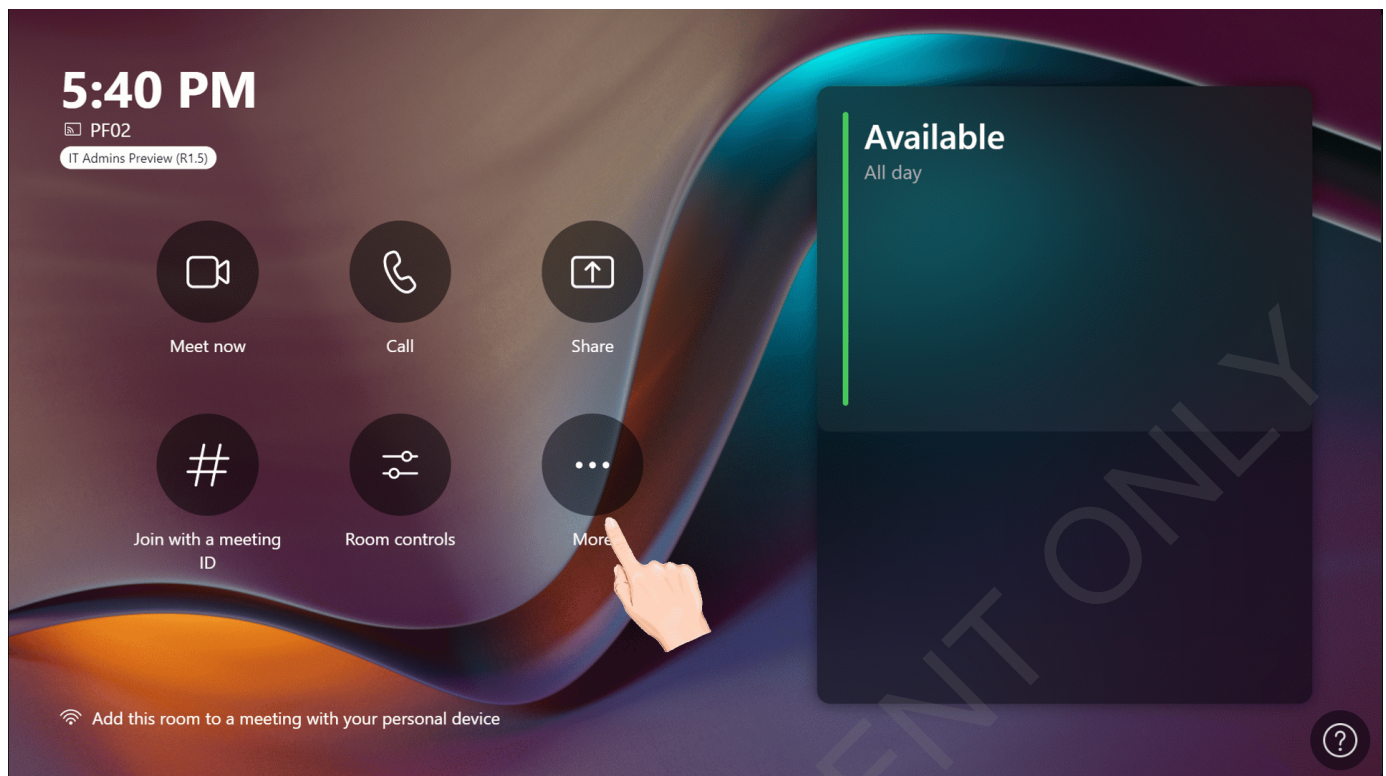
By default, the MVC has two built-in accounts:

- **Skype for Business account:** It is restricted to operating Microsoft Teams Rooms and the default recommended account at startup. You can log into the Microsoft Teams Rooms System automatically using a Skype for Business account without a password, but this account does not have administrator privileges.
- **Administrator account:** The administrator account has full operational capabilities on the Microsoft Teams Rooms System but needs a password (default: sfb). This account is exclusively for the MVC. Joining a Skype for Business or Teams meeting does not require an administrator account.

When you log into your Skype account, you'll see the Microsoft Teams interface. If you log in as an administrator, you'll see the Windows interface. You can follow the steps below to switch between these two modes whenever you want.

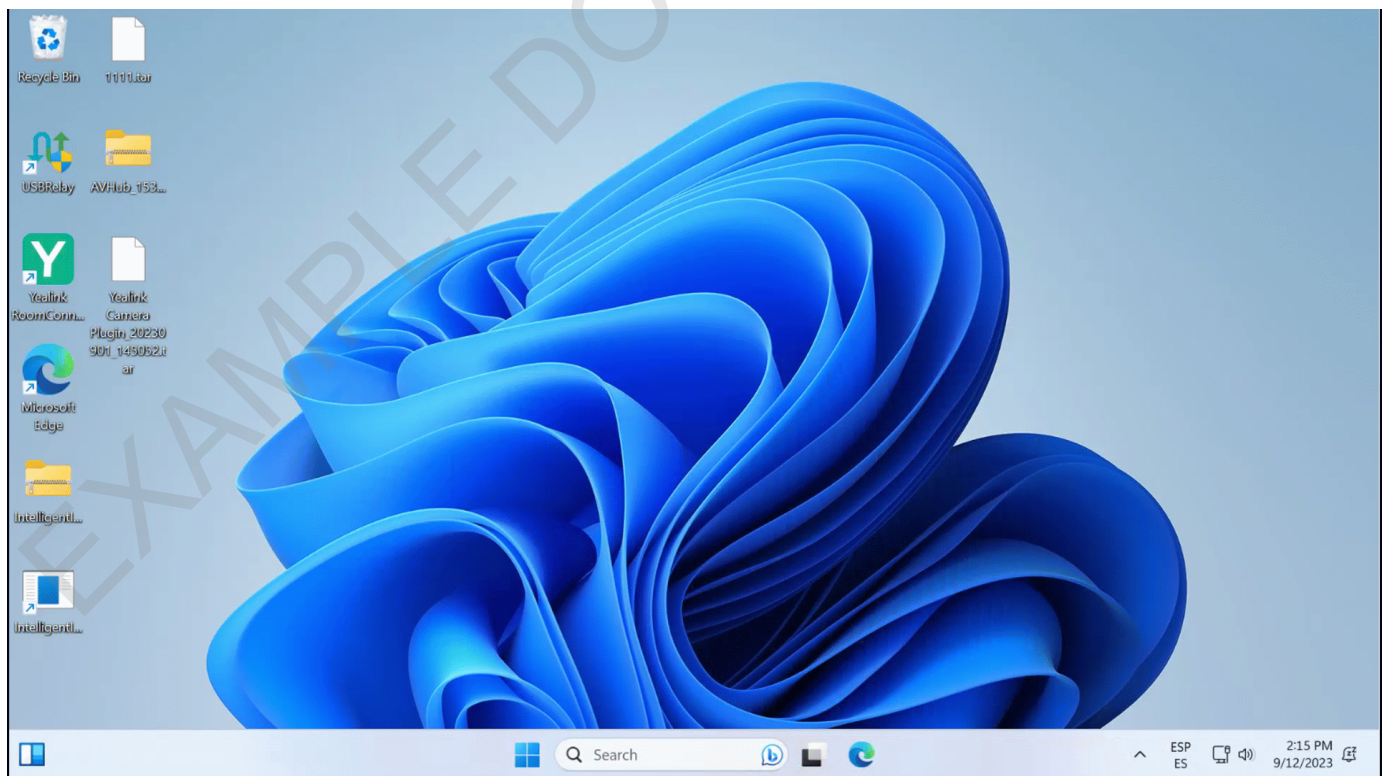
Switch to Administrator Account

1. In the Teams mode, select **More > Settings** (default: sfb).
2. Select **Windows Settings**, and then tap **Logout** to log out the Skype user.
3. Select **Administrator** (default: sfb).



Switch to Skype for Business Account

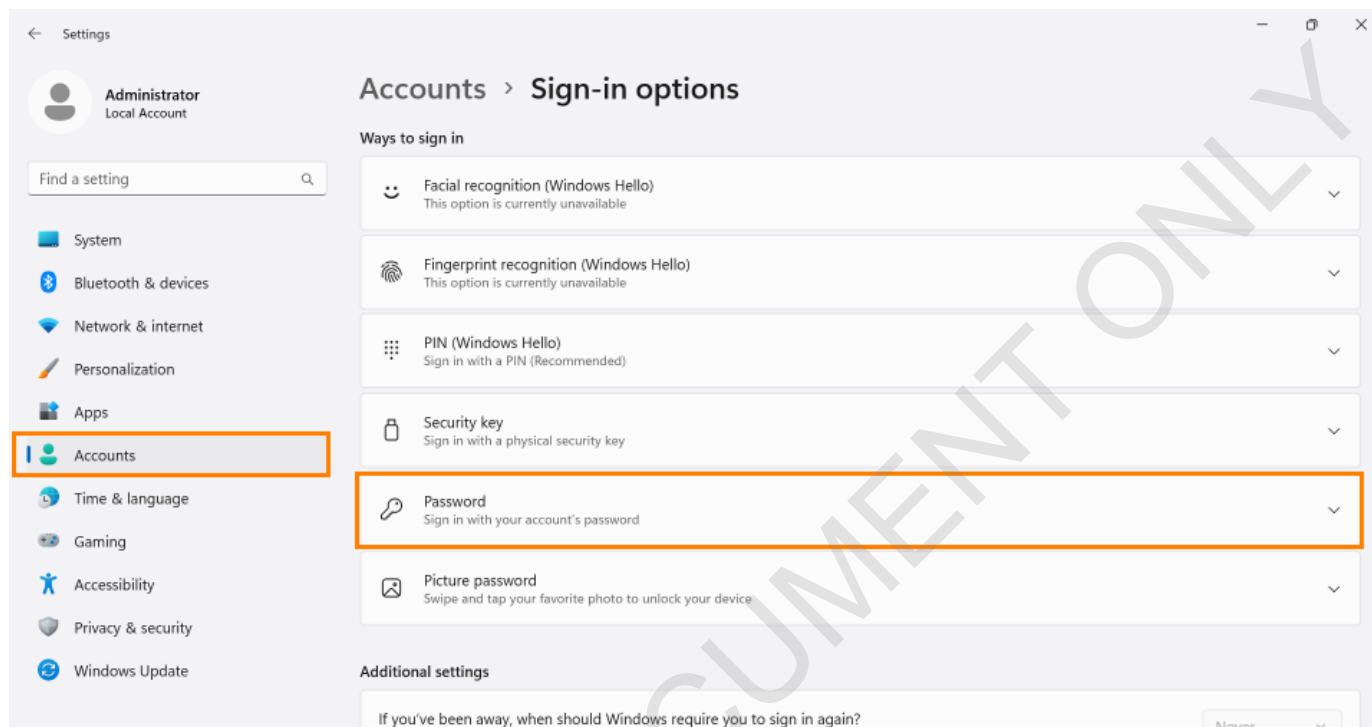
- In the Windows mode, select  >  > **Skype** > **Sign in** to switch to Skype for Business account.



Change Admin Password

The default administrator password is **sfb**, you can change the password as needed.

1. In the Windows Mode, select  >  > **Accounts** > **Sign-in options** > **Password** > **Change**.
2. Enter the original password (default: sfb) and the new password as prompted, and select **Finish** to change the password.



Wired Network

Introduction

You can connect Yealink mini-PC to the network port with a network cable. Yealink UVC Cameras and other devices can be connected to Yealink mini-PC through a network cable.

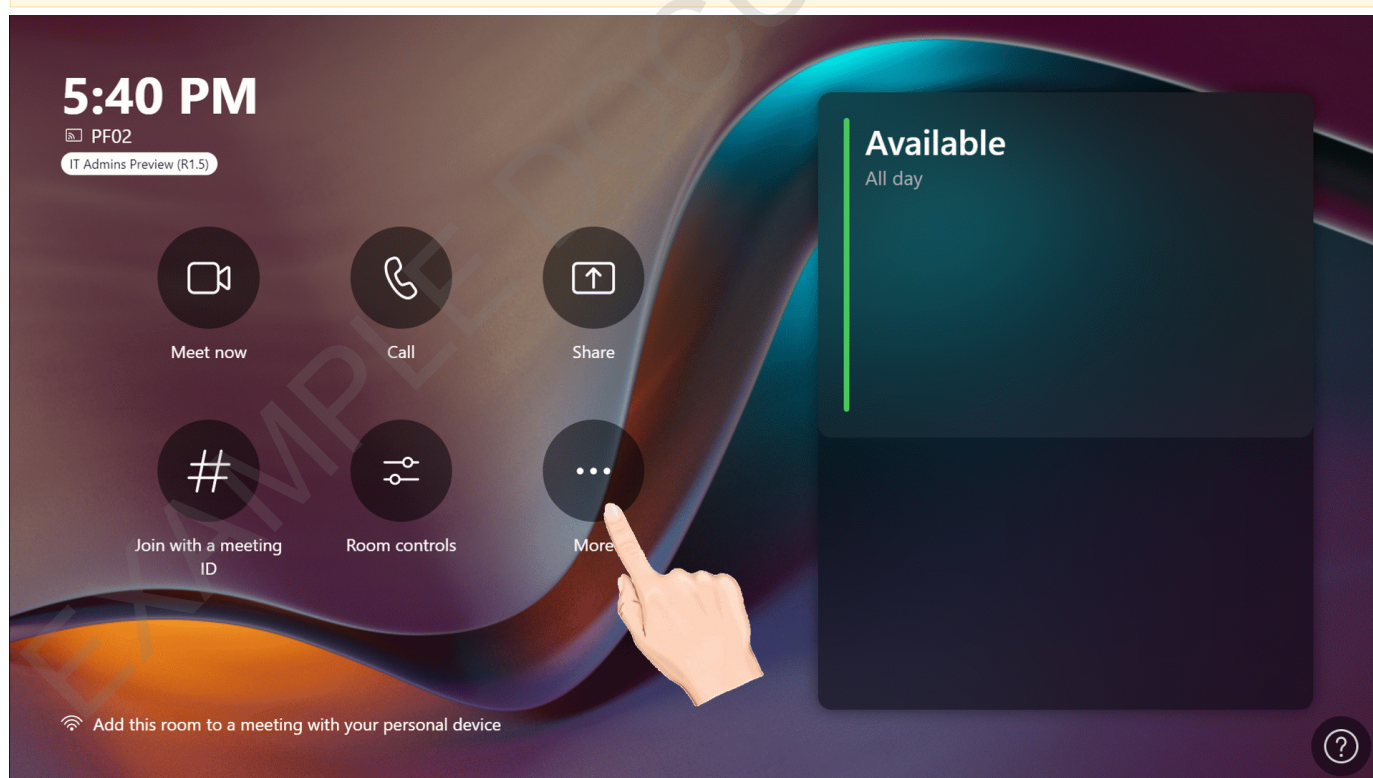
You can also directly connect Yealink UVC Camera, Yealink Intelligent Camera, or Yealink MTouch Touch Panel to the network port with a network cable.

Check Network of Yealink mini-PC

You can check whether Yealink mini-PC is connected to a network.

1. In the Teams mode, select **More** > **Settings** (default password: sfb).
2. Select **About** > **IPv4** to check whether the network is connected.

💡 If Yealink MTouch Touch Panel interface shows that “This device isn't connected to the Internet” , you need to check whether the network cable is connected correctly.



Check Network of Yealink UVC Camera, Yealink

- **PIP**

While using a connected external device, you can watch a TV broadcast in a small picture-in-picture (PIP) window. To make fine adjustments, press the down directional button, and then select **PIP Setup**.

 This function may not be supported depending on the model or geographical area.

- **Picture Size**

You can change to the picture size you want to view. To make fine adjustments, press the down directional button, and then select **Go to Picture Size**.

- **Colour Tone**

You can select a colour tone suitable for your viewing preferences. To change to a colour tone that you want, press the Select button.

- **Picture Clarity**

You can optimise pictures that contain a lot of motions. To turn this function on or off, press the Select button. To set the detailed options, press the down directional button, and then select **Picture Clarity Settings**.

- **Contrast Enhancer**

You can prevent excessive differences between bright and dark areas on the TV screen. To change the **Contrast Enhancer** setting, press the Select button.

- **Digital Output Audio Format**

You can select an output format for digital audio. Note that the **Dolby Digital+** option is only available via HDMI (eARC) for external devices that support the **Dolby Digital+** format.

- **Colour Space**

You can set the spectrum of colours on the TV screen. To change to a colour space that you want, press the Select button. To set the detailed options, press the down directional button, and then select **Colour Space Settings**.

- **Power and Energy Saving**

Display the **Power and Energy Saving** menu. Reduce energy consumption by changing your power preferences and other energy-saving options.

- **On Timer**

You can set **On Timer** to turn on the TV automatically at a specific time. **On Timer** is only available if the **Clock** has been set.

 This function may not be supported depending on the model or geographical area.

- **Off Timer**

You can set **Off Timer** to shut off the TV automatically at a specific time. **Off Timer** is only available if the **Clock** has been set.

 This function may not be supported depending on the model or geographical area.

5 **Multi View**

While watching the TV, you can simultaneously view multiple screens that are split.

 For more information, refer to "[Using Multi View](#)".

 This function may not be supported depending on the model or geographical area.

6 **Edit List**

From the end of the **Settings** list, select **Edit List**. You can change the location of functions in the **Settings** screen.

 An alternative way to move an function is to move the focus to the function to move and then press and hold the Select button.

Using a Samsung account

Create and manage your own Samsung account.

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Samsung Account**  

 You can view the entire text of the Terms & Policy in  >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Samsung Account** > **My Account** > **Terms & Conditions, Privacy Policy** after logging in to your Samsung account.

 Follow the instructions on your TV screen to create or log in to a Samsung account.

 Samsung account can be used on TV, mobile device, and website with one ID.

Signing in to a Samsung account

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Samsung Account** > **Sign In**

Creating a new account

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Samsung Account** > **Create Account**

Managing your Samsung account

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Samsung Account** > **My Account**

When you sign in to your Samsung account, you can use the following functions:

- **Sign out**

When multiple people share the TV, you can sign out of your account to prevent others from using it.

 To sign out of your **Samsung Account** ( >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Samsung Account**), move the focus to your account's icon, and then press the Select button. When a pop-up window appears, select **Sign out**.

- **Edit profile**

You can edit your account information.

 To protect personal information, enter **Edit profile** and then **Sign-in Method** is set to **Select your ID and input password (high security)**.

 If you want the TV to log you into your account automatically whenever you turn on the TV, click **Stay Signed In**.

 When the TV is used by multiple people, turn off **Stay Signed In** to protect personal information.

- **PIN Setting**

Set or change your PIN.

- **Payment Info**

You can view or manage your payment information.

- **Back up**

You can back up the TV settings to your Cloud storage. When resetting or replacing the TV, you can also restore its settings with the backed-up settings.

- **Product Registration**

You can register the current TV or see the registered information. You can easily receive services after product registration.

 You can see the registered information or delete it at the Samsung account website (<https://account.samsung.com>).

- **Sync Internet**

Once you sign in to your Samsung account and configure the **Sync Internet** settings, you can share the favourites and website bookmarks that you registered on other devices.

- **Remove Account**

You can delete an account from the TV. Although you have deleted your Samsung account from the TV, you are not unsubscribed.

 To unsubscribe from your Samsung account, visit the Samsung accounts website (<https://account.samsung.com>).

- **Terms & Conditions, Privacy Policy**

You can view the user agreement and privacy policy.

 For more information about the terms and conditions, privacy policy, select **View Details**.

