SAMSUNG

EK-GN120

User Manual

About this manual

This device provides high quality mobile communication and entertainment using Samsung's high standards and technological expertise. This user manual is specially designed to detail the device's functions and features.

- Please read this manual before using the device to ensure safe and proper use.
- Descriptions are based on the device's default settings.
- Images and screenshots may differ in appearance from the actual product.
- Content may differ from the final product, or from software provided by service providers or carriers, and is subject to change without prior notice. For the latest version of the manual, refer to the Samsung website, *www.samsung.com*.
- Content (high quality content) that requires high CPU and RAM usage will affect the overall performance of the device. Applications related to the content may not work properly depending on the device's specifications and the environment that it is used in.
- Available features and additional services may vary by device, software, or service provider.
- Applications and their functions may vary by country, region, or hardware specifications. Samsung is not liable for performance issues caused by applications from any provider other than Samsung.
- Samsung is not liable for performance issues or incompatibilities caused by edited registry settings or modified operating system software. Attempting to customise the operating system may cause the device or applications to work improperly.
- Software, sound sources, wallpapers, images, and other media provided with this device are licensed for limited use. Extracting and using these materials for commercial or other purposes is an infringement of copyright laws. Users are entirely responsible for illegal use of media.
- You may incur additional charges for data services, such as messaging, uploading and downloading, auto-syncing, or using location services. To avoid additional charges, select an appropriate data tariff plan. For details, contact your service provider.

- Default applications that come with the device are subject to updates and may no longer be supported without prior notice. If you have questions about an application provided with the device, contact a Samsung Service Centre. For user-installed applications, contact service providers.

- Modifying the device's operating system or installing softwares from unofficial sources may result in device malfunctions and data corruption or loss. These actions are violations of your Samsung licence agreement and will void your warranty.

Instructional icons

Warning: situations that could cause injury to yourself or others

Caution: situations that could cause damage to your device or other equipment

Note: notes, usage tips, or additional information

Copyright

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You can attach Samsung-approved, optional accessories to the hot-shoe, such as an external flash.

⚠ Do not use the device if it is cracked or broken. Broken glass or acrylic could cause injury to your hands and face. Take the device to a Samsung Service Centre to have it repaired.

📝 • Do not cover the antenna area with your hands or other objects, except when you are taking photos or videos. This may cause connectivity problems or drain the battery.

• Do not use a screen protector. This causes sensor malfunctions.

• Do not allow water to contact the touch screen. The touch screen may malfunction in humid conditions or when exposed to water.

Buttons

Button	Function
⊙ Power	• Press and hold to turn the device on or off. • Press and hold for 6-8 seconds to reset the device if it has fatal errors or hang-ups, or freezes. • Press to lock or unlock the device. The device goes into lock mode when the touch screen turns off.
○ Shutter	• On the Home screen, press to turn the camera on. • In the camera application, half-press to focus on the subject. When the subject is in focus, the focus frame turns green. • In the camera application, press to take the photo.
● Video recording	• On the Home screen, press to turn the camera on. • In the camera application, press to start or stop taking a video.
⚡ Flash release	• Press to pop the flash up.

Dioptre adjustment dial

If the image is not shown clearly through the viewfinder, rotate the Dioptre adjustment dial to improve the view.

Command dial

When using the camera application

- Press and hold the Command dial to close the camera application and return to the Home screen.

- On the preview screen, rotate the Command dial to change shooting modes. Press the Command dial to confirm the selection.
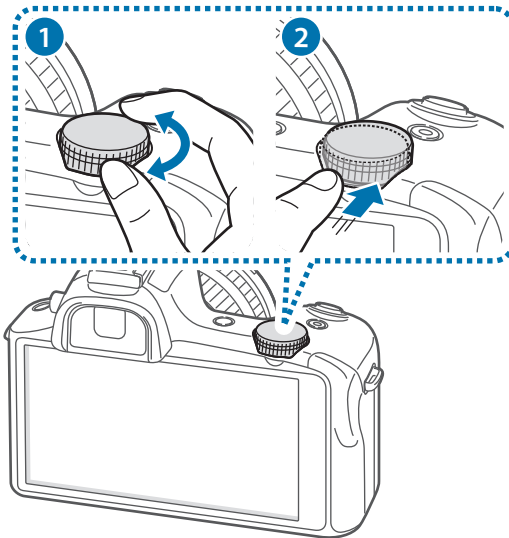
When not using the camera application

Rotate the Command dial to adjust the device volume or to adjust the sound volume when playing music or videos.