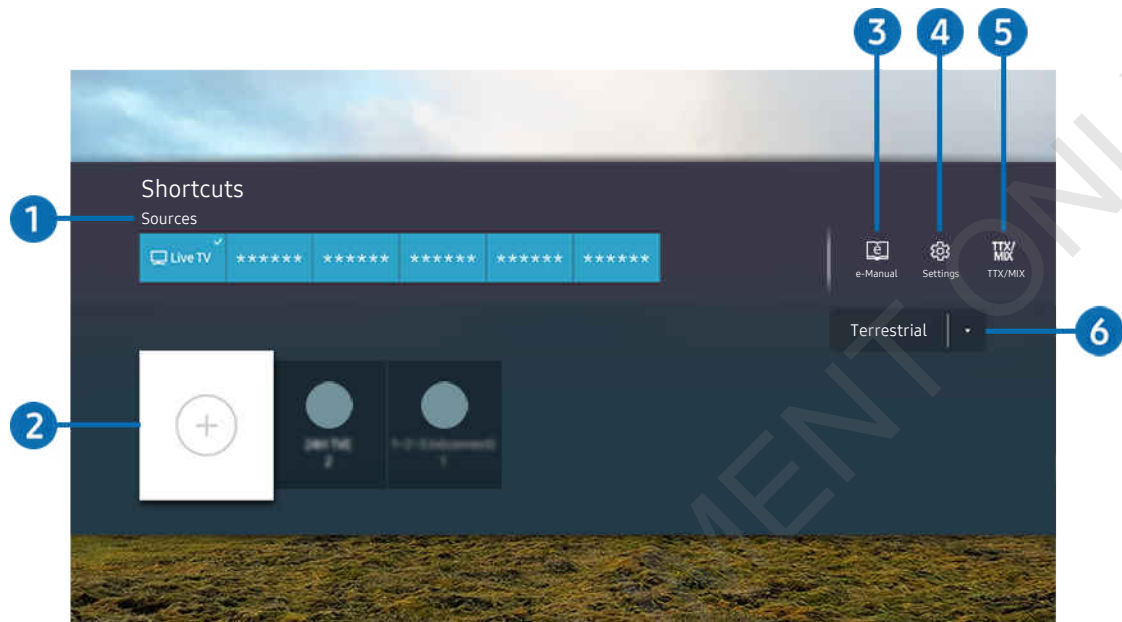
Using the Shortcuts

You can easily use the contents of Sources without running a series of commands.

To display the **Shortcuts** menu screen, press and hold the  or  button for 1 second or more.

To return to the TV mode, press the  button.

 This function may not be supported depending on the model and geographical area.



 The image on your TV may differ from the image above depending on the model and geographical area.

1 Sources

You can select an external device connected to the TV.

2 Channels

You can add, move or remove broadcast channels.

3 e-Manual

Displays the e-Manual guide.

4 Settings

Displays the main on-screen menu.

5 TTX/MIX

You can access the TTX menu screen.

6 Terrestrial, Cable, Satellite or Service Provider

Choose the broadcast type of the content: [Terrestrial](#), [Cable](#), [Satellite](#) or Service Provider.

 This function may not be supported depending on the incoming broadcast signal.

EXAMPLE DOCUMENT ONLY

Adding channels

1. Move the focus to ⊕ to add the current channel.
2. Select ⊕.
3. Move to the desired location.
4. Press the Select button.

The target channel is added in the bookmark ([Channels](#)) area.

Moving channels

1. Move the focus to the channel to move.
2. Press the down directional button.
3. Select [Move](#).
4. Move the selected channel to the desired location.
5. Press the Select button.

The selected channel is moved.

Removing a channels

1. Move the focus to the channels to remove.
2. Press the down directional button.
3. Select [Remove](#).

The selected channel is removed.

Using Workspace

Use the remote function to connect to and use a Windows PC, Mac, or mobile device from the TV.

 >  **Menu** >  **Connected Devices** > **Workspace** [Try Now](#)

Connect a Windows PC, Mac, or mobile device to the TV to easily use the device.

 For smooth use as in a computer, connect a keyboard and a mouse to your TV in advance.

Using Screen Sharing (Windows PC) / AirPlay (Mac)

 >  **Menu** >  **Connected Devices** > **Workspace** > **Windows PC** > **Screen Sharing**

 >  **Menu** >  **Connected Devices** > **Workspace** > **Mac** > **Screen Mirroring**

Follow the instructions on the screen to adjust the PC settings and wirelessly connect the TV to the PC.

 This function is only available for PCs that support wireless screen sharing.

 This function may not be supported depending on the model or geographical area.

 Connection via Windows OS is available in Windows 10 and later versions only.

 Connection via Mac OS is available in AirPlay.

Using Easy Connection to Screen

 >  **Menu** >  **Connected Devices** > **Workspace** > **Windows PC** > **Easy Connection**

You can easily use remote access function after installing **Easy Connection to Screen** on your PC.

Follow the instructions on the screen to download and install the **Easy Connection to Screen** PC app. Then you can easily connect a remote PC.

1. Download the **Easy Connection to Screen** PC app from <http://smsng.co/easy> and then install it on your PC.
2. Log in to the same Samsung account for both TV and PC.
3. When the PC is turned on and connected via the network, **Workspace**'s Home Screen displays the PC.

 The **Easy Connection to Screen** PC app is available in Windows 10 and later versions only.

 Depending on the network environment including the firewall configuration, router type, and wireless signal strength, connection problems may occur, such as low speed, disconnection, or limited connection.

Connecting a Remote PC

 >  **Menu** >  **Connected Devices** > **Workspace** > **Windows PC** > **Manual Connection** [Try Now](#)

 >  **Menu** >  **Connected Devices** > **Workspace** > **Mac** > **Remote Login** [Try Now](#)

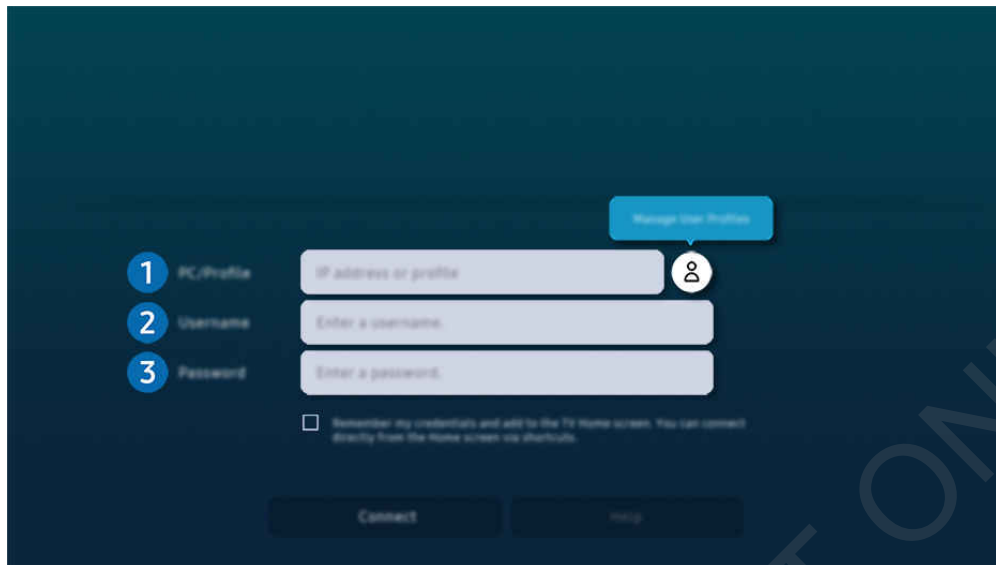
Provides **Remote Desktop Connection (RDP)** for remotely connecting to a PC running on Windows and **Virtual Network Computing (VNC)** for a PC running on Mac. To remotely connect to a PC, you must enter the IP address of the remote PC or select a saved profile. Enter a correct username and password. If there is any computer that can be accessed via the same network, the found IP is displayed.

-  To register a frequently used PC, move the focus to  **Manage User Profiles**, and then press the Select button. When a pop-up window appears, select **Add**, and then enter the PC information.
-  When your PC enters in power saving mode, connection is not available. It is recommended to cancel the power saving mode.
-  It is recommended to connect the wired network because the screen or sound may be interrupted depending on the network condition.

1. Configure your computer's settings to use the **Workspace** function.

-  Connection to Windows via the RDP protocol is available in Windows 10 Professional or higher.
-  Remote connection to a PC running on Mac via the VNC protocol is only supported for Mac OS X 10.5 or later.
- Windows OS:
 - 1) Right-click the **My PC** icon on Desktop or Windows Explorer and then click **Properties**.
 - 2) Click **Remote Desktop** and select **Activate Remote Desktop**.
- Mac OS:
 - 1) Select **Menu** > **System** > **Preferences** and then click **Sharing**.
 - 2) Select the **Screen Sharing** and **Remote Login** check box.
 - 3) Run the resolution changing app downloaded from App Store and then change the resolution to 1440 x 900 or lower.
 -  If you do not change the resolution in Mac OS, the previous image may appear while connecting a remote computer.

2. Enter the required settings for connecting the computer remotely.

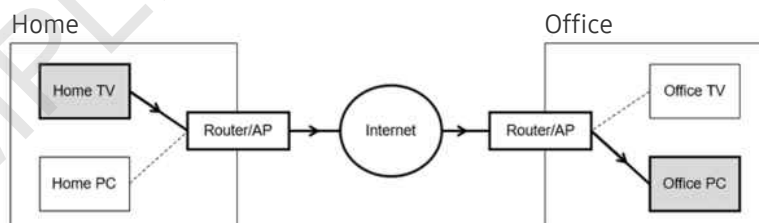


 The image on your TV may differ from the image above depending on the model and geographical area.

1 PC/Profile

Enter the IP address or profile of the PC you want to connect to.

- In case of Windows, when the computer to connect is within the same network (router/AP), run "cmd" command in **Settings > Network and Internet > View Network Properties** or in **Start > Run**, and then run "ipconfig" to check the IPv4 address of the computer.
- In case of Mac, you can check the IP address in **Settings > Remote Access**.
- When the TV and computer are not within the same network, it is required to know the public IP and configure the router and AP. Check whether the router connected to the computer supports port forwarding. When the company provides additional security features such as firewall, seek help from a security officer.



2 Username

Enter the Username of the computer. How to check the Username:

- Windows OS: Control Panel > User Account Control
- Mac OS: System Preferences > Users & Groups

3 Password

Enter the password for the login account.

 For use of PIN, do not enter PIN but the specified password of the computer.

EXAMPLE DOCUMENT ONLY

Playing Multimedia Content on a Remote PC

When you move the mouse cursor to the top of the screen after accessing a remote computer, the top bar appears. When the sharing folder icon is clicked in the top bar, the folders shared on Windows or Mac OS appear. You can play back any media content in a folder.

 For more information about playing multimedia content, refer to "[Playing pictures/video/music](#)".

To use this function, the folder sharing option on the computer to access must have been enabled as shown below:

- Windows OS:
 1. Run Windows Explorer and then move to the folder to share.
 2. Right-click the folder and then click **Properties**.
 3. After the **Properties** window appears, click the **Sharing** tab and then click **Advanced Sharing**.
 4. After the **Advanced Sharing** window appears, select the **Share this folder** check box.
- Mac OS:
 1. Select **Menu > System Preferences** and then click **Sharing**.
 2. Select the **File Sharing** check box.
 3. To add a folder to share, click the **Add+** button at the bottom.
 4. Select a folder and then click **Add+**.

 It is recommended to connect the wired network because the screen or sound may be interrupted depending on the network condition.

 When playing a video file via a remote computer, the screen or sound breaking may be encountered.

Using Samsung DeX

Run [Samsung DeX](#) on your mobile device to connect the software to the TV.

Follow the on-screen instructions to connect [Samsung DeX](#). Some models may not be searched when connecting the TV from a mobile device through [Samsung DeX](#). If that is the case, follow the instructions shown on the mobile device screen to connect the software.

 This function is available only on mobile devices that support the wireless Samsung DeX.

Using Microsoft 365

You can read or create a document after accessing the Microsoft 365 website.

-  Run the site in full screen mode.
-  URL modification is impossible in the Microsoft 365 page.

Adding the Web Service

Select the [Add Web Service](#) icon. Use the bookmarking function of the [Workspace](#) browser, you can add or delete the web service link to or from [Workspace](#).

-  To add the web service, you must be signed in to your Samsung account.
-  The number of web services that can be added to [Workspace](#) is limited.
-  [Workspace](#) browser not share data with Internet. (Web browser outside from [Workspace](#))

Using Web Service

You can access the web service by selecting the web service icon added to [Workspace](#).

-  The screen on the webpage may differ from that of a computer.
-  You can copy or paste any text. Some image formats are supported.
-  For easy and secured login in Web Service, [Workspace Pass](#) is additionally supported as well as [Samsung Pass](#).

Setting [Samsung Pass](#) or [Workspace Pass](#).

Set [Samsung Pass](#) or [Workspace Pass](#) to Use in  >  [Menu](#) >  [Connected Devices](#) > [Workspace](#) > Run the [Workspace](#) browser (Additionally select [Microsoft 365](#) or [Add Web Service](#)) > [Internet Menu](#) > [Settings](#) > [General](#).

[Workspace Pass](#) allows you to easily manage the web service ID and password without biometric authentication on mobile devices. For this purpose, you must be signed in to your Samsung account. The password is encrypted to be safely stored on your TV.

However, the log in to [Workspace Pass](#) may not work depending on the site policy.

[Workspace Pass](#) only working on [Workspace](#).

-  To securely access the web service, you can use the [Workspace](#) browser's automatic shutdown or clear the history logs.
-  Before accessing the web service, refer to "[Read Before Using the Internet Function](#)".
-  [Workspace](#) browser not share data with Internet. (Web browser outside from [Workspace](#))

The web service supports the following keyboard shortcuts:

- F1: Returns to [Workspace](#)'s Home Screen.
- F5: Refresh.
- F8: Mutes the sound.
- F9/F10: Adjusts the volume.
- F11: Switches between full screen or default screen.

Using the Apps Service

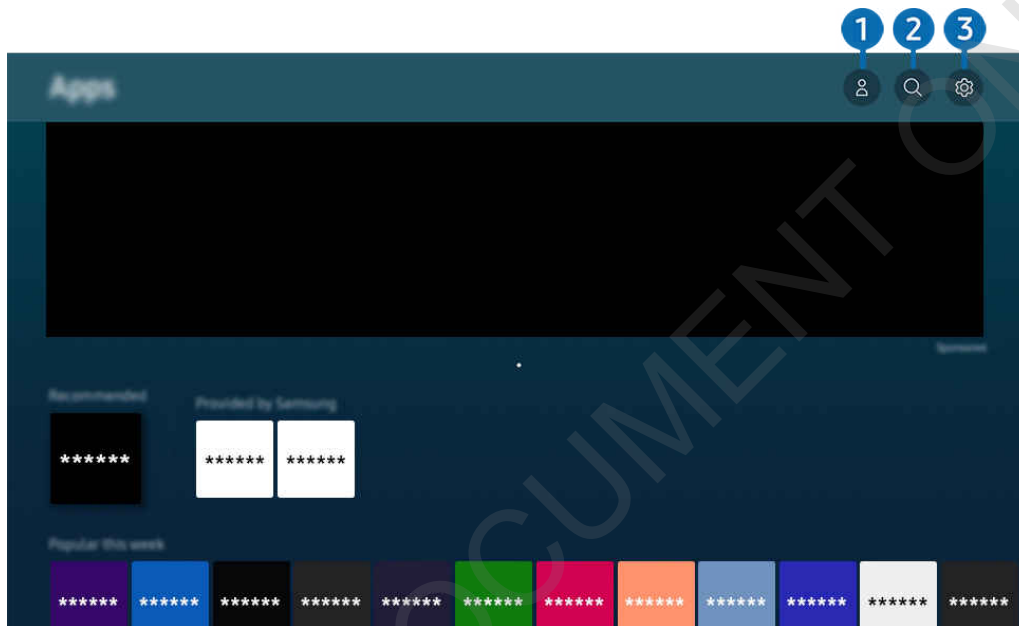
Download and run various apps from Smart Hub.

 > left directional button >  **Media** >  **APPS**

You can enjoy a wide range of content including video, music, sports and game apps by installing the corresponding apps on your TV.

 To use this feature, the TV must be connected to the network.

 When Smart Hub is launched for the first time, the default apps are automatically installed. The default apps may differ depending on the model or geographical area.



 The image on your TV may differ from the image above depending on the model and geographical area.

1 Samsung Account

Go to the [Samsung Account](#) screen to create a new account or sign out of your account.

 If you are signed out of your Samsung account, select  [Sign In](#) to sign in.

 If you want to download new apps using [Apps](#), first sign in to your Samsung account.

2 App Search

You can search for available apps.

3 Settings

You can manage the installed apps.

Installing an app

1. Move to the app you want to install, and then press the Select button. The detailed information screen appears.
2. Select **Install**. When the installation is complete, the **Open** menu appears.
3. Select **Open** to run the app immediately.

 You can view installed apps on the **Settings** screen.

 If the TV's internal memory is insufficient, you can install some specific apps on a USB device.

 You can run an app installed on a USB device only when the USB device is connected to the TV. If the USB device is disconnected while an app is running, the app is terminated.

 You cannot run an app installed on a USB device on a PC or another TV.

Launching an app

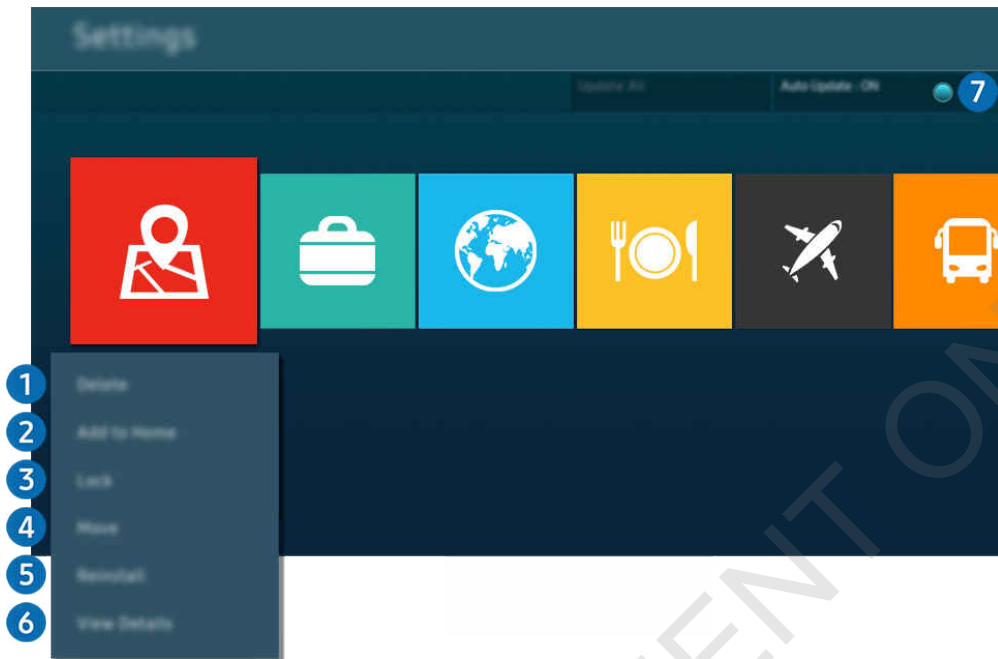
You can run the app desired from **Downloaded App**.

The icons below appear within the selected app's icon and indicate the following:

-  : The app is installed on a USB device.
-  : The app has a password.
-  : The app needs to be updated.
-  : The app supports the mirroring function.

Managing installed apps

Select  [Settings](#) on [Apps](#). You can manage installed apps.



 The image on your TV may differ from the image above depending on the model and geographical area.

1 Removing an app

1. Select an app to delete.
2. Select [Delete](#).

The selected app is deleted.

 Ensure that the related app data is also removed when you remove an app.

 Standard apps cannot be uninstalled.

2 Adding apps to the Home Screen

1. Select an app to add.
2. Select [Add to Home](#).
3. After the Home Screen appears, move the selected app to the desired location.
4. Press the Select button.

The selected app is added to the Home Screen.

 If the selected app is already added to the Home Screen, this function is disabled.

3 Locking and unlocking apps

1. Select an app to lock or unlock.
2. Select [Lock/Unlock](#).

The selected app is locked or unlocked.

 To lock or unlock an app, enter the PIN. The default PIN is "0000" (for France and Italy: "1111"). You can set the PIN in  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [System Manager](#) > [Change PIN](#). [Try Now](#)

 [Change PIN](#) may not be supported depending on the model or geographical area.

4 Moving apps

1. Select an app to move.
2. Select [Move](#).
3. Move the app to the desired location.
4. Press the Select button.

The selected app is moved.

 This function may not be supported depending on the model or geographical area.

5 Reinstalling an app

1. Select the app to install again.
2. Select [Reinstall](#).

Reinstallation starts.

6 Checking the app information details

1. Select the app to check.
2. Select [View Details](#).

The app information screen appears.

 You can rate an app on the [View Details](#) screen.

7 Automatically updating apps

To automatically update the installed apps, set [Auto update](#) to [ON](#).

 Automatic update is enabled only when the TV is connected to the network.

Using the e-Manual

Control and read the manual embedded in your TV.

Launching the e-Manual

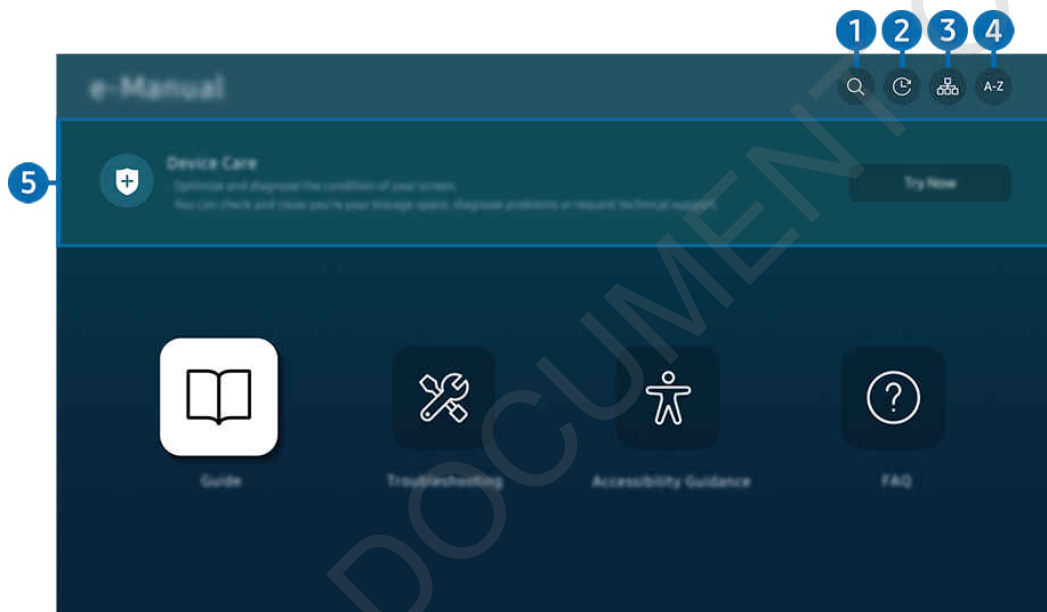
 >  **Menu** >  **Settings** > **Support** > **Open e-Manual**

You can view the embedded e-Manual that contains information about your TV's key features.

 You can download a copy of the e-Manual from Samsung's website to view or print on your PC or mobile device (<https://www.samsung.com>).

 Some menu screens cannot be accessed from the e-Manual.

Using the buttons in the e-Manual



 The image on your TV may differ from the image above depending on the model and geographical area.

1 (Search)

Select an item from the search results to load the corresponding page.

2 (Recently Viewed Topics)

Select a topic from the list of recently viewed topics.

3 (Site Map)

It displays the lists for each item in e-Manual.

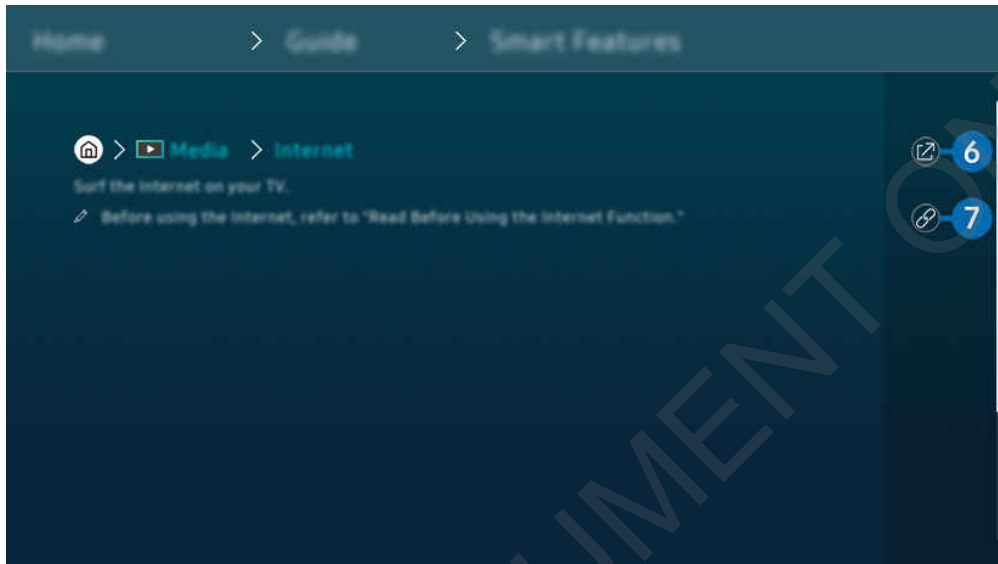
4 A-Z (Index)

Select a keyword to navigate to the relevant page.

 This function may not be supported depending on the model or geographical area.

5 Device Care

Optimise and diagnose the condition of your TV. You can check and clean your storage space, diagnose problems or request technical support.



 Words in blue (e.g., [Internet](#)) indicate a menu item.

 The image on your TV may differ from the image above depending on the model and geographical area.

6 (Try Now)

Allows you to access the corresponding menu item and try out the feature right away.

7 (Link)

Access an underlined topic referred to on an e-Manual page immediately.

Using the Internet

Surf the Internet on your TV.

 > left directional button >  **Media** > **Internet**

When you run **Internet**, you can see recently viewed websites or featured recommendations. When you select a desired website, you can get immediate access to it.

-  You can use the **Internet** function more easily after connecting a keyboard and mouse.
-  You can scroll webpages with the directional button on the Samsung Smart Remote or Remote Control.
-  The webpages may differ from those on a PC.
-  Before using the **Internet**, refer to "Read Before Using the Internet Function".
-  The **Internet** app has an embedded **Samsung Pass Settings** ( >  **Media** > **Internet** > **Internet Menu** > **Settings** > **Samsung Pass**).

With **Samsung Pass**, you can log into the website easily and securely. When you visit the website again, you can log in with **Samsung Pass** Biometrics Authentication on your mobile device without entering your ID and password.

However, this **Samsung Pass** login may not work depending on the website policy. For this purpose, you must have been logged in the mobile device with a Samsung account registered in **Samsung Pass**.

Using SmartThings

It allows the TV to connect and control the detected various devices in the same space.

 >  **Menu** >  **Connected Devices** >  **SmartThings** [Try Now](#) [Try Now](#)

You can control the devices registered to the SmartThings cloud and devices directly connected to this product with a remote control.

-  This function may not be supported depending on the product or model.
-  Functions that can be controlled by remote control may not work depending on the location of the device. In this case, move the location of the device.



-  The image on your TV may differ from the image above depending on the model and geographical area.

1 Favourite

View devices or features that have been set as favourites from the [Device](#)/[Life](#)/[Automation](#) tab.

2 Device

View devices connected to SmartThings, and use the remote control to select and control any of the connected devices. In [Map View](#), you can move the position of a device to create a custom map and check the device status.

If you log in with the same account used for the mobile SmartThings app, you can view devices, registered through SmartThings, more intuitively from [Map View](#).

List of devices compatible with the TV

Type	Description Detail
Devices for IR remote control (IR Sniffing)	Air conditioner, air purifier, robot vacuum cleaner, electric fan, humidifier
Bluetooth devices	Bluetooth speaker, headset, Soundbar, keyboard, mouse, game pad
SmartThings devices	For details on SmartThings devices, access https://www.smarththings.com/products .  SmartThings devices can also be controlled from the mobile app.

 For a detailed list of supported devices, visit www.samsung.com.

 This function may not be available depending on the external device.

3 Life

Displays recommended Life services that can be viewed or controlled from SmartThings.

 Only Life services supported by the TV are displayed.

4 Automation

View or run scenes created from the [Automation](#) tab in the mobile SmartThings app.

5 Location or Device near TV

- Place

Displays all places connected via the SmartThings app.

- **Devices near TV**

Displays all the detected devices that can be connected and controlled.

You can run the control options after selecting a desired device.

 Available options may differ depending on the device.

6 Add Device

Displays the list of devices that can be registered on your TV. You can register any by selecting a device.

7 Samsung Account

Go to the Samsung account screen to create a new account or sign out of your account.

 If you are signed out of your Samsung account, select **Sign In** to sign in.

8 Settings

Edit devices connected to **SmartThings**, or configure notification settings for the devices. You can also turn on the **TV sensor** or the SmartThings hub feature.

SmartThings Quick access

Control most used devices by accessing the  **Connected Devices** menu, without having to access **SmartThings**.

 >  **Menu** >  **Connected Devices**

Use the SmartThings Hub features

Use the SmartThings Hub features on various Samsung products to connect IoT devices (e.g., light bulbs, plugs, or sensors) that are supported by SmartThings.

 >  **Menu** >  **Connected Devices** > **SmartThings** > **Settings** > **SmartThings Hub**

 CU7/CU8/BEC series, 32LS03C model: SmartThings Dongle required to connect Zigbee/Thread.

 Make sure to log in to the same Samsung account on your TV as your mobile SmartThings app.

 This function may not be supported depending on the connected device type.

Register and manage devices via SmartThings [Try Now](#)

Registering peripheral devices of the TV

1. When there is a device detected near the TV, a registration pop-up appears on the TV screen.
 -  When there is no device detected, the pop-up may not appear.
 -  To connect a Bluetooth device, make sure that the device has been paired.
2. Select **Register** to register the device.
 -  To register an appliance, make sure that it uses IR and is detectable in the area around the TV. Supported devices and options may differ depending on the model.
 -  Select **Close**. Then the device registration pop-up does not appear.

You can register a device in  >  **Menu** >  **Connected Devices** >  **SmartThings** > **Add Device**.

-   >  **Menu** >  **Connected Devices** >  **SmartThings**, you can see available options for each device. [Try Now](#)
- Supportable options may differ depending on the device.

Registering a TV / Smart Appliance / IoT device from the mobile app

Use the mobile SmartThings app to register your TV, smart appliances or various IoT devices. Some IoT devices can only be registered using this mobile app. In the mobile app, tap the + (Add Device) to register a device.

Connect a doorbell to your TV, to receive a notification of the doorbell video and speak with the visitor while watching TV.

-  Only WWST (Works with SmartThings) certified doorbells are supported. Supported options may vary, depending on the device.

Use the screen's sensors via SmartThings [Try Now](#)

When you activate the sensor, you can see the sensor device on the SmartThings Device tab. You can create various IoT scenarios with TV without purchasing a separate IoT sensor.

 >  [Menu](#) >  [Connected Devices](#) > [SmartThings](#) > [Settings](#) > [TV sensor](#)

-  Each sensor can be activated with user consent.
-  Each sensor may not be supported depending on the model.
-  The sound sensor is supported when the microphone switch at the bottom of the TV is turned on. The TV microphone may not be supported, depending on the model and region.

Control SmartThings with Bixby [Try Now](#)

With Bixby on the product, you can control devices connected to SmartThings, as well as the TV, using voice commands.

-  This function may not be supported depending on the connected device type.

Control the display device from the mobile SmartThings app [Try Now](#)

From the mobile SmartThings App, use the TV remote control functionality, such as On/Off, Channel, Volume, and four directional buttons. You can also use [Search](#), [APPS](#), [Ambient](#) mode, Mobile Cam, and other functions from the mobile app.

Automation (mode/routine) in the mobile SmartThings app allows you to automatically run apps installed on the TV.

With automation, you can turn on the TV at your desired time and automatically run frequently used apps.

Playing pictures/video/music

Play media content stored on your TV, USB devices, mobile devices, cameras, PCs, etc.

 >  **Menu** >  **Connected Devices** > Connected Device 

You can play media content saved on storage devices, such as USB devices, mobile devices and cameras on the TV.

 You cannot play media content if the content or the storage device is not supported by the TV. For more information, refer to "Read Before Playing Photo, Video or Music Files".

 Backup important files before connecting a USB device. Samsung is not responsible for damaged or lost files.

You can use the following functions on the media content list screen of a storage device.

- **Filter By**

Filters the media content by type of media.

- **Sort By**

Sorts the content list.

 This function may not be supported depending on the type of external device.

- **Options**

Deletes or plays the selected media content in the media content list. When you select **Refresh**, the content list is reloaded.

 You can delete only the recorded content. To delete content, change the **Filter By** option to **Recorded**.

 **Recorded** may not be supported depending on the geographical area.

Playing multimedia content on a PC or mobile device

1. Select a device with media content in  >  **Menu** >  **Connected Devices** > Sources. The media content list in the device appears.
2. Select a media content item from the list.

The selected content is played.

-  The content may not be played depending on the encoding method or file format. Furthermore, several functions may be restricted.
-  Content on devices connected to the TV via your network may not play smoothly due to network communication problems. If this occurs, use a USB device.

Playing multimedia content on a USB device

1. Connect a USB device to the USB port.
2. There is a content list browser shown directly.
 -  If a USB device that contains the content you want to play is already connected to the TV, select the USB device in the  >  **Menu** >  **Connected Devices** > Sources screen.
3. Select a content item to play from the list.

The selected content is played.

Listening to your mobile device sound through the TV speaker using Sound Mirroring

Enjoy listening to music in your living space. Visualisations are generated on your TV that alter and respond to the frequency of your music.

1. Search for and connect to your TV from the  (Bluetooth) device list on your mobile device.
2. Select media content to play on your mobile device.

The selected media is played through the TV speaker.

-  This function may not be supported depending on the model.
-  In some models, the image of the played content may differ depending on the mode.
-  If the TV and the soundbar are connected wirelessly, the operation may be restricted.

Buttons and functions available while playing multimedia content

Press the Select button while playing any video, photo or recorded content. The following buttons appear.

-  The provided buttons and functions may not be supported depending on the model or geographical area.
-  The available buttons and functions may differ with the content you are viewing or playing.

- **Pause / Play**

Pauses or plays the multimedia content.

- **Jump Backward / Jump Forward**

Press the up directional button to move the focus to the playback control bar, and then select the left or right directional button in the playback control bar to move backward or forward by 10 seconds in the video.

- **Move to a specific playback section, move up the focus on the playback bar, and then select one of the five thumbnails.**

-  This function may not be supported depending on the file format.

- **Stop**

Stop the contents being played.

- [Previous / Next](#)

Displays the previous or the next multimedia content file.

If video playback time is 3 seconds or shorter and you press the  button, the video starts from the beginning.

- [Rewind / Fast Forward](#)

Rewinds or fast forwards the multimedia content. To increase the rewind or fast forward speed up to 3 times faster than normal, select the button repeatedly. To return to normal speed, select the  option or press the  button.

You can use the following functions when the video is paused. Note that with the video paused, the TV does not play audio.

- [Slow Rewind](#) or [Slow Forward](#): Allows you to play a video slowly backward or forward by selecting the  or  option. There are 3 playback speeds. To change the playback speed, press the option repeatedly. To return to normal speed, select the  option or press the  button.

- [360 Mode](#)

Provides a 360-degree view for videos and photos.

-  This function may not be supported depending on the file format.
-  Video files using the mjpeg codec do not support a 360-degree view.
-  When a video or photo does not support a 360-degree view, applying 360 rotation to it may cause the screen to look distorted.
-  Videos may be interrupted if 360 rotation is applied during double speed playback.
-  Videos that support a 360-degree view may be interrupted if 360 rotation is simultaneously applied with other functions during playback.
-  This function may not be supported for some resolutions.
-  This function may not be supported depending on the model.

- **360 Auto Rotation**

Automatically adjusts the video's viewing angle by analysing the amount of image changes during playback of a video file that provides a 360-degree view. When this function is started, the rotation starts in a short time.

When **360 Auto Rotation** is focused, press the Select button to change to the following modes:

-  General
-  Dynamic
-  Natural

 This function is only available when **360 Mode** is selected.

 When **360 Auto Rotation** is activated, automatic adjustment is followed. The adjustment position may differ depending on the image.

 The video's viewing angle is manually adjusted in General mode.

 This function may not be supported depending on the file format.

 Video files that use the mjpeg codec do not support a 360-degree view.

 When a video does not support a 360-degree view, applying 360 rotation to it may cause the screen to look distorted.

 Videos may be interrupted if 360 rotation is applied during double speed playback.

 Videos that support a 360-degree view may be interrupted if 360 rotation is simultaneously applied with other functions during playback.

 This function may not be supported for some resolutions.

 This function may not be supported depending on the model.

- **Repeat**

Plays the current multimedia content repeatedly or all multimedia content files in the same folder repeatedly.

- **Shuffle**

Plays music files in random order.

- **Picture Off**

Plays music files with the screen off.

- **Fit to Screen**

Fits a photo to the screen.

- **Rotate left / Rotate right**

Rotates a photo left or right.

- **Zoom**

Zooms in a photo.

- **Background Music**

Pauses or resumes the background music while the TV displays photos.

 This function is available after enabling the **Background Music** option.

- **Options**

 The available options may differ with the model and content.

Function	Description
Slideshow Speed	Sets the slideshow speed.  If there is only one image file in the USB device, the slide show is not played.
Slideshow Effect	Applies transition effects to the slide show.  If there is only one image file in the USB device, the slide show is not played.
Background Music	Plays background music as you set in the pop-up window while the TV displays photos.  The music files must be saved in the same USB device as the photo files.  To pause the background music, select Background Music on the playback screen bottom.
Subtitles	You can set the detailed subtitle options such as the language, sync, size and colour.  If subtitles are not displayed correctly, check the encoding setting.
Rotate	Rotates the video.
Audio Language	Changes the audio language.  This function is only available if the video supports multi-track sound.
Information	Displays detailed information about the current multimedia content.

Using Multi View

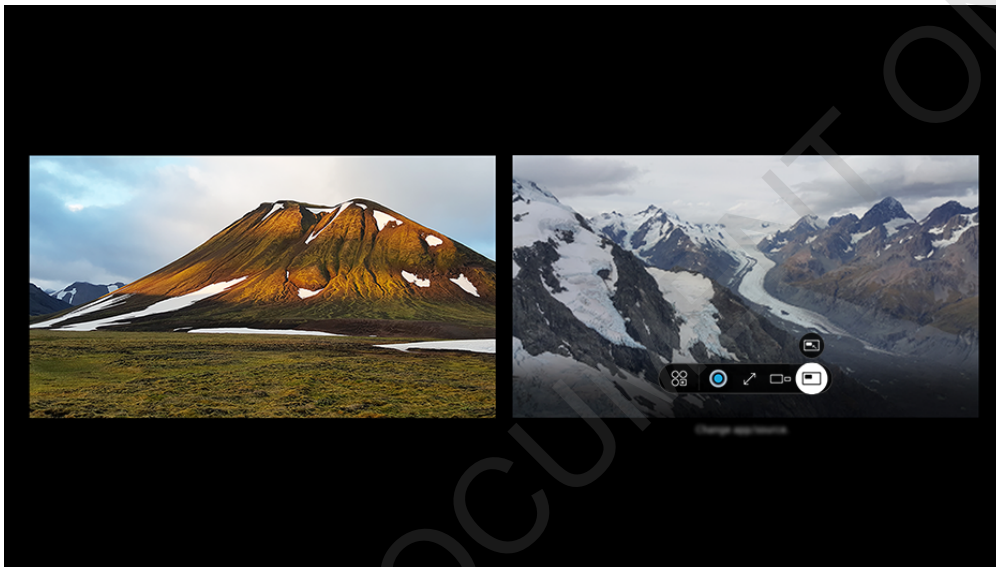
You can view multiple content items through Multi View.

 >  **Menu** >  **Settings** >  **Multi View** [Try Now](#)

 This function may not be supported depending on the model.

To start **Multi View**, navigate to  >  **Menu** >  **Settings** >  **Multi View**. Next, select the item you want from the Add View list. Or select **Make My Own** to configure a custom layout and screen. You can add or delete a screen in the current **Multi View** screen by pressing the down directional key on the Samsung Smart Remote. To add a screen, while in **Multi View** mode, select  **Add View** at the bottom right to add the screen you desire.

 With 8K models (QN7**C Series or higher), you can configure a view with 3-5 screens.



 The image on your TV may differ from the image above depending on the model and geographical area.

When **Multi View** is running, press the Select button to configure the following menus.

 This function and the provided options for each menu icon may not be available depending on the model and region.

- **Content**

You can view the currently displayed app or source.

 After selecting a content item, you can control the screen or change the app and source.

- **App/Source**

You can select from the content list displayed above.

- **Screen Size**

Selects the desired size of **Multi View**.

- **Screen Position**

You can shrink or expand the size of the selected screen.

- **Picture-in-Picture**

Selects the position of a small screen on the full screen. The focusing left or right screen appears as small window.

- **Double Audio**

You will hear the sound of both screens at the same time by adjusting the ratio of each screens sound.

- **Bluetooth Speaker**

You can hear the sound by connecting the Bluetooth speaker.

- **Delete**

You can delete the selected screen.

- **Full Screen**

Multi View is ended and then the full screen appears.

To close **Multi View**, press and hold the  button or press the  button on the Samsung Smart Remote.

 The start and stop of this function can also be voice-controlled by pressing the  button on the Samsung Smart Remote.

 This function operates only by TV broadcasts, external devices, or apps that support **Multi View**.

 While running **Multi View**, app casting from your mobile device is run on **Multi View**. This function is not available in some apps.

 In some models, you can view the image on the camera connected to the SmartThings app of your mobile device.

 Q-Symphony is not supported by **Multi View**.

 When an external device that connects to a receiver or Soundbar is used in **Multi View**, sound outputs from the TV speaker, not from the receiver or Soundbar.

Using Bixby

Set Voice Assistant to Bixby. Speak into the microphone on your Samsung Smart Remote or TV to control your TV.

-  This function is available only if Voice Assistant is set to Bixby. (🏠 > ≡ Menu > ⚙️ Settings > All Settings > General & Privacy > Voice > Voice Assistant) [Try Now](#)
-  Bixby is available only when the TV is connected to the network.
-  To use Bixby, you must register and sign in to your Samsung account. Some functions may not be supported if you are not signed in to your Samsung account.
-  Bixby only supports some languages and the supported functions may differ depending on the geographical area.
-  Bixby may not be supported depending on the model or geographical area.
-  The microphone on TV is not supported depending on the model or geographical area.

Starting Bixby with voice

You can immediately start a conversation with Bixby by saying "Hi, Bixby". Say "Hi, Bixby", and the Bixby icon at the bottom of the TV screen is activated in Listen mode. Continue speaking.

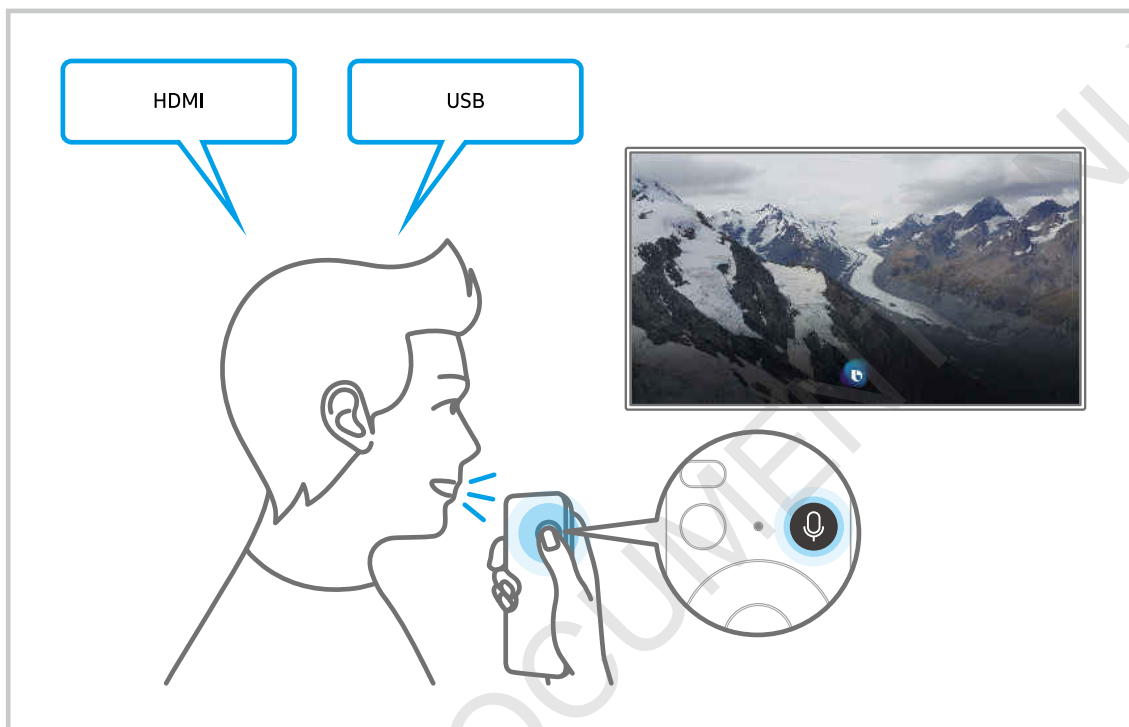
-  When the distance to the TV is within 3 to 4 m, optimal performance is provided. If Bixby does not answer, refer to "I spoke "Hi, Bixby/Alexa" but Bixby/Alexa does not answer." in "Troubleshooting".
-  This function may not be supported depending on the model or geographical area.

Starting Bixby using buttons on the Samsung Smart Remote

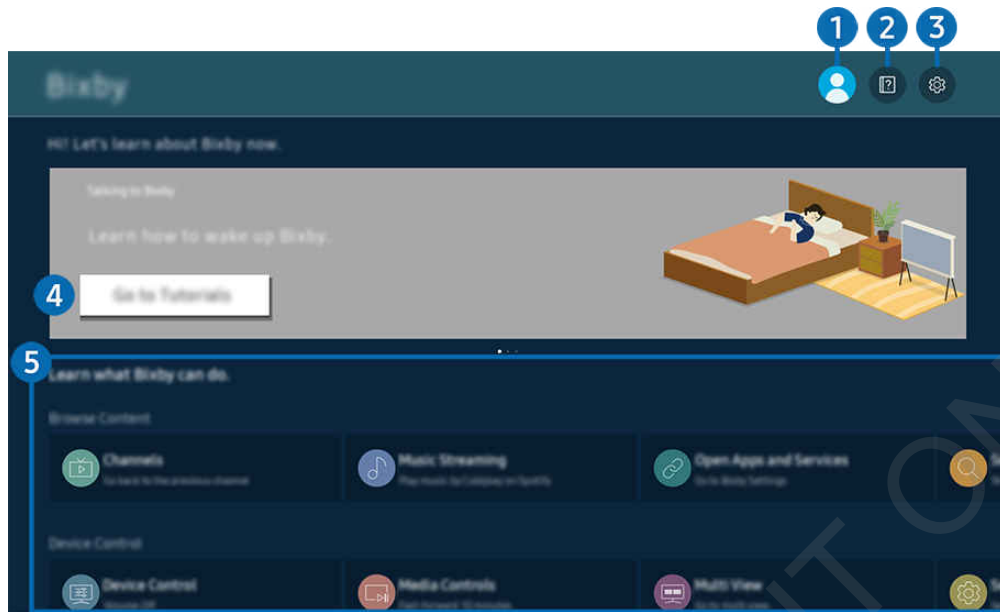
You can have conversation with Bixby using the Samsung Smart Remote buttons. Press and hold the  button on your Samsung Smart Remote, say a command, and then release the  button.

For details on how to use Bixby, press the  button once:

- When you press the  button, the [Explore Now](#) button appears at the bottom of the screen. Press the Select button to go to the [Explore Bixby](#) screen.



Learning about the Explore Bixby Screen



The image on your TV may differ from the image above depending on the model and geographical area.

1 My Profile

Log out after going to the [My Profile](#) screen.

If you are signed out of your Samsung account, select [My Profile](#) to sign in.

2 Tutorials

View tutorials related to the Bixby.

3 Settings

You can change the settings for using Bixby.

These functions may not be supported depending on the model or geographical area.

These functions can be set in [Bixby Settings](#) (> [Menu](#) > [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Voice](#) > [Bixby Settings](#)). [Try Now](#)

- [Language and voice style](#)

You can change Bixby's language and voice style.

The languages of the TV and other apps will not change.

Bixby only supports some languages.

This function may not be supported in Bixby depending on the language selected.

- **Voice Wake-up**

Configure settings on how to wake up Bixby with your voice. You can configure the following settings: [Use your Samsung Soundbar to interact with Bixby.](#), [Bixby Wake-up Options](#), and [Wake-up Sensitivity](#). (🔊 > [Explore Now](#) > ⚙️ [Settings](#) > [Voice Wake-up](#))

- ✎ The **Voice Wake-up** function may not be supported depending on the model or geographical area.
- ✎ This function can be used only when the microphone switch at the bottom of the TV is active. The microphone on TV is not supported depending on the model or geographical area.
- ✎ When the distance to the TV is within 3 to 4 m, optimal performance is provided. If Bixby does not answer, refer to "I spoke "Hi, Bixby/Alexa" but Bixby/Alexa does not answer." in "Troubleshooting".

- **Sound feedback**

Play a sound when Bixby starts and stops listening.

- ✎ This function may not be supported depending on the model or geographical area.

- **Privacy**

You can permit or prohibit Bixby from utilising your personal information when you are using Bixby services.

- **About Bixby**

Displays the detailed terms and conditions.

4 Recommended commands

Displays recommended commands you can use to control the TV with Bixby given the current context.

If you do not want to see the recommended commands, set **Voice Hint** to **Off**. (🏠 > ≡ [Menu](#) > ⚙️ [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Voice](#) > [Voice Hint](#)) [Try Now](#)

5 All Services

You can learn the voice commands that let you use Bixby in various situations. Use the directional buttons to move to the desired command, and then press the Select button. You can operate the TV with various voice commands.

Read Before Using Bixby

- The supported voice interaction languages and features may differ depending on the geographical area.
- If the language set differs from the language of your country, some features are not available.
- Bixby is available only when the TV is connected to the network.
- Even if the TV is connected to the network, there may be no response due to a Bixby server error.
- The existing functional specifications may be changed if Bixby is updated.
- Bixby is available only on TVs that support it and come with remote controls that have a microphone.
- Symbols including "-" and special characters are not supported. Consequently, if a word or sentence contains numeric values or symbols, the function may not operate properly.
- Searched results may not provide complete results.
- You may be required to pay for some apps. Consequently, you may encounter a service application or contract.
- To change the current channel by saying channel names as voice commands, you must finish [Find Your Service Provider](#). [Find Your Service Provider](#) can be set in  > [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Service Provider Info & Settings](#). [Try Now](#)

If the settings for the service provider are not configured yet, configure them in  > [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Reset](#). [Try Now](#)

 Service provider settings in initial setup may not be supported on geographical area.

- To use the voice text input function and the search function, you must consent to provisions allowing third parties to collect and use your voice data.
- To use the Bixby function, you must:
 - Agree to Smart Hub's Terms of Use.
 - Agree to a guidance regarding the collection and use of personal information for the Smart Hub service.
 - Consent to the collection and use of personal information for the voice interaction-based service.

Provisions for using Bixby

- The voice interaction rate differs with the volume/tone, pronunciation and ambient sound environment (TV sound and ambient noise).

Using the Game Bar

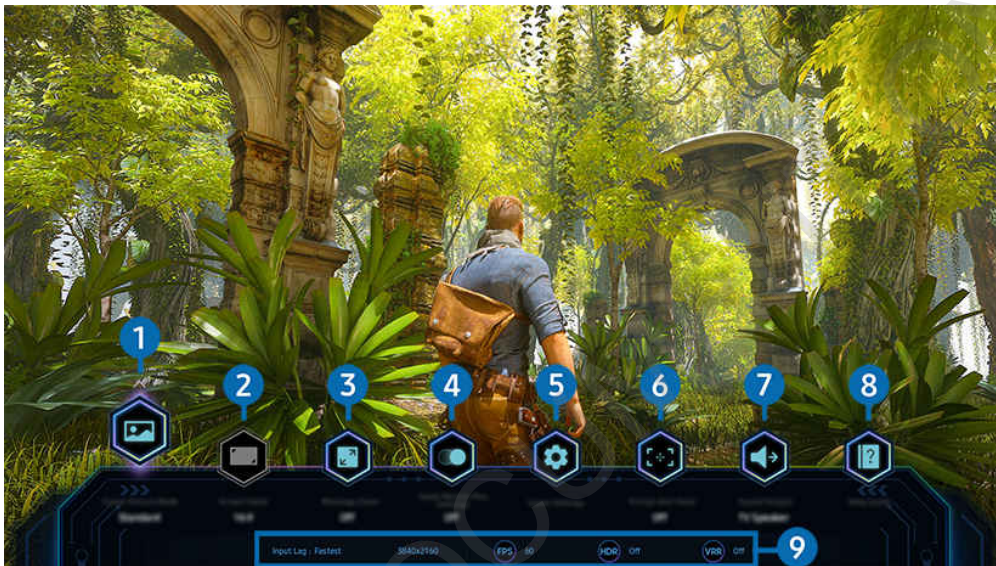
Control the Game Settings Monitoring and Game Enhancer Settings easily by using the Game Bar.

 This function may not be supported depending on the model.

Starting the Game Bar

When **Game Mode** (🏠) > ≡ **Menu** > ⚙️ **Settings** > **All Settings** > **Connection** > (**Game Mode Settings**) > **Game Mode**) is **On** or **Auto**, press and hold the 🎮 button on your Samsung Smart Remote to start the **Game Bar**. [Try Now](#)

Learning about the Game Bar



 The image on your TV may differ from the image above depending on the model and geographical area.

1 Game Picture Mode

Specify the **Game Picture Mode** according to the current game genre. To customise the picture quality, select **Custom**.

2 Screen Ratio

You can change the screen ratio from 16:9 (previous setting) to Ultra wide (21:9 or 32:9).

-  You have to set the resolution from your PC only once at first time.
-  The **Game Bar**'s Screen Ratio can be changed only when the Ultra Wide resolution is supported in a game or PC. Whether or not to support the screen ratio of 21:9 and 32:9 depends on the title of the game so be sure to consult the game company.

3 Minimap Zoom

Use the directional buttons and Select button on the remote control to zoom in on specific areas of the game screen and adjust the zoom rate.



- For the Minimap supported resolution, refer to the table below.

Game Bar Screen Ratio	Resolution set in PC
16:9	3840 x 2160 (60/*120 Hz)
21:9	2560 x 1080 (60/*120 Hz) 3840 x 1600 (60/*120 Hz)
32:9	3840 x 1080 (60/*120 Hz)

-  *: The refresh rate may not be supported depending on the model.

4 Game Motion Plus

Turn on this function to obtain a softer and clearer picture quality when playing a role-playing game (RPG) or adventure game which involves many dynamic scenes.

5 Game Settings

Moves the menu to [Game Mode Settings](#).

6 Virtual Aim Point

You can see the virtual aim point on the screen.

7 Sound Output

Change the sound output device. (e.g. TV Speaker, Soundbar, Bluetooth headset, etc.)

8 Help guide

View details on how to use each menu item.

9 Current status display

- [Input Lag](#): Shows the status of game input lag.
- [Resolution](#): Shows the resolution of the currently running game.
- [FPS](#): Shows the number of frames per second in real time. If [VRR](#) is active, the frame rate changes.
- [HDR](#): Shown as [On](#) when an HDR game is running.
- [VRR](#): Shows the variable refresh rate.

Using FreeSync

The FreeSync feature allows you to play seamless games without video interruption or delay. To use the FreeSync feature, activate the FreeSync feature from the external device.

- Models that support FreeSync Premium Pro
 - QN9**C, QN8**C, QN7**C, QN95C, QN90C, QN85C, Q8*C (except for 50-inch model), Q7*C, S95C

 For resolutions at which FreeSync is supported, refer to "[Supported Resolutions for FreeSync \(VRR\)](#)".

Setting the Super Ultra Wide Game View

Set your PC Screen resolution to match the selected Screen Ratio in the **Game Bar** before activating the **Super Ultra Wide Game**.

If the TV is connected to a computer and **Game Mode** is set to either **ON** or **Auto**, the wide screen (**21:9** or **32:9**) is activated from the **Game Bar**.

-  This function may not be supported depending on the model and geographical area.
-  Check if the game supports Ultra Wide resolution (**21:9** or **32:9**).
-  If you set the resolution on your PC for the first time, you can change the Screen Ratio through the **Game Bar** on your TV.

Game Bar Screen Ratio	Resolution set in PC
21:9	3840 x 1600 (60 Hz)
	* 3840 x 1600 (120 Hz)
	2560 x 1080 (60 Hz)
	2560 x 1080 (120 Hz)
32:9	3840 x 1080 (60 Hz)
	3840 x 1080 (120 Hz)

-  *: The resolution may not be supported depending on the model.
-  The supportable resolutions may differ depending on the model or HDMI port connected to the PC.
-  After setting the resolution, check if the PC's Window or Mac screen changes when you change the Screen Ratio on the **Game Bar** of your TV.
-  This function may not be supported depending on the OS or device.
-  If the connected external device is a gaming device, the function does not work even if you change the name of Source to "PC".
-  **While you are playing a game, the screen ratio cannot be changed. Before running a game, first select the desired screen ratio on the Game Bar and then run the game. For some games, you need to match the game resolution with the selected screen ratio in the Game Bar.**

Changing the Super Ultra Wide Screen position

When playing a game at the Super Ultra Wide resolution, you can adjust the game screen position to the height of your eyes.

At the Super Ultra Wide resolution, use the **^/∨** (channel) buttons to move the screen position to the top, centre, or bottom.

Configuring 144 Hz game settings

If the TV is a model that supports 144 Hz, you can play 144 Hz games.

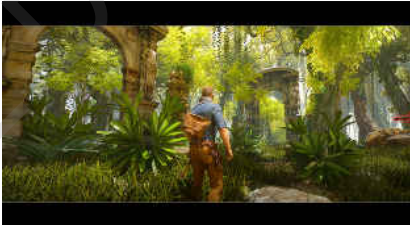
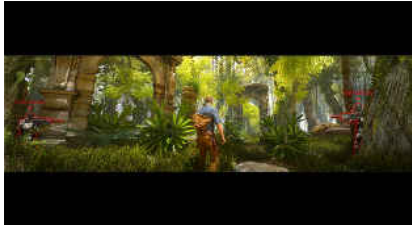
- Models that support 144 Hz: QN9**C, QN95C, S95C, S90C, QN90C (43/50 inches only)
- Resolutions that support 144 Hz are as follows:

Game Bar Screen Ratio	Resolution set in PC
16:9	1920 x 1080p @ 144
	3840 x 2160p @ 144
21:9	2560 x 1080p @ 144
	3840 x 1600p @ 144
32:9	3840 x 1080p @ 144

Troubleshooting of the game screen and audio problems

After changing the Screen Ratio on the [Game Bar](#), if the game screen and sound are not output properly, try to solve the problems as shown below.

- Check to see if the game supports Ultra Wide or your PC supports the Ultra Wide resolution.
- Restart the game after exiting it.
- Select the same resolution as that of the [Game Bar](#).
- When the Screen Ratio changes properly, the screen appears as shown below.

16:9	21:9	32:9
		

TV Viewing

Use a variety of convenience features offered by your Samsung TV while watching TV. You can also edit your list of channels and create a list of favourite channels.

Using the Guide

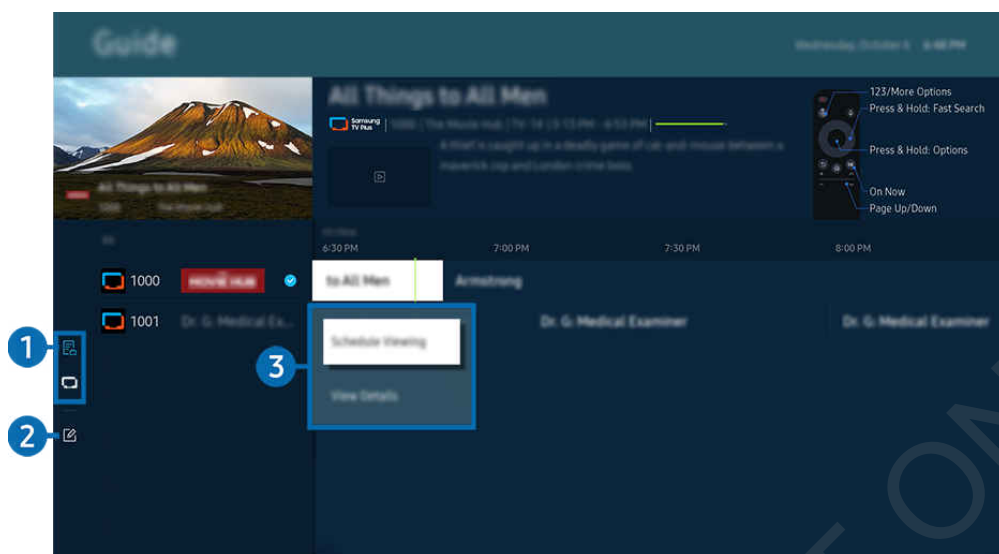
See the programming schedules of different channels on a single screen.

Press the $\wedge/\vee$ (channel) button to access the [Guide](#).

In the [Guide](#), you can see the daily programme schedules for each station, see programme information, choose a programme to watch, and set up a schedule viewing or recording.

-  Service Provider settings in initial setup may not be supported on geographical area.
-  The Record function may not be supported depending on the model or geographical area.
-  To access information or additional features provided in the [Guide](#) from analogue channels, you must set Service Provider during the initial configuration stage.
-  To view [Guide](#), you must first configure [Clock](#) (🏠) > [Menu](#) > [Settings](#) > [All Settings](#) > [General & Privacy](#) > [System Manager](#) > [Time](#) > [Clock](#). [Try Now](#)
-  For details on how to use the remote control, refer to the image guide at the top right.

About the Guide screen



 The image on your TV may differ from the image above depending on the model and geographical area.

1 Channel Filter

View channels and programmes classified by type.

2 Edit Channels

Edit channels stored on the TV.

 For more information, refer to ["Using the channel edit function"](#).

3 Additional options related to broadcast programmes

Navigate to the desired programme and press and hold the Select button to access the following options:

 These functions may not be supported depending on the model or geographical area.

- **Schedule Viewing**

You can schedule the viewing of a broadcast scheduled programme.

- **Cancel Scheduled Viewing**

You can cancel scheduled viewings.

- **View Details**

You can see detailed information about the selected programme. The information may differ or may not be provided depending on the broadcast signal.

- **Record**

You can make a recording of a current programme.

- **Stop**

You can stop the recording function that is currently running.

- **Edit Recording Time**

You can change the start and end times of scheduled programme recordings.

- **Schedule Recording**

You can schedule recording of a broadcast scheduled programme.

- **Cancel Scheduled Recording**

You can cancel scheduled recordings.

Using additional features from the Guide

From the [Guide](#), press either the  or  button to use additional features.

 These functions may not be supported depending on the model or geographical area.

- [Channel Filter](#)

You can view channels and programmes categorised by the types defined in [Channel List](#).

- [Schedule Manager](#)

You can see the [Recording & Schedule Manager](#) or [Schedule Manager](#) screen.

 For more information about [Schedule Recording](#), refer to "[Recording programmes](#)".

 For more information about [Schedule Viewing](#), refer to "[Setting Up Schedule Viewing](#)".

- [Aerial Type](#)

You can change the type of broadcast signals the TV receives.

 This function may not be supported depending on the incoming broadcast signal.

Recording programmes

Record a current or upcoming programme using a USB device instead of a video recorder.

-  This function may not be supported depending on the model or geographical area.
-  Connect a USB device to use the TV's recording features. Carefully read all related precautions before using a recording feature. For more information, refer to "[Before Using the Recording and Timeshift Functions](#)".
-  You can record only the programmes that are received through an antenna.
-  The  appears next to the programmes and channels scheduled for recording.

The Instant and Timer Recording options from the Guide

- **Record**
 1. Select a programme that is currently being broadcast and press the Select button.
 2. Select **Record** from the pop-up menu to start recording.
- **Schedule Recording**
 1. Select a programme scheduled to be broadcast, and press the Select button.
 2. Select **Schedule Recording** from the pop-up menu to schedule recording.

Recording while watching a broadcast

- **Record**
 1. On the Samsung Smart Remote, press the  or  button.
 2. Use the directional buttons to navigate to the control pad.
 3. Select **Record** to start recording.

 Or press the  button while watching a broadcast.
- **Schedule Recording**
 1. Press the Select button while watching a broadcast to load the programme details window.
 2. Use the left or right directional button to navigate to a programme scheduled to be broadcast, and press the Select button.
 3. Select **Schedule Recording** to schedule the recording of the programme.

Using the recording schedule management screen

1. On the Samsung Smart Remote, press the  or  button.
2. Use the directional buttons to navigate to the control pad.
3. Select either [Schedule Manager](#) or [Recordings](#) to access the [Recording & Schedule Manager](#) screen.

The following options are available on the [Recording & Schedule Manager](#) screen:

 Displayed menu options may vary depending on the model or geographical area.

- [Recordings](#)

Watch Recordings.

-  Buttons shown on the display will vary depending on the file being played back. For more information about playback controls, refer to "[Buttons and functions available while recording a programme or Timeshift](#)".
-  From the list, select a recording you wish to watch. The selected recording will start to play.
-  Move the focus to a recording to display [Play](#), [Delete](#), and [View Details](#) options on the right-side menu.

- [Schedule Recording](#)

Navigate to [Schedules](#) and press [Schedule Recording](#). Add, edit, or cancel a programme recording schedule.

-  Specify the [Aerial](#), [Channel](#), [Repeat](#), [Date](#), [Start Time](#), and [End Time](#) settings and then select [Save](#) to schedule a recording of a specific programme at a specific time on a specific date.
-  Up to thirty [Schedule Viewing](#) and [Schedule Recording](#) events may be created.
-  Ensure that the TV's [Clock](#) ( > [Menu](#) > [Settings](#) > [All Settings](#) > [General & Privacy](#) > [System Manager](#) > [Time](#) > [Clock](#)) setting is correct. [Try Now](#).

- [Edit](#)

You can set the start and end times for a schedule recording. You can set the start time up to 10 minutes before the programme starts and the end time up to 10 minutes after the programme ends.

- [Delete](#)

Remove a scheduled recording.

- [View Details](#)

See detailed information about a scheduled recording.

- **Settings**

- **Start Recording Early**

Change this setting so that the recording starts slightly earlier than the programme start time shown in the Guide.

- **Continue Recording After**

Change this setting so that the recording ends slightly later than the programme end time shown in the Guide.

- **Symbol Information**

Provide users with the information of the symbol and the explanation about an icon used in the schedule manager.

 The menus may not appear depending on the model or geographical area.

Setting Up Schedule Viewing

Configure the TV to show a specific channel or programme at a specific time and date.

-  This function may not be supported depending on the model or geographical area.
-  The  appears next to programmes that have been configured for a scheduled viewing.
-  To set up a schedule viewing, you must first set the TV's clock ( >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Clock**) and set the time. [Try Now](#)

Using the schedule viewing options from the guide screen

On the **Guide** screen, select a programme you would like to view, press the Select button, and then select **Schedule Viewing** in the pop-up menu that appears.

Using the schedule viewing options while watching a programme

Press the Select button while watching TV. The programme Info window appears. Select a programme that will be broadcast using the left or right directional buttons. Press the Select button, and then select **Schedule Viewing** to schedule viewing of that programme.

Using the viewing schedule management screen

1. On the Samsung Smart Remote, press the  or  button.
2. Use the directional buttons to navigate to the control pad.
3. Select either **Schedule Manager** or **Recordings** to access the **Recording & Schedule Manager** screen.

 Displayed menu options may vary depending on the model or geographical area.

- **Schedule Viewing**

Navigate to **Schedules** and press **Schedule Viewing**. Add, edit, or cancel a programme viewing schedule.

 Up to thirty **Schedule Recording** and **Schedule Viewing** events may be created.

 Ensure that the TV's **Clock** ( >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Clock**) setting is correct. [Try Now](#)

- **Edit**

You can set the start time of a scheduled viewing. If you choose a programme from the **Guide**, the **Start Time** can be set to up to 10 minutes before the programme.

- **Delete**

You can delete scheduled viewings.

- **View Details**

You can view detailed information about scheduled viewings.

Using Timeshift

Watch scenes you missed and rewind to specific points of the programme using Timeshift.

To activate Timeshift while watching a broadcast, press either the  or  button, and then use the directional buttons on the remote control to select **Timeshift** or press the  button. [Try Now](#)

Save the current broadcast programme you are watching to a USB device to pause at specific scenes, view missed scenes, or rewind to specific points in the timeline.

-  When the Timeshift function is running, some functions are not available in  > [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#).
-  To use Timeshift, you must connect a USB device for recording.
-  Read all precautions before using the Timeshift function. For more information, refer to "[Before Using the Recording and Timeshift Functions](#)".
-  This function may not be supported depending on the model or geographical area.

Buttons and functions available while recording a programme or Timeshift

These are the controls and options available while recording broadcasts and using Timeshift.

Press the down directional button to display the control pad with the following options:

 This function may not be supported depending on the model or geographical area.

 The available buttons and functions may differ with the functions.

- **Pause / Play**

You can use the following functions when the video is paused. Note that with the video paused, the TV does not play audio.

- **Slow Rewind** or **Slow Forward**: Use  or  button to slow rewind or slow forward. Available speeds are 1/8, 1/4 and 1/2. Press the corresponding repeatedly to quickly increase the speed in slow mode by up to 3 times. To resume playback at normal speed, select  button.

 While using **Slow Rewind**, you will be able to see the time difference between the recorded broadcast's current time and the rewind time.

- **Jump Backward / Jump Forward**

Press the up directional button to move the focus to the playback control bar, and then select the left or right directional button in the playback control bar to move backward or forward by 10 seconds in the video.

 When the Jump Backward function is activated, you can view the difference between the current recording time and the current rewind time.

- **Rewind / Fast Forward**

 This function is not available while you are watching a programme that is currently being broadcast.

- **Stop Recording / Stop Timeshift**

Ends the recording or Timeshift function.

- **Record**

You can switch from the Timeshift function to the recording function. When switching to the recording function, you can include the content recorded by the Timeshift function in the new recording.

 This function is only available when the Timeshift function is running.

- **Edit Recording Time**

You can set for what period of time the programme will be recorded.

 This function is only available when a programme is being recorded.

- **Go to Live TV**

While using Timeshift to view a previous scene, select **Go to Live TV** to return to live TV.

 This function may not be supported depending on the model or geographical area.

- **Info**

Loads a window containing information about the programme being recorded or Timeshift has been activated for.

- **Schedule Viewing / Schedule Recording**

Add a viewing or recording schedule.

Using the Channel List

Change the channel or check programmes on other digital channels.

Use the [Channel List](#) screen to change channels or see what programmes are being broadcast on other digital channels. On Standard Remote Control, press the CH LIST button.

Accessing the channel list

Press and hold the $\wedge/\vee$ (Channel) button to open the [Channel List](#).

Using the functions on the channel list screen

The [Channel List](#) screen icons indicate the following:

- : A favourite channel.
- : A locked channel.
- : CI card required channel.

The following options are accessible from the top left of the [Channel List](#) screen.

- [Terrestrial](#), [Cable](#) or [Satellite](#)

Allows you to choose between [Terrestrial](#), [Cable](#) and [Satellite](#).

This function may not be supported depending on the incoming broadcast signal.

This function may not be supported depending on the model or geographical area.

- [Sort](#)

Sorts the list by [Number](#) or by [Name](#).

This option is only available on digital channels and may not always be available.

Press the left directional button while in the [Channel List](#) screen to access the following options:

- [All](#)

Displays the channels that have been automatically searched.

 The channels received to the currently selected [Terrestrial](#), [Cable](#) or [Satellite](#) are displayed.

- [Samsung TV Plus](#)

While the TV is connected to the Internet, you can watch popular programmes or highlights for each theme through a virtual channel at any time. As with regular channels, the TV provides the daily programme schedules for [Samsung TV Plus](#).

 This function may not be supported depending on the model or geographical area.

- [Channel Type](#)

Filters the list so that it includes channels of a selected type. However, [Channel Type](#) can only be used channels contain the type information.

 This function may not be supported depending on the incoming broadcast signal.

- [Favourites](#)

Displays favourite channels from [Favourites 1](#) through [Favourites 5](#).

 It displays only the [Favourites](#) that includes the Favourite channel.

Using the channel edit function

Edit the channels stored on your TV.

Accessing the channel edit screen

1. Access the [Channel List](#) or [Guide](#).
2. Press [Edit Channels](#) to access the channel edit screen.

Using the channel edit functions

The [Edit Channels](#) screen icons indicate the following:

- : A favourite channel.
- : A locked channel.
- : CI card required channel.

Select a channel from the [Edit Channels](#) screen to access the following options:

- [Lock / Unlock](#)

Restrict access to channels that require parental guidance. Locked channels can only be accessed by entering the PIN.

If you want to use this function or set the password, set > [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Parental Settings](#) > [Apply Channel Lock](#) to [On](#).

For more information on setting the PIN, refer to "[Setting up a password](#)".

- [Delete](#)

After selecting a target channel to remove in [Edit Channels](#), select [Delete](#). Removed channels are not displayed in the [Channel List](#).

- [Rename channel](#)

From [Edit Channels](#), select the channel you wish to rename and then select [Rename channel](#).

Only one channel can be renamed at a time.

This function is only available for analogue broadcasts.

- **Change Number**

After selecting a channel to change in **Edit Channels**, select **Change Number** to change the channel number.

 This function may not be supported depending on the model or geographical area.

 When a channel number is changed, its channel information is not updated automatically.

- **Restore Samsung TV Plus**

You can restore the deleted **Samsung TV Plus** channels.

 This function may not be supported depending on the model or geographical area.

- **Save and Exit**

Save the changes made under **Edit Channels** and exit.

EXAMPLE DOCUMENT ONLY

Using a Personal favourites List

Create frequently watched channels as favourite channels.

On the [Edit Channels](#) and [Channel List](#) screens, the ♥ icon appears next to favourite channels.

Creating a Favourites List

1. Access the [Edit Channels](#) screen.

 For details on how to access the channel edit screen, refer to "[Accessing the channel edit screen.](#)"

2. Press the left directional button on the remote control to select the desired [Favourites](#).
3. Press the right directional button to select [Add Channels](#).
4. Select the desired channel in the list on the screen.
5. Press [Add](#) to add the selected channel to the favourites list.

Select [Favourites 1](#) - [Favourites 5](#) on the [Edit Channels](#) screen and the following functions are available.

 Up to five Favourites can be created, which allows each member of the family to create their own favourites list.

- [Add Channels](#)

In the channel list, select one or more channels to add in the favourite list and then select [Add Channels](#).

- [Remove](#)

Removes one or more channels from a favourites list.

- [Change order](#)

Changes the order of one or more channels selected in a favourites list.

- [Rename Favourites](#)

Renames a favourites list.

- [Save and Exit](#)

Saves and closes the [Edit Channels](#) screen.

TV-Viewing Support Functions

Use the functions that are available while watching TV.

Scanning for available channels

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **(Auto Tuning Settings)** > **Auto Tuning**
Try Now

-  This function may not be supported depending on the model or geographical area.
-  If the TV is connected to a cable box or satellite box, you do not need to do this.
-  The DVB-T2 system may not be supported depending on the geographical area.
-  The **Auto Tuning Settings** may not appear depending on the model or geographical area.

Selecting the cable network search option

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **(Auto Tuning Settings)** > **Cable Search Option**
Try Now

Sets additional search options such as the frequency and symbol rate for a cable network search.

-  This function may not be supported depending on the model or geographical area.
-  The **Auto Tuning Settings** may not appear depending on the model or geographical area.

Scanning for available channels on standby mode

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **(Auto Tuning Settings)** > **Standby Auto Tuning**
Try Now

Automatically scan for channels while your TV is in standby mode.

-  This function may not be supported depending on the model or geographical area.
-  The **Auto Tuning Settings** may not appear depending on the model or geographical area.

Setting the Wake-up time

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [\(Auto Tuning Settings\)](#) > [Wake-up Timer](#) [Try Now](#)

Schedule timer to turn the TV on and scan channels automatically.

 This function may not be supported depending on the model or geographical area.

 The [Auto Tuning Settings](#) may not appear depending on the model or geographical area.

Setting the functions for the service provider

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Service Provider](#) [Try Now](#)

Enable or disable the broadcast service provider feature.

 This function may not be supported depending on the model or geographical area.

Viewing broadcast service provider info

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Service Provider Info & Settings](#) [Try Now](#)

Find out who the current broadcast service provider is and look up related information.

 These settings can be configured only for available Service Provider.

Checking digital channel signal info and strength

 >  **Menu** >  **Settings** > **Support** > **Device Care** > **Self Diagnosis** > **Signal Information** [Try Now](#)

 If your TV is attached to a separate, over-the-air antenna, you can use the signal strength information to adjust the antenna for increased signal strength and improved HD channel reception.

 **Signal Information** is only available for digital channels.

 This function may not be supported depending on the model or geographical area.

Selecting the broadcasting audio option

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **Dual Sound** [Try Now](#)

Set audio options for stereo or bilingual broadcasts. For more information, refer to "[Supported broadcasting audio options](#)".

 This function may not be supported depending on the model or geographical area.

Using Programme Rating Lock

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **Parental Settings** > **Programme Rating Lock** [Try Now](#)

 This function may not be supported depending on the model or geographical area.

This function is useful for controlling what programmes children can watch on the TV based on their ratings.

Programme Rating Lock does not, however, block programmes originating from external sources, such as Blu-ray players, DVD players or USB files.

Every time you access **Programme Rating Lock**, you must enter the security PIN. You must also enter this PIN to watch a blocked programme. The default PIN is "0000" (for France and Italy: "1111"). To change the PIN, go to  >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Change PIN**. [Try Now](#)

 For more information about how to set your password, refer to "[Setting up a password](#)".

 The **Broadcasting** is not available in HDMI or Component mode.

 **Programme Rating Lock** may not be supported depending on your input signal.

 **Change PIN** may not be supported depending on the model or geographical area.

Showing common interface menu

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **Common Interface** [Try Now](#)

You can view information about common interfaces.

 This function may not be supported depending on the model or geographical area.

- **CI Menu**

Show information and settings of CICAM.

- **Application Info**

Show the manufacturer of CICAM and information of CAS (Conditional Access System).

- **CICAM PIN Manager**

Manage Common Interface Common Access Module (CICAM) PIN. Save PIN or change stored PIN, and then set other PIN options.

 This function may not be supported depending on the model or geographical area.

- **Descramble Mode**

- **CAM video transcoding**

Configures the setting to transcode the video codec from the CAM automatically. Turn it Off if you do not want to use it.

 You must use a CAM that supports video codec transcoding.

Configuring advanced broadcasting settings

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **Expert Settings** [Try Now](#)

Tuning broadcast signals manually

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **Expert Settings** > **Manual Scan** [Try Now](#)

You can scan for all the channels manually and store the scanned channels in the TV.

 This function may not be supported depending on the model or geographical area.

Tuning digital channels

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Expert Settings](#) > [Manual Scan](#) > [Digital Channel Tuning](#)

Select [New](#), and then configure [Channel](#), [Frequency](#) and [Bandwidth](#), and then select [Search](#) to automatically scan and store a list of digital channels in the TV.

Tuning analogue channels

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Expert Settings](#) > [Manual Scan](#) > [Analogue Channel Tuning](#)

Select [New](#) and configure [Programme](#), [Colour System](#), [Sound System](#), [Channel](#) and [Search](#) to scan for analogue channels. Then, select [Store](#) to store the scanned channels in the TV.

 This function is only available for analogue broadcasts.

Fine-tuning analogue broadcasts

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Expert Settings](#) > [Fine Tune](#) [Try Now](#)

 This function is only available for analogue broadcasts.

Transferring channel list

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Expert Settings](#) > [Transfer Channel List](#) [Try Now](#)

You can import or export the channel list to a USB storage. To use this function, the PIN number is required.

- [Import from USB](#): Imports channel list from a USB storage.
- [Export to USB](#): Exports channel list saved in the TV to a USB storage.

 This function is available when USB is connected.

 This function may not be supported depending on the model or geographical area.

Enabling/Disabling Edit Channel Numbers

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Expert Settings](#) > [Edit Channel Numbers](#) [Try Now](#)

Use this to change channel number. When channel number is changed, channel information is not updated automatically.

 This function may not be supported depending on the model or geographical area.

Deleting CAM operator profile

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Expert Settings](#) > [Delete CAM Operator Profile](#) [Try Now](#)

Select the CAM operator to delete.

 This function may not be supported depending on the model or geographical area.

Setting satellite system

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Expert Settings](#) > [Satellite System](#) [Try Now](#)

You can configure a set of satellite dish settings before performing a channel scan.

 This function may not be supported depending on the model or geographical area.

Changing teletext language

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [Expert Settings](#) > [Teletext Language Settings](#) > [Teletext Language](#) [Try Now](#)

You can set or change the teletext language. To watch the teletext broadcast in your preferred language, select a language to use in [Primary Teletext Language](#). If this language is not supported, you can watch the teletext broadcast in your secondary preferred language set in [Secondary Teletext Language](#).

 This function may not be supported depending on the model, channel or geographical area.

Selecting the broadcast audio language

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **Expert Settings** > **Audio Options**
[Try Now](#)

This is the language you will hear while watching TV if the language is included in the broadcast signal. **Audio Options** functions differently for analogue and digital channels.

 This function may not be supported depending on the model or geographical area.

 This function may not be supported depending on the incoming broadcast signal.

- **Audio Language Settings**

You can change the audio language you want to hear.

 The available language may differ with the broadcast.

- **Audio Format**

You can change the audio format you want to hear.

 The supported audio format may differ with the broadcast programme.

 This option is only available on digital channels.

Showing TVkey Interface menu

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **Expert Settings** > **TVkey Interface**
[Try Now](#)

You can use the following functions:

- **TVkey Menu**: Show TVkey Interface menu.
- **Delete TV Service**: Show the TVkey operator list to delete.

 This function may not be supported depending on the model or geographical area.

Reading digital text

 >  **Menu** >  **Settings** > **All Settings** > **Broadcasting** > **Expert Settings** > **Digital Text (MHEG)**
[Try Now](#)

You can use this function when you watch a broadcast that includes both text and multimedia content.

 This function is only available in Ireland or UK.

 Multimedia and Hypermedia Information Coding Experts Group (MHEG) is an International standard for data encoding systems used in multimedia and hypermedia. This is at a higher level than the MPEG system which includes data-linking hypermedia such as still images, character service, animation, graphic and video files as well as multimedia data. MHEG is user runtime interaction technology and is being applied to various fields including Video-On-Demand (VOD), Interactive TV (ITV), Electronic Commerce (EC), tele education, teleconferencing, digital libraries and network games.

Picture and Sound

You can change the settings for the picture and the sound according to your preference.

Using Intelligent Mode

Let the TV analyse the surrounding and the content you are watching so that it can provide an upgraded viewing experience.

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Intelligent Mode Settings](#) > [Intelligent Mode](#) [Try Now](#)

In [Intelligent Mode](#), the TV recognises and analyses the surroundings, noise, the content and your usage patterns to provide the best viewing experience. You can turn the options below on or off. Create your preferred viewing environment.

 This function may not be supported depending on the model or geographical area.

- [Adaptive Picture](#) [Try Now](#)

- [Optimised](#)

Optimises brightness and provides the best picture quality in real time, based on the lighting condition and the content you're viewing.

- [EyeComfort](#)

[EyeComfort](#) syncs the sunrise/sunset times and ambient light intensity. After sunset, the mode provides warmer colours and lower brightness. The sunrise and sunset times can manually be changed

 This function may not be supported by some models, modes or apps (e.g., [Ambient](#) Mode, [Art](#) Mode, and [Game Mode](#)).

 To use [EyeComfort](#), first you need to set the current time. Configure the [Clock](#)( >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [System Manager](#) > [Time](#) > [Clock](#)) setting. [Try Now](#)

 The sunrise/sunset time sync function provided in [EyeComfort](#) may work differently, depending on the area and network connection.

- **EyeComfort Mode Settings**

 This function is available only when **Adaptive Picture** is set to **EyeComfort**.

- **EyeComfort Mode Duration**

Set the sunrise and sunset time automatically. Or you can manually select the schedule.

- **Start Time**

Set the Start Time manually.

 This function is available only when **EyeComfort Mode Duration** is set to **Custom**.

- **End Time**

Set the End Time manually.

 This function is available only when **EyeComfort Mode Duration** is set to **Custom**.

- **EyeComfort Mode Level**

Adjust the level of the EyeComfort Mode screen.

- **Active Voice Amplifier** [Try Now](#)

Analyses ambient noise and provides optimal sound depending on the noise.

 This function is available only when the microphone switch of the TV is active and the sound output is set to **TV Speaker**. The location of the microphone switch may vary depending on the model or geographical area. The microphone on TV is not supported depending on the model or geographical area.

 While using this function, the TV does not save the data.

 This function may not be supported by some modes or apps (e.g., **Game Mode**).

- **Adaptive Sound Pro** [Try Now](#)

Provides optimised sound quality by analysing the viewing space and the acoustic components of the content.

-  This function can be used only when the microphone switch at the bottom of the TV is active and the sound output is set to [TV Speaker](#). The microphone on TV is not supported depending on the model or geographical area.
-  While using this function, the TV does not save the data.
-  This function may not be supported by some modes or apps. (For example, [Ambient](#) Mode, [Game Mode](#), [Art](#) Mode and apps that control the TV sound)
-  This function may not be supported depending on the model.
-  The name of this function may appear differently depending on the model.

- **Adaptive Volume** [Try Now](#)

Automatically adjusts to a specific volume level while you are watching TV. The TV analyses your volume usage history by time period to automatically adjust the volume when you use an app or switch to an external input source.

-  This function is only available when the sound output of the TV is set to [TV Speaker](#).
-  This function may not be supported by some apps or external devices.
-  This function's operation affects [Auto Volume](#) function, but it does not work the other way around.
-  This function operates based on your volume usage history and may not operate if the volume usage history by time period is insufficient.
-  The amount of difference made by this function does not exceed +/- 5 levels from the current volume and this function does not change the current volume if it exceeds 40.

Adjusting the Picture Quality

Change the Picture Mode and adjust Expert Settings.

Choosing a picture mode

 >  **Menu** >  **Settings** > **All Settings** > **Picture** > **Picture Mode** 

You can select the **Picture Mode** that provides the best viewing experience.

 **Entertain** and **Graphic** are supported only when you change the external device name to PC in PC mode.

- **Dynamic**

Makes the picture brighter and clearer in bright viewing environments.

- **Standard**

Is the default mode suitable for general viewing environments.

- **Eco**

This screen is provided to save energy.

 This function may not be supported depending on the model or geographical area.

- **Movie**

Is suitable for watching TV or movies in a dark room.

- **FILMMAKER MODE**

This screen mode provides picture quality certified by UHD Alliance. The image defined as **FILMMAKER MODE** automatically switches to **FILMMAKER MODE** while watching.

 This function may not be supported depending on the model or geographical area.

 **FILMMAKER MODE** may look darker than other picture modes.

 You can change **FILMMAKER MODE** to a different **Picture Mode**. However, the changed **Picture Mode** will be maintained even after watching the picture defined by **FILMMAKER MODE**.

 FILMMAKER MODE™ logo is a trademark of UHD Alliance, Inc.

Configuring advanced picture settings

 >  **Menu** >  **Settings** > **All Settings** > **Picture** > **Expert Settings** [Try Now](#)

Configure the screen settings to your taste by using the following functions:

- **Brightness** [Try Now](#)
Adjust the overall picture brightness. The closer to 50, the brighter the picture.
- **Contrast** [Try Now](#)
Adjust the difference between the darkest and brightest areas between objects and their background. The closer to 50, the larger the difference.
- **Sharpness** [Try Now](#)
Adjust the outline sharpness of objects. The closer to 20, the sharper the object outlines.
- **Colour** [Try Now](#)
Adjust the chroma of a video. The closer to 50, the deeper the colours.
- **Tint (G/R)** [Try Now](#)
Adjust the colour tone. The higher either value, the redder or greener the video.
- **Apply Picture Settings** [Try Now](#)
Apply the selected picture settings to the current input source or all input sources.
- **Picture Clarity Settings** [Try Now](#)
Optimise a video that has many dynamic scenes.
 When **LED Clear Motion** or **Clear motion** is set to **On**, the screen appears darker than when it is **Off**.
- **Local Dimming** [Try Now](#)
Maximise the contrast ratio by automatically adjusting brightness for each section of the picture.
 This function supports **Standard**, **High**, and **Low**. In **Standard**, ambient brightness is detected to adjust the image quality.
 This function may not be supported depending on the model or geographical area.
- **Contrast Enhancer** [Try Now](#)
Automatically adjust the contrast to prevent excessive brightness differences between brighter and darker areas.

- **Auto HDR Remastering** [Try Now](#)

Enjoy HDR-like picture quality – even with SDR content.

 This function may not be supported depending on the model or geographical area.

- **HDR Tone Mapping** [Try Now](#)

Automatically adjusts the brightness with tone mapping processing according to the HDR content information.

 This function may not be supported depending on the model or geographical area.

- **Film Mode** [Try Now](#)

Touch up an old video to improve the picture quality for a better viewing experience.

 This function is only available when the input signal is TV, or HDMI (1080i).

- **Colour Tone** [Try Now](#)

Select an appropriate colour tone, according to the viewing situation.

- **White Balance** [Try Now](#)

Adjust the brightness of the colours red, green and blue so that the brightest area of the picture becomes white.

- **Gamma** [Try Now](#)

Adjust the medium brightness of a video.

- **Shadow Detail** [Try Now](#)

Adjust the brightness of a dim picture. The closer to 5, the brighter the dim picture.

- **Colour Space Settings** [Try Now](#)

Select a range of colours that can be expressed on the picture.

- **Smart Calibration** [Try Now](#)

Automatically adjust the picture quality of a movie to obtain the quality intended by the movie producer.

 This function may not be supported depending on the model or geographical area.

To use this function, use a Smartphone that is compatible with the function. The list of compatible models is shown below.

- Galaxy models: Galaxy S, Galaxy Note, Galaxy Fold, and Galaxy Flip Series models that were released after January 2019
- iPhone models: Models with a Face ID function that were released after January 2019

 Supported models may differ depending on the situation.

- **Peak Brightness**

Adjust the maximum brightness for a brighter screen.

 This function may not be supported depending on the model or geographical area.

- **Reset Picture** [Try Now](#)

Reset the picture settings to the default values.

Picture Support Functions

Configure the picture settings for your TV.

Viewing a picture-in-picture (PIP)

 >  **Menu** >  **Settings** > **All Settings** > **Picture** > **PIP** [Try Now](#)

While viewing video from an external device such as a Blu-ray player on the main screen, you can watch a TV broadcast in a picture-in-picture (PIP) window.

-  This function may not be supported depending on the model or geographical area.
-  PIP is not available while Smart Hub is active.
-  Playing a game or using the karaoke function on the main screen can result in lower PIP picture quality.
-  The PIP function is only available under the following conditions: 1) The main screen's source is a HDMI connection. 2) The main screen's input resolution is FHD (Full HD) or less.
-  The PIP window supports digital channels only and does not support UHD channels.

Changing the picture size settings

 >  **Menu** >  **Settings** > **All Settings** > **Picture** > **Picture Size Settings** [Try Now](#)

- **Picture Size** [Try Now](#)

You can change the size of the picture displayed on the TV screen to **16:9 Standard**, **Custom** or **4:3**.

 Supported picture sizes differ with the input signal. For more information about supported picture sizes, refer to ["Picture sizes and input signals"](#).

- **Auto Wide** [Try Now](#)

Changing the picture size automatically.

 This function may not be supported depending on the model or geographical area.

- **4:3 Screen Size** [Try Now](#)

You can select a picture size suitable for your geographical area while you are watching TV in the **4:3** or **Fit to screen** mode. The supported screen sizes differ with the country and this function allows you to adjust the picture size in this case.

 The **4:3** mode is not available when an external device is connected to the TV via a Component connector or an HDMI connector.

 This function may not be supported depending on the model or geographical area.

- **Fit to screen** [Try Now](#)

Fitting the picture to the screen.

 This function may not be supported depending on the **Picture Size** setting.

 This function may not be supported depending on the broadcast signals.

- **Zoom and Position** [Try Now](#)

Adjusting the picture size or position.

 This function is available only if **Picture Size** is set to **Custom**.

 To change the picture position on analogue channels, first enlarge the picture and then change the position.

 These functions may not be available on **Samsung TV Plus** and some applications.

Setting the Viewing Environment for External Devices

You can optimise the TV for viewing specific video formats.

Playing games on an optimised screen

 >  **Menu** >  **Settings** > **All Settings** > **Connection** > **Game Mode Settings** > **Game Mode**
[Try Now](#)

 >  **Menu** >  **Settings** > **All Settings** > **Connection** > **Game Mode** [Try Now](#)

You can set the **Game Mode** to optimise the TV screen for better gaming performance.

When you connect a video game console such as PlayStation and Xbox, **Game Mode** is set to **Auto**. When you connect the other game source such as PC, set the **Game Mode** to **On** through the above path. You can also set the **Game Mode** quickly from Home Screen ( >  **Menu** >  **Settings** > **Game Mode** ).

-  The menu path may differ depending on the model or geographical area.
-  This function may not be supported depending on the model or geographical area.
-  The game mode is not available for normal TV viewing.
-  The screen may shake somewhat.
-  When you press and hold the  button on the Samsung Smart Remote for 1 second or more in **Game Mode**, the **Game Bar** appears. This function may not be supported depending on the model.
-  When **Game Mode** is enabled, **Picture Mode** and **Sound Mode** are switched to **Game** automatically. **Sound Mode** may not be automatically switched depending on the selected audio device on the **Sound Output** menu.
-  When **Game Mode** is set to **On**, some functions are not available.
-  To use a different external device on the same port, remove the game console connection, set **Game Mode** to **Off**, and then connect the external device to the port.
-  The **Game Mode** functions used for Nintendo Switch™ are subject to change without prior notice.

Setting the Game Mode details

 >  Menu >  Settings > All Settings > Connection > Game Mode Settings [Try Now](#)

 These functions may not be supported depending on the model or geographical area.

- **Virtual Aim Point** [Try Now](#)

You can see the virtual aim point at the center of the screen.

 This function may not be supported depending on the model or geographical area.

- **Surround Sound** [Try Now](#)

You can make your games more immersive by using intense, three-dimensional sound optimised for games.

 This function may not be supported depending on the model or geographical area.

- **Dynamic Black Equalizer** [Try Now](#)

You can easily detect items or hidden enemies lurking in dark corners by improving visibility and object details in dark scenes without washing out colours and contrast in brighter scenes.

 This function may not be supported depending on the model or geographical area.

- **Game Motion Plus Settings** [Try Now](#)

You can configure the Game Motion Plus settings.

 This function may not be supported depending on the model.

- **Game Motion Plus**

Turn on this function to obtain a softer and clearer picture quality when playing a role-playing game (RPG) or adventure game which involves many dynamic scenes.

- **Blur Reduction**

Reduce game screen blur to optimise fast-moving images.

 This function may not be supported depending on the model or geographical area.

- **Judder Reduction**

Remove flicker from a game video to play the game with a clearer picture quality.

- **LED Clear Motion**

Turn on this function to adjust the LED backlight to make dynamic scenes look clearer.

 This function may not be supported depending on the model.

- **Clear motion**

Turn on this function to make dynamic scenes look clearer.

 This function may not be supported depending on the model.

- **Game Picture Expert**

You can adjust the options for specific picture quality features of your game.

 This function may not be supported depending on the model or geographical area.

- **HDR10+ GAMING**

Basic mode provides the most accurate representation of the game's original creative intent. Advanced mode provides enhanced representation of game content to maximise visual impact.

- **Game HDR**

In accordance with the HGiG (HDR Gaming Interest Group) standard, it sets the optimal image quality for HDR games according to the brightness information of the contents.

 When HDR sources are input in Game Mode, this menu is activated.

 **Game HDR** entry path may be different in some models. (🏠) > ≡ **Menu** > ⚙️ **Settings** > **All Settings** > **Connection** > **Game Mode Settings** > **Game HDR**

Using Input Signal Plus

 >  **Menu** >  **Settings** > **All Settings** > **Connection** > **External Device Manager** > **Input Signal Plus** [Try Now](#)

Expands the input signal range for HDMI connections.

-  If the **Input Signal Plus** feature is turned off, HDR signals sent from an external device cannot be received.
-  When you select the HDMI connector you want to use for **Input Signal Plus**, and then press the Select button to set the **Input Signal Plus** function to **On**, the TV screen may flicker.
-  When you connect the TV to an external device that supports only the UHD 24 Hz or UHD 30 Hz frequency or any FHD frequency, the **Input Signal Plus** function may not be available. In this case, turn off the **Input Signal Plus** function.
-  For more information about the supported UHD resolutions, refer to "[Supported Resolutions for UHD Input Signals](#)".
-  For more information about the supported 8K resolutions, refer to "[Resolutions for Input Signals supported by 8K models \(QN7**C series or higher\)](#)".

Using HDMI black level

 >  **Menu** >  **Settings** > **All Settings** > **Connection** > **External Device Manager** > **HDMI Black Level** [Try Now](#)

Use HDMI Black Level to adjust the black level to compensate for low black levels, low contrast or dull colours generated by external devices connected to the TV via an HDMI cable.

-  This function is only available when the input signal connected to the TV via an HDMI connector is set to RGB444.

Configuring a Sound Mode and Expert Settings

Change the Sound Mode and adjust Expert Settings.

Choosing a sound mode

 >  **Menu** >  **Settings** > **All Settings** > **Sound** > **Sound Mode** [Try Now](#)

You can select the available sound mode that you prefer for a content type or your listening environment.

 When an external device is connected, **Sound Mode** may change accordingly.

 This function may not be supported depending on the model.

Configuring advanced sound settings

 >  **Menu** >  **Settings** > **All Settings** > **Sound** > **Expert Settings** [Try Now](#)

You can personalise the sound quality by adjusting the following settings.

 Supported menu options may vary depending on the **Sound Output** setting.

- **Balance** [Try Now](#)

Adjust the volumes of the left and right speakers to balance the sound levels.

 When the TV is used in portrait mode, the **Balance** function may not work properly.

- **Equaliser** [Try Now](#)

Customise the TV sound by adjusting the volume of high-pitched and low-pitched sounds.

 This function is not available when the **Adaptive Sound Pro** or **Active Voice Amplifier** function is turned on.

 This function is not available when the **Sound Mode** function is set to **Adaptive Sound**, **Game**, or **Amplify**.

 The name and properties of this function may appear differently depending on the connected external device.

- **HDMI-eARC Mode** [Try Now](#)

You can connect an audio device that supports eARC via HDMI-eARC. Muting occurs temporarily during device connection.

 This function may not be supported depending on the model.

- **Digital Output Audio Format** [Try Now](#)

Select a digital audio output format. If you select Auto option, the audio output mode automatically changes to the mode supported by the connected soundbar or A/V receiver.

If you select the **Pass-through** option, audio data is output with no processing.

 This function is available when the input source is HDMI and the receiver is connected via HDMI-eARC.

- **Digital Output Audio Delay** [Try Now](#)

Adjust the output delay time for digital audio.

-  This function is available when the input source is HDMI and the receiver is connected via HDMI-ARC or HDMI-eARC.
-  When the receiver can't process the input source, it may operate in the [Auto](#) option.
-  This function may not be supported depending on the model.

- **Dolby Atmos** [Try Now](#)

Set to [On](#) if the audio device connected via the HDMI (eARC) port supports Dolby Atmos. When the option is set to [On](#), Dolby Digital+ with Atmos stream, sent from an external device, can be received. If you change the setting when the input source is set to HDMI, the screen may flicker. If this function is on, set [Digital Output Audio Format](#) to [Auto](#).

When watching TV using the embedded speakers, the virtual surround sound effect of Dolby Atmos can be turned on or off. If the TV has been installed in portrait mode by using separate accessories, the virtual surround sound effect through the TV speakers does not work.

-  This function may not be supported depending on the model.

- **Auto Volume** [Try Now](#)

Automatically adjusts the sound to a certain level when changing channels or switching to another external input.

- **Sound Feedback** [Try Now](#)

Plays the notification sound when manipulating a menu or selecting an option.

- **Simultaneous Optical Output**

The device connected via optical always outputs sound.

- **Reset Sound** [Try Now](#)

Reset changed sound settings.

-  Standard audio signals are sampled at 48 kHz while HD audio signals are sampled at 96 kHz.
-  Some SPDIF receivers may not be compatible with HD audio format.

Using the Sound Support Functions

Configure the sound settings for your TV.

Selecting speakers

 >  **Menu** >  **Settings** > **All Settings** > **Sound** > **Sound Output** [Try Now](#)

You can select which speakers the TV uses for audio output.

-  If the soundbar is connected to the TV via both HDMI and Optical, HDMI may be selected first even if you select Optical.
-  External speakers may not be controlled with the Samsung Smart Remote. When an external speaker is enabled, some sound menus are not supported.

Samsung TV supports the Q-Symphony function.

- This function works synchronised with the Samsung Soundbar that supports Q-Symphony so that your TV speaker and Soundbar simultaneously output the sound for best surround effects.
- When a Samsung Soundbar that supports Q-Symphony is connected, the menu name such as "TV + Soundbar" appears under **Sound Output** ( >  **Menu** >  **Settings** > **All Settings** > **Sound** > **Sound Output**). Select the menu. [Try Now](#)

Menu name example) TV + Soundbar Series name (HDMI) or TV + Soundbar Series name (Optical)

-  It works based on the Codec supported by your TV. For more information about Codec information, refer to "[Read Before Playing Photo, Video or Music Files](#)".
-  This function is supported only when connected via HDMI, optical cable or Wi-Fi.
-  This function may not be supported depending on the TV or Soundbar model.
-  Refer to the soundbar's user manual when connecting it to the TV.
-  This function is unavailable when using The Frame vertically. To use the product horizontally, set the function again.

Your Samsung TV supports a USB sound device connection.

- USB 2.0 and higher devices are supported.
- Two USB sound devices can be connected at the same time.
-  Make sure to connect a USB sound device directly to a USB port. (USB hubs are not supported.)
-  Some USB sound device models may not be compatible with the TV.

Listening to the TV through Bluetooth devices

 >  Menu >  Settings > All Settings > Sound > Sound Output > Bluetooth Speaker List

You can connect Bluetooth audio devices to the TV. They must be paired using the TV's Bluetooth function. Refer to the user manual for your audio device such as Bluetooth speaker, soundbar and headphones for detailed connection and usage.

-  If the TV fails to find a Bluetooth audio device, place the device closer to the TV, and then select [Refresh](#).
-  When you turn on a paired Bluetooth audio device, the TV detects it automatically, and then displays a pop-up window. Use this pop-up window to activate/deactivate the Bluetooth audio device.
-  The sound quality may be affected by the condition of the Bluetooth connection.
-  Before using a Bluetooth audio device, refer to "[Read Before Using Bluetooth Devices](#)".
-  On some models, you can connect and use two Bluetooth devices simultaneously.
-  If multiple BT audio devices and BT input devices are simultaneously connected, sound from the audio devices may be choppy or key data from the input devices may be dropped.

The number of BT audio devices for connection can be limited to one device, for a stable game service.
-  If a call comes in while you listen to TV sound with Galaxy Buds, the Buds connects to the mobile phone and the TV sound is muted for connecting to the call.

When the call is ended, the Buds automatically connects to the TV. This feature is supported only when the TV and mobile phone are connected to the same Samsung account.
-  If the Galaxy Buds is disconnected while listening to TV sound with the Buds, the TV sound is muted.

Listening to the TV through a Samsung audio device that supports the Wi-Fi function

 >  Menu >  Settings > All Settings > Sound > Wi-Fi Speaker Surround Setup [Try Now](#)

If you've connected one or more Samsung wireless audio devices that support the Wi-Fi function to the TV, you can create an optimal sound set up by configuring the surround effect settings. You can select any of the surround sound configurations, with or without a soundbar.

A surround sound configuration can be used if all of the following conditions are met:

- Two or more Samsung wireless speakers of the same type must be connected to the same wireless network.
- The Samsung audio devices that support the Wi-Fi function must be connected to the same wireless network as the TV.

 For more information about how to connect and use a Samsung audio device that supports the Wi-Fi function, refer to its user manual.

 Surround sound configurations with a soundbar may not be supported depending on the product.

 If you activate the Screen Mirroring function while using Samsung audio devices that support the Wi-Fi function, the Wi-Fi connection is disconnected.

 Mismatched video and audio lip-syncing may occur depending on the device type.

System and Support

You can configure system and support settings such as clock, timers, energy usage and software updates.

Using the Time Functions and the Timers

Set the current time and use the timer function.

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** [Try Now](#)

You can set the **Clock** manually or automatically. Once the **Clock** is set, you can view the current time on the TV anytime.

You must set the clock in the following cases:

- The power cord is disconnected and then connected.
- The **Clock Mode** is changed from **Auto** to **Manual**.
- The TV is not connected to the network.
- No broadcast signals are received.

Setting the clock automatically

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Clock** > **Clock Mode** > **Auto**

-  This function works only when the TV is connected to the network or is receiving digital broadcasts through a connected antenna.
-  The accuracy of the time information received may differ with the channel and signal.
-  If you get your TV signal from a cable broadcast receiver/set-top box or a satellite receiver/satellite set-top box connected to an HDMI or Component port, you must set the current time manually.

Adjusting the clock for DST and time zone

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Clock** > **Time Zone** 

Sets the right time by setting Daylight Savings Time (DST) and your local time zone.

 This function is only available when the **Clock Mode** is set to **Auto**.

 This function may not be supported depending on the model or geographical area.

- **GMT**

Set Greenwich Mean Time (GMT).

- **DST**

Automatically adjusts for Daylight Saving Time (DST).

Changing the current time

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Clock** > **Time Offset** 

Time Offset adjusts the time through a network connection.

 This function is available only when **Clock Mode** is set to **Auto**, the TV fails to receive time information through normal broadcast signals, and the TV is connected to a network.

Setting the clock manually

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Clock** > **Clock Mode** > **Manual**

When **Clock Mode** is set to **Manual**, you can directly enter the current date and time. Select the **Date** and **Time** by using the directional buttons on the remote control.

When power is cut off and then supplied, the settings for **Date** and **Time** are reset to deactivate the **On Timer**. When their settings are assigned again, the **On Timer** is activated.

Using the sleep timer

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Sleep Timer** [Try Now](#)

You can use this function to automatically shut off the TV after a pre-set period of time. You can set the sleep timer for up to 180 minutes after which it will turn off the TV.

 This function may not be supported in some viewing modes.

 This function may not be supported depending on the model or geographical area.

Turning on the TV using the on timer

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **On Timer**

You can set **On Timer** to turn on the TV automatically at a specific time. **On Timer** is only available if the **Clock** has been set. It is also available when **Clock Mode** is set to **Auto**, and the network or broadcast TV tuner is connected.

 To use this function, first set the **Clock** ( >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Clock**). [Try Now](#)

 This function may not be supported depending on the model or geographical area.

Turning off the TV using the off timer

 >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Off Timer** [Try Now](#)

You can set **Off Timer** to shut off the TV automatically at a specific time. **Off Timer** is only available if the **Clock** has been set.

 To use this function, first set the **Clock** ( >  **Menu** >  **Settings** > **All Settings** > **General & Privacy** > **System Manager** > **Time** > **Clock**). [Try Now](#)

 This function may not be supported depending on the model or geographical area.

Using the Power and Energy Saving Functions

Use the power saving functions to reduce the TV power consumption.

Reducing the power consumption of the TV

 >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Power and Energy Saving](#) [Try Now](#)

Reduce energy consumption by changing your power preferences and other energy-saving options.

- [Brightness Optimisation](#) [Try Now](#)

Automatically adjust the picture brightness based on the ambient light level.

 This function is not available when the [Adaptive Picture](#) function is turned on.

 This function may not be supported depending on the model or geographical area.

- [Minimum Brightness](#) [Try Now](#)

When [Brightness Optimisation](#) is turned on, you can manually adjust the minimum brightness of the TV screen.

This function acts only when the value is less than the setting in  >  [Menu](#) >  [Settings](#) > [All Settings](#) >

[Picture](#) > [Expert Settings](#) > [Brightness](#). [Try Now](#)

 This function is not available when the [Adaptive Picture](#) function is turned on.

- [Energy Saving Solution](#) [Try Now](#)

Reduce power consumption by adjusting brightness settings.

Read After Installing the TV

Read this information after installing the TV.

Picture sizes and input signals

The **Picture Size** is applied to the current source. The applied **Picture Size** will remain in effect whenever you select that source unless you change them.

Input signal	Picture size
Component	16:9 Standard, Custom, 4:3
Digital channel (720p)	16:9 Standard, Custom, 4:3
Digital channel (1080i, 1080p)	16:9 Standard, Custom, 4:3
* Digital channel (3840 x 2160p @ 24/30 Hz)	16:9 Standard, Custom
* Digital channel (3840 x 2160p @ 50/60 Hz)	16:9 Standard, Custom
* Digital channel (4096 x 2160p)	16:9 Standard, Custom
HDMI (720p)	16:9 Standard, Custom, 4:3
* HDMI (1080i, 1080p)	16:9 Standard, Custom, 4:3
* HDMI (3840 x 2160p)	16:9 Standard, Custom
* HDMI (4096 x 2160p)	16:9 Standard, Custom
* HDMI (7680 x 4320p)	16:9 Standard, Custom
USB (720p)	16:9 Standard, Custom, 4:3
USB (1080i/p @ 60 Hz)	16:9 Standard, Custom, 4:3
* USB (3840 x 2160p @ 24/30 Hz)	16:9 Standard, Custom
* USB (3840 x 2160p @ 60 Hz)	16:9 Standard, Custom
* USB (4096 x 2160p @ 24/30/60 Hz)	
* USB (7680 x 4320p @ 24/30/60 Hz)	16:9 Standard, Custom

 *: This input signal may differ depending on the model and geographical area.

 The input ports for external devices may differ depending on the model and geographical area.

Installing an anti-theft lock

An anti-theft lock is a physical device that can be used to protect the TV against theft. Look for the lock slot on the back of the TV. The slot has a  icon next to it. To use the lock, wrap the lock cable around an object that is too heavy to carry and then thread it through the TV's lock slot. The lock is sold separately. The method of using an anti-theft lock may differ for each model. Refer to the lock's user manual for more information.

 This function may not be supported depending on the model or geographical area.

Supported Resolutions for UHD Input Signals

Check the supported resolution for UHD input signals.

- Resolution: 3840 x 2160p, 4096 x 2160p

 This function may not be supported depending on the model.

If Input Signal Plus is set to Off

Frame rate (fps)	Colour Depth / Chroma Sampling	RGB 4:4:4	YCbCr 4:4:4	YCbCr 4:2:2	YCbCr 4:2:0
50 / 60	8 bit	-	-	-	0

If Input Signal Plus is set to On

- All models for Q6*C Series, Q8*C Series (50-inch and smaller models)
- All models for CU7/BEC Series, CU8 Series (75-inch and smaller models)

Frame rate (fps)	Colour Depth / Chroma Sampling	RGB 4:4:4	YCbCr 4:4:4	YCbCr 4:2:2	YCbCr 4:2:0
50 / 60	8 bit	0	0	0	0
	10 bit	-	-	0	0

- QLED TV (except for Q6*C series, Q8*C (50-inch and smaller models) series)
- S9*C Series
- CU8 Series (85-inch and larger models)

Frame rate (fps)	Colour Depth / Chroma Sampling	RGB 4:4:4	YCbCr 4:4:4	YCbCr 4:2:2	YCbCr 4:2:0
50 / 60	8 bit	0	0	0	0
	10 bit	0	0	0	0
120	8 bit	0	0	0	0
	10 bit	0	0	0	0

Resolutions for Input Signals supported by 8K models (QN7**C series or higher)

Check the resolutions for input signals supported by 8K models (QN7**C series or higher).

 This function may not be supported depending on the model.

If Input Signal Plus is set to Off

Frame rate (fps)	Colour Depth / Chroma Sampling	RGB 4:4:4	YCbCr 4:4:4	YCbCr 4:2:2	YCbCr 4:2:0
50 / 60	8 bit	-	-	-	0

If Input Signal Plus is set to On

- Resolution: 3840 x 2160p, 4096 x 2160p

Frame rate (fps)	Colour Depth / Chroma Sampling	RGB 4:4:4	YCbCr 4:4:4	YCbCr 4:2:2	YCbCr 4:2:0
50 / 60	8 bit	0	0	0	0
	10 bit	0	0	0	0
120	8 bit	0	0	0	0
	10 bit	0	0	0	0

- Resolution: 7680 x 4320p

Frame rate (fps)	Colour Depth / Chroma Sampling	RGB 4:4:4	YCbCr 4:4:4	YCbCr 4:2:2	YCbCr 4:2:0
24 / 30 / 50 / 60	8 bit	0	0	0	0
	10 bit	0	0	0	0

Supported Resolutions for FreeSync (VRR)

Check the supported resolutions for the FreeSync (VRR) signal.

When **Game Mode** is set to **On** or **Auto**, the FreeSync (VRR) function is activated.

 FreeSync (VRR) is only available in select models. For models that support FreeSync (VRR), refer to "Using FreeSync".

 This function may not be supported depending on the model.

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	SCAN
1920 x 1080	120 Hz	135.000	120	297.000	progressive
**1920 x 1080	144 Hz	166.587	144	346.500	progressive
2560 x 1080	120 Hz	150.000	120	495.000	progressive
**2560 x 1080	144 Hz	172.339	144	470.830	progressive
2560 x 1440	120 Hz	150.000	120	495.000	progressive
3840 x 2160	120 Hz	270.000	120	1188.000	progressive
**3840 x 2160	144 Hz	323.677	144	1424.180	progressive
3840 x 1080	120 Hz	137.250	120	549.000	progressive
**3840 x 1080	144 Hz	166.607	144	653.100	progressive
3840 x 1600	120 Hz	99.419	120	521.750	progressive
**3840 x 1600	144 Hz	246.569	144	1035.590	progressive
4096 x 2160	120 Hz	270.000	120	1188.000	progressive
*7680 x 4320	60 Hz	264.000	60	2376.000	progressive

 *: The resolution may not be supported depending on the model.

 **: Only models that support 144 Hz are supported.

Read Before Connecting a Computer (Supported Resolutions)

Check the resolutions supported for PC input signals.

When you connect your TV to a computer, set the computer's video card to one of the standard resolutions listed in the tables below. The TV will automatically adjust to the resolution you choose. Note that the optimal and recommended resolutions are 3840 x 2160 @ 60 Hz (UHD models) and 7680 x 4320 @ 60 Hz (QN7**C Series or higher). Choosing a resolution not included in the tables can result in a blank or flickering screen or can turn on only the receiver of the remote control. Refer to the user manual of your graphics card for compatible resolutions.

 The native resolutions are 3840 x 2160 @ 60 Hz (UHD models) and 7680 x 4320 @ 60 Hz (QN7**C Series or higher) with the **Input Signal Plus** set to **On**. The native resolution is 3840 x 2160 @ 30 Hz with the **Input Signal Plus** set to **Off**.

IBM

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
720 x 400	70 Hz	31.469	70.087	28.322	- / +

MAC

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
640 x 480	67 Hz	35.000	66.667	30.240	- / -
832 x 624	75 Hz	49.726	74.551	57.284	- / -
1152 x 870	75 Hz	68.681	75.062	100.000	- / -

VESA DMT

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
640 x 480	60 Hz	31.469	59.940	25.175	- / -
640 x 480	72 Hz	37.861	72.809	31.500	- / -
640 x 480	75 Hz	37.500	75.000	31.500	- / -
800 x 600	60 Hz	37.879	60.317	40.000	+ / +
800 x 600	72 Hz	48.077	72.188	50.000	+ / +
800 x 600	75 Hz	46.875	75.000	49.500	+ / +
1024 x 768	60 Hz	48.363	60.004	65.000	- / -
1024 x 768	70 Hz	56.476	70.069	75.000	- / -
1024 x 768	75 Hz	60.023	75.029	78.750	+ / +
1152 x 864	75 Hz	67.500	75.000	108.000	+ / +
1280 x 720	60 Hz	45.000	60.000	74.250	+ / +
1280 x 800	60 Hz	49.702	59.810	83.500	- / +
1280 x 1024	60 Hz	63.981	60.020	108.000	+ / +
1280 x 1024	75 Hz	79.976	75.025	135.000	+ / +
1440 x 900	60 Hz	55.935	59.887	106.500	- / +
1600 x 900	60 Hz	60.000	60.000	108.000	+ / +
1680 x 1050	60 Hz	65.290	59.954	146.250	- / +
1920 x 1080	60 Hz	67.500	60.000	148.500	+ / +

VESA CVT

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
2560 x 1440	60 Hz	88.787	59.951	241.500	+ / -
2560 x 1440	120 Hz	192.996	119.998	497.750	+ / -

 The resolution may not be supported depending on the model.

 2560 x 1440 @ 60 Hz resolution is not supported in [Game Mode](#).

CTA-861

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
1920 x 1080i	50 Hz	28.125	50.000	74.250	+ / +
1920 x 1080i	60 Hz	33.750	60.000	74.250	+ / +
*1920 x 1080	100 Hz	112.500	100.000	297.000	+ / +
*1920 x 1080	120 Hz	135.000	120.003	297.000	+ / +
3840 x 2160	30 Hz	67.500	30.000	297.000	- / -
*3840 x 2160	60 Hz	135.000	60.000	594.000	- / -
*3840 x 2160	100 Hz	225.000	100.000	1188.000	+ / +
*3840 x 2160	120 Hz	270.000	120.000	1188.000	+ / +
4096 x 2160	24 Hz	54.000	24.000	297.000	+ / +
4096 x 2160	30 Hz	67.500	30.000	297.000	+ / +
*4096 x 2160	50 Hz	112.500	50.000	594.000	+ / +
*4096 x 2160	60 Hz	135.000	60.000	594.000	+ / +
*4096 x 2160	100 Hz	225.000	100.000	1188.000	+ / +
*4096 x 2160	120 Hz	270.000	120.000	1188.000	+ / +
*7680 x 4320	24 Hz	108.000	24.000	1188.000	+ / +
*7680 x 4320	30 Hz	132.000	30.000	1188.000	+ / +
*7680 x 4320	50 Hz	220.000	50.000	2376.000	+ / +
*7680 x 4320	60 Hz	264.000	60.000	2376.000	+ / +

 *: The resolution may not be supported depending on the model.

Supported Resolutions for Video Signals

Check the resolutions supported for video signals.

CTA-861

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
720 (1440) x 576i	50 Hz	15.625	50.000	27.000	- / -
720 (1440) x 480i	60 Hz	15.734	59.940	27.000	- / -
720 x 576	50 Hz	31.250	50.000	27.000	- / -
720 x 480	60 Hz	31.469	59.940	27.000	- / -
1280 x 720	50 Hz	37.500	50.000	74.250	+ / +
1280 x 720	60 Hz	45.000	60.000	74.250	+ / +
1920 x 1080i	50 Hz	28.125	50.000	74.250	+ / +
1920 x 1080i	60 Hz	33.750	60.000	74.250	+ / +
1920 x 1080	24 Hz	27.000	24.000	74.250	+ / +
1920 x 1080	25 Hz	28.125	25.000	74.250	+ / +
1920 x 1080	30 Hz	33.750	30.000	74.250	+ / +
1920 x 1080	50 Hz	56.250	50.000	148.500	+ / +
1920 x 1080	60 Hz	67.500	60.000	148.500	+ / +
*1920 x 1080	100 Hz	112.500	100.000	297.000	+ / +
*1920 x 1080	120 Hz	135.000	120.003	297.000	+ / +
3840 x 2160	24 Hz	54.000	24.000	297.000	+ / +
3840 x 2160	25 Hz	56.250	25.000	297.000	+ / +
3840 x 2160	30 Hz	67.500	30.000	297.000	+ / +
*3840 x 2160	50 Hz	112.500	50.000	594.000	+ / +
*3840 x 2160	60 Hz	135.000	60.000	594.000	+ / +
*3840 x 2160	100 Hz	225.000	100.000	1188.000	+ / +
*3840 x 2160	120 Hz	270.000	120.000	1188.000	+ / +

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
4096 x 2160	24 Hz	54.000	24.000	297.000	+ / +
4096 x 2160	30 Hz	67.500	30.000	297.000	+ / +
*4096 x 2160	50 Hz	112.500	50.000	594.000	+ / +
*4096 x 2160	60 Hz	135.000	60.000	594.000	+ / +
*4096 x 2160	100 Hz	225.000	100.000	1188.000	+ / +
*4096 x 2160	120 Hz	270.000	120.000	1188.000	+ / +
*7680 x 4320	24 Hz	108.000	24.000	1188.000	+ / +
*7680 x 4320	30 Hz	132.000	30.000	1188.000	+ / +
*7680 x 4320	50 Hz	220.000	50.000	2376.000	+ / +
*7680 x 4320	60 Hz	264.000	60.000	2376.000	+ / +

 *: The resolution may not be supported depending on the model.

VESA CVT

Resolution (Dots x lines)	Display format	Horizontal frequency (KHz)	Vertical frequency (Hz)	Clock frequency (MHz)	Polarity (horizontal / vertical)
2560 x 1440	60 Hz	88.787	59.951	241.500	+ / -
2560 x 1440	120 Hz	192.996	119.998	497.750	+ / -

 The resolution may not be supported depending on the model.

Read Before Using Bluetooth Devices

Read this information before using a Bluetooth device.

 This function may not be supported depending on the model or geographical area.

Restrictions on using Bluetooth

- You can't use Bluetooth devices and the [Wi-Fi Speaker Surround Setup](#) feature simultaneously.
- Compatibility issues may occur, depending on the Bluetooth device. (A Mobile exclusive headphone may not be available, depending on the environment.)
- Lip-sync errors may occur.
- The TV and Bluetooth device may disconnect, depending on the distance between them.
- A Bluetooth device may hum or malfunction:
 - When a part of your body is in contact with the receiving/transmitting system of the Bluetooth device or the TV.
 - When the device is subject to electrical variation from obstructions caused by a wall, corner or office partitioning.
 - When the device is exposed to electrical interference from same frequency-band devices including medical equipment, microwave ovens and wireless LANs.
- If the problem persists, we recommend you use a wired connection.
 - DIGITAL AUDIO OUT (OPTICAL) port
 -  This function may not be supported depending on the model.
 - HDMI (eARC/ARC) port

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 This licence may not be supported depending on the model or geographical area.



TVs with TÜRKSAT Channel Update System work with the principle of updating channel databases and automatically update channels and parameters.

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POWERED BY

QUICKSET[®]

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(Europe only)

To access energy labelling information about this product on the European Product Registry for Energy Labelling (EPREL), go to https://eprel.ec.europa.eu/qr/*****

where ***** is the product's EPREL registration number. You can find the registration number on the rating label of your product.

(Türkiye only)

To access the energy labelling information of the model :

1. Go to https://www.samsung.com/global/ecodesign_energy
2. Get the model identifier from the energy label of the product and type it in the search box
3. Energy labelling information can be found

Troubleshooting

The following are troubleshooting solutions for each problem.

Picture Issues

When the TV has trouble with the picture, these steps may help resolve the problem.

The screen is flashing or has become dark

If your TV is flickering or dimming sporadically, you may need to disable some of the energy efficiency features.

Disable [Brightness Optimisation](#), [Energy Saving Solution](#), [Motion Lighting](#) or [Contrast Enhancer](#).

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Power and Energy Saving](#) > [Brightness Optimisation](#) [Try Now](#)
-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Power and Energy Saving](#) > [Energy Saving Solution](#) [Try Now](#)
-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Power and Energy Saving](#) > [Motion Lighting](#) [Try Now](#)
-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Picture](#) > [Expert Settings](#) > [Contrast Enhancer](#) [Try Now](#)

Run [Picture Test](#). When the tested image quality is normal, check the signal of the connected device.

-  >  [Menu](#) >  [Settings](#) > [Support](#) > [Device Care](#) > [Self Diagnosis](#) > [Picture Test](#) [Try Now](#)

The picture is not bright, or the picture colours do not look clear

If the screen appears too dim, try changing the settings under [Reset Picture](#) or disabling [Brightness Optimisation](#), [Energy Saving Solution](#).

-  >  Menu >  Settings > All Settings > Picture > Expert Settings > [Reset Picture](#) [Try Now](#)
-  >  Menu >  Settings > All Settings > General & Privacy > Power and Energy Saving > [Brightness Optimisation](#) [Try Now](#)
-  >  Menu >  Settings > All Settings > General & Privacy > Power and Energy Saving > [Energy Saving Solution](#) [Try Now](#)

Go to [Picture](#) and adjust the [Picture Mode](#), [Contrast](#), [Brightness](#), and [Sharpness](#) settings.

-  >  Menu >  Settings > All Settings > Picture > [Picture Mode](#) [Try Now](#)
-  >  Menu >  Settings > All Settings > Picture > Expert Settings > [Contrast](#) [Try Now](#)
-  >  Menu >  Settings > All Settings > Picture > Expert Settings > [Brightness](#) [Try Now](#)
-  >  Menu >  Settings > All Settings > Picture > Expert Settings > [Sharpness](#) [Try Now](#)
-  >  Menu >  Settings > All Settings > Picture > Expert Settings > [Colour](#) [Try Now](#)
-  >  Menu >  Settings > All Settings > Picture > Expert Settings > [Tint \(G/R\)](#) [Try Now](#)

The picture colours are black and white or do not look the way they should look

If the product's colours or absolute whites/blacks seem to be off, launch [Picture Test](#).

-  >  [Menu](#) >  [Settings](#) > [Support](#) > [Device Care](#) > [Self Diagnosis](#) > [Picture Test](#) [Try Now](#)

If the test results indicate that the problem is not caused by the TV, do the following:

When using the One Connect Box, confirm that its video input connectors are connected to the correct external device video output connectors.

If using a component cable, ensure that the green (Y), blue (Pb), and red (Pr) cables are connected properly. Incorrect connections may cause colour problems or a blank screen.

 Component port may not be supported depending on the model.

Check whether [Greyscale](#) is set to [On](#).

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Accessibility](#) > [Greyscale](#) [Try Now](#)

The TV automatically turns off by itself

If your TV appears to turn off by itself, try disabling some of the TV's energy efficiency functions.

See if [Sleep Timer](#) has been enabled. The [Sleep Timer](#) automatically turns the TV off after a specified period of time.

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [System Manager](#) > [Time](#) > [Sleep Timer](#) [Try Now](#)

If the [Sleep Timer](#) has not been enabled, see if [Auto Power Off](#) or [Off Timer](#) has been enabled and disable it.

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [System Manager](#) > [Time](#) > [Off Timer](#) [Try Now](#)
-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Power and Energy Saving](#) > [Auto Power Off](#) [Try Now](#)

TV (The Frame TV) cannot be turned off.

If your TV is The Frame model, you can turn off the TV by pressing and holding the Power button. To switch from [Art](#) mode to TV mode or vice versa, short-press the Power button when the TV is on.

Unable to power on

If you are having problems powering on your TV, there are a number of things to check before calling the service department.

Confirm that the TV's power cord is connected correctly at both ends and that the remote control is operating normally.

Make sure that the antenna cable or cable TV cable is firmly connected.

If you have a cable box or satellite box, confirm that it is plugged in and turned on.

In case of a model that supports One Connect Box, check the One Invisible Connection or One Connect Cable between the TV and One Connect Box.

The TV remains on or does not turn on automatically.

If the surrounding area is too dark or bright, the motion sensor may not work normally. The performance of the motion sensor may be affected by the installation environment (height, tilt, obstacles). If the clothes you wear or your skin colour is similar to the surrounding shading, the motion sensor may not work properly.

 Motion Sensor may not be supported depending on the model or geographical area.

The TV responds to all visual changes around it (lights, displays, dogs, out-of-window changes and other occurrences). You can adjust the response level by adjusting the sensitivity of the motion detector.

-  > left directional button >  [Art](#) > [Art Mode Options](#) > [Motion Detector](#)

 [Art Mode Options](#) can be found at the bottom of the [Art](#) home. To configure the option settings, scroll down to the far bottom.

 [Motion Detector](#) may not be supported depending on the model or geographical area.

Unable to find a Channel

If your TV is not connected to a cable box or satellite box, run [Auto Tuning](#).

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Broadcasting](#) > [\(Auto Tuning Settings\)](#) > [Auto Tuning](#) [Try Now](#)

 The [Auto Tuning Settings](#) may not appear depending on the model or geographical area.

When using a broadcast receiver such as set-top box and IPTV, check the connection to the TV.

-  >  [Menu](#) >  [Connected Devices](#) > [Connection Guide](#) [Try Now](#)

When the symptom persists, contact your service provider.

The TV image does not look as good as it did in the store.

Store displays are tuned to a digital UHD channel or HD channel.

Change the output resolution of your devices such as digital broadcast receiver, IPTV and set-top box to UHD or HD.

Be sure to use an HDMI cable to enjoy high quality videos.

-  >  [Menu](#) >  [Connected Devices](#) > [Connection Guide](#) > [Video Device](#) > [HDMI](#)

To connect the TV with your PC, make sure that your PC's graphic card supports UHD resolutions.

For more information about the supported UHD resolutions, refer to "[Supported Resolutions for UHD Input Signals](#)".

For more information about the supported 8K resolutions, refer to "[Resolutions for Input Signals supported by 8K models \(QN7**C series or higher\)](#)".

 Make sure that the set-top box or cable box supports the content or broadcast for UHD and set the resolution. For more information, contact your service provider.

 When using a [Samsung TV Plus](#) channel, check the network connection. When the network speed is slow, the app may not work or the image quality may be poor.

Displayed video looks blurry

If you notice blurring or juddering on the screen, use the [Picture Clarity Settings](#) function to resolve the issue.

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Picture](#) > [Expert Settings](#) > [Picture Clarity Settings](#) [Try Now](#)

The picture is distorted.

The compression of video content may cause picture distortions, especially in fast moving pictures from sports programmes and action movies.

Remove and reconnect the power cord, and check the remote control battery.

If the signal reception is weak or poor, screen distortion may be visible but it is not a malfunction.

Mobile phones used close to the TV (within 1 m) may cause noise on analogue and digital channels.

There is a dotted line on the edge of the screen.

Change [Picture Size](#) to [16:9 Standard](#).

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Picture](#) > [Picture Size Settings](#) > [Picture Size](#) [Try Now](#)

Change the output resolution of your external device.

The picture won't display in full screen.

HD channels will have black bars on either side of the screen when displaying upscaled SD (4:3) content.

Black bars will appear at the top and bottom of the screen when you watch movies that have aspect ratios different from your TV.

Adjust the picture size options on your external device or set the TV to full screen.

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Picture](#) > [Picture Size Settings](#) > [Picture Size](#) [Try Now](#)

The Subtitle function in the TV menu is deactivated.

When an external device is connected with an HDMI or Component cable, the [Subtitle](#) function is unavailable.

Adjust the subtitle setting on the external device.

Subtitles appear on the TV screen.

Turn off the [Subtitle](#) function in [Subtitle Settings](#).

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [General & Privacy](#) > [Accessibility](#) > [Subtitle Settings](#) > [Subtitle](#)
[Try Now](#)

The HDR of the connected external device turns off.

If the [Input Signal Plus](#) feature is turned on, the range of receiving HDMI input signals is expanded, allowing you to view HDR content sent from an external device.

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Connection](#) > [External Device Manager](#) > [Input Signal Plus](#)
[Try Now](#)

Sound and Noise Issues

When the TV has difficulties with sound, these steps may help resolve the problem.

How can I connect an audio device to the TV?

The connection method may differ depending on the audio device such as HDMI (eARC/ARC), Optical, Bluetooth and Wi-Fi.

For more information about how to connect an audio device, run [Connection Guide](#).

-  >  [Menu](#) >  [Connected Devices](#) > [Connection Guide](#) > [Audio Device](#)

There is no sound or the sound is too low at maximum volume.

Check the volume control of your TV, and then check the volume control of the external device (cable box or satellite box, DVD, Blu-ray, etc.) connected to your TV.

Check the cable connection between an external device and the TV, and then try cable connection again.

The picture is good but there is no sound.

Check the [Sound Output](#) setting.

If it is set to [TV Speaker](#), check the volume setting.

-  >  [Menu](#) >  [Settings](#) > [All Settings](#) > [Sound](#) > [Sound Output](#) [Try Now](#)

If you are using an external device, check the device's audio output option.

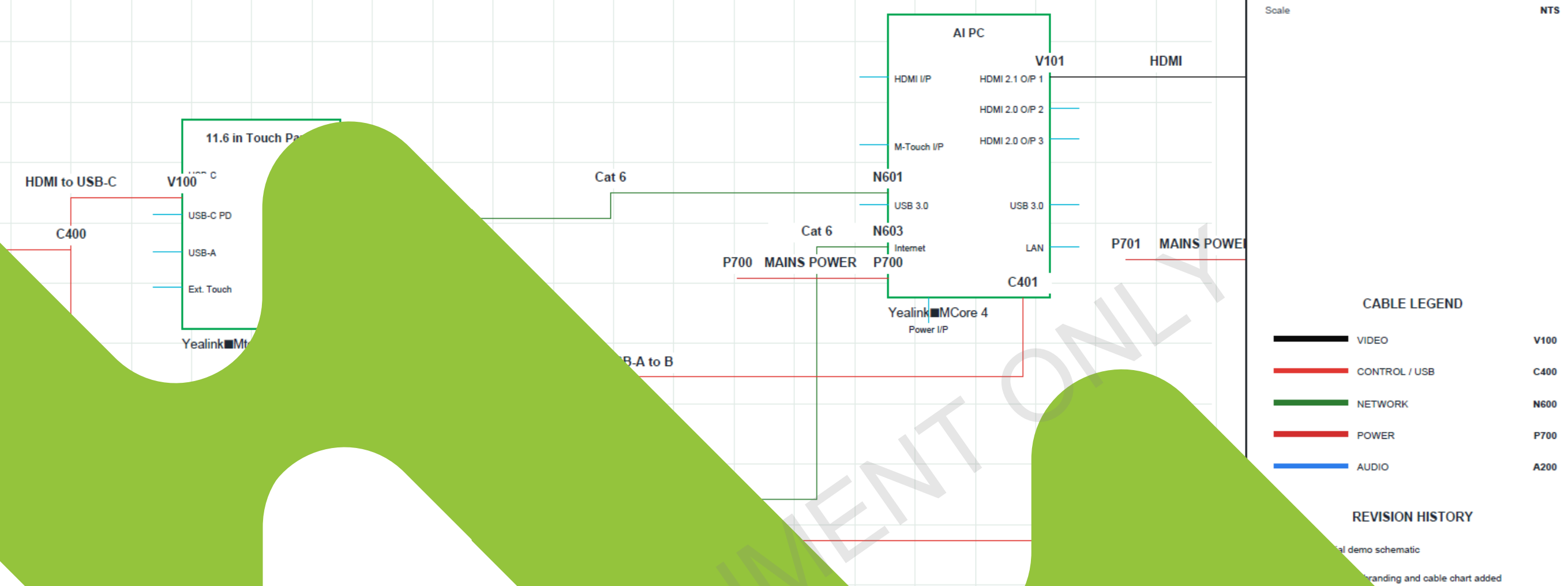
For example, you may need to change your cable box's audio option to HDMI if the box connected to your TV is using an HDMI cable.

To listen to computer sound, connect an external speaker to the computer's audio output connector.

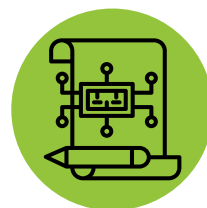
If your TV has a headphone jack, make sure there is nothing plugged into it.

Reboot the connected device by disconnecting and then reconnecting the device's power cord.

With a set-top box or cable box, check the cable connection and reboot the external device. When the symptom persists, contact your service provider.



SCHEMATICS



PROJECT INFORMATION

TRAIN

AV

Client	Train AV Ltd
Project	Project Train AV
Room Name	Training Room
Title	AV Schematic
Drawing No.	TAV-TR-SS-AV-02
Revision	Draft 02
Date	06/08/2026
Scale	NTS

CABLE LEGEND

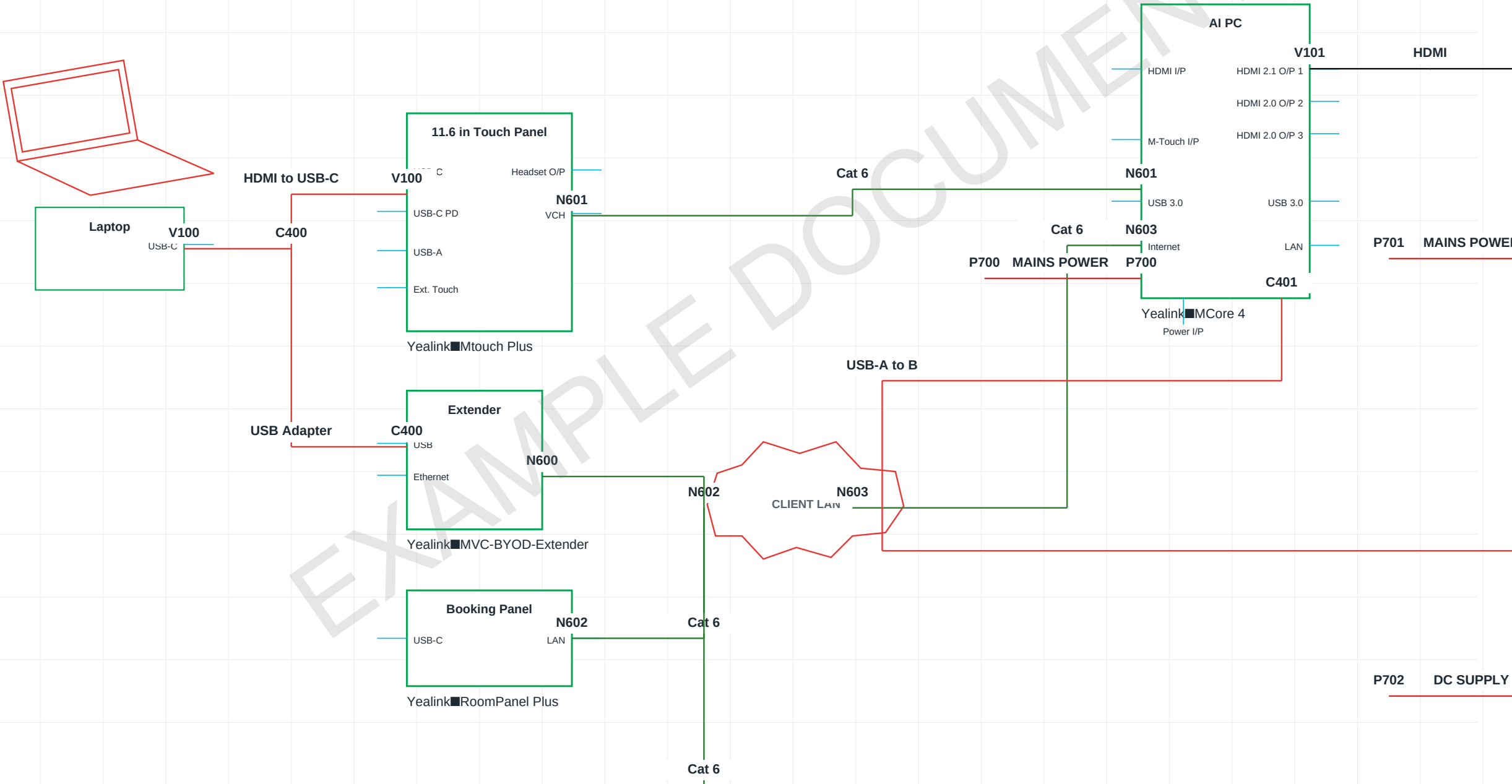
	VIDEO	V100
	CONTROL / USB	C400
	NETWORK	N600
	POWER	P700
	AUDIO	A200

REVISION HISTORY

01	Initial demo schematic
02	Train AV branding and cable chart added

Demo handover packet note

This schematic is a rebranded example for
Train AV handover documentation.
Cable IDs and routes are for demonstration.



Cable ID	Type	From	Connection	To	Connection	Purpose / Notes
V100	HDMI to USB-C	Laptop	USB-C / HDMI adaptor	11.6 in Touch Panel	USB-C	BYOD content input path
C400	USB adaptor	Laptop / USB adaptor	USB	BYOD Extender	USB	USB device bridge for BYOD
N600	Cat 6	BYOD Extender	Ethernet	Video Bar	VCH	Network/control link to camera bar
N601	Cat 6	11.6 in Touch Panel	VCH	AI PC	M-Touch I/P	Touch panel control link
N602	Cat 6	Booking Panel	LAN	Client LAN	Network	Room booking network connection
N603	Cat 6	Client LAN	Network	AI PC	LAN	Teams room PC network connection
V101	HDMI	AI PC	HDMI 2.1 O/P 1	65 in Display Monitor	HDMI I/P 1	Primary video output to display
C401	USB-A to B	AI PC	USB 3.0	Video Bar	USB-B 3.0	Camera / audio USB link
P700	Power	Mains supply	13A / local outlet	AI PC	Power I/P	Mains power supply
P701	Power	Mains supply	13A / local outlet	65 in Display Monitor	MAINS I/P	Display mains power
P702	Power	DC supply	PSU	Video Bar	Power I/P	Video bar DC power supply

Handover pack note

This cable chart is designed as a client-friendly reference. For final project packs, Train AV can add room-specific checks, user guides, annotated photos and escalation details.

Room Name	Training Room
Drawing No.	TAV-TR-SS-AV-02
Revision	Draft 02
Issued For	Demo Handover Packet