Lens layout

Lens mount index — Lens contacts

Focus ring

Lens hood mount index — i-Function button

AF/MF switch

Lens

Zoom ring
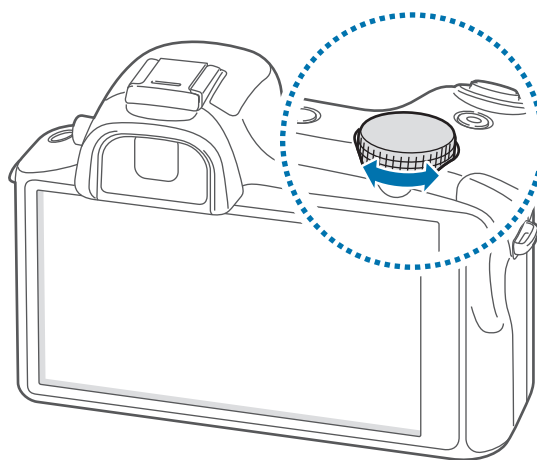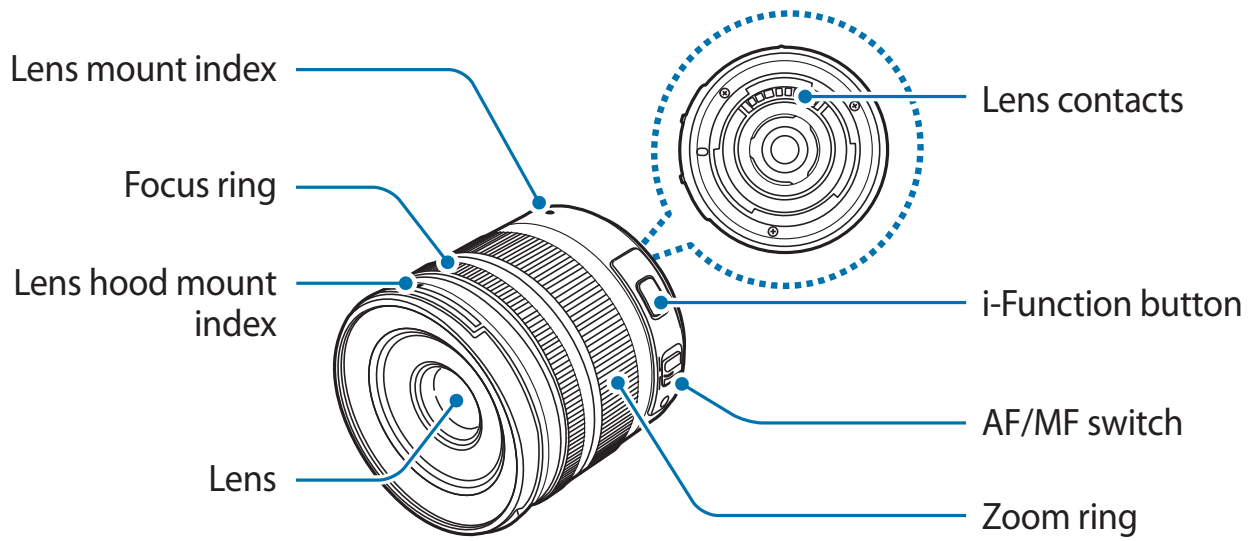
> • When purchasing optional lenses, check with a Samsung Service Centre to ensure compatibility.
>
> • Refer to the corresponding lens instructions for more details.
>
> • This manual uses a SAMSUNG 18-55 mm F3.5-5.6 OIS III lens as an example.

Package contents

Check the product box for the following items:
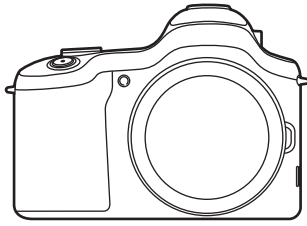
Device

(including the body cap and
hot-shoe cover)
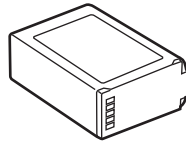
Battery
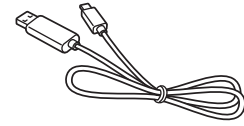
USB cable
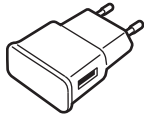
USB power adaptor
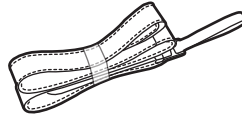
Shoulder strap
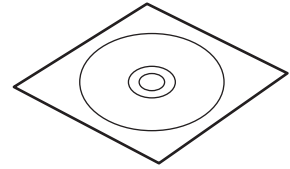
Adobe Photoshop Lightroom
DVD-ROM
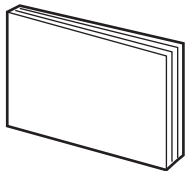
Quick start guide / Handbook

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- The illustrations may differ from the actual items.
- The items supplied with the device and any available accessories may vary depending on the region or service provider.
- The supplied items are designed only for this device and may not be compatible with other devices.
- Appearances and specifications are subject to change without prior notice.
- You can purchase additional accessories from your local Samsung retailer. Make sure they are compatible with the device before purchase.
- Other accessories may not be compatible with your device.
- Use only Samsung-approved accessories. Malfunctions caused by using unapproved accessories are not covered by the warranty service.
- Availability of all accessories is subject to change depending entirely on manufacturing companies. For more information about available accessories, refer to the Samsung website.
- Some TVs may not be compatible with the device due to differing HDMI specifications.

Installing the SIM or USIM card and battery

Insert the SIM or USIM card provided by the mobile telephone service provider, and the included battery.

> • Only microSIM cards work with the device.
>
> • Some LTE services may not be available depending on the service provider. For details about service availability, contact your service provider.

1 Slide the latch and open the flap.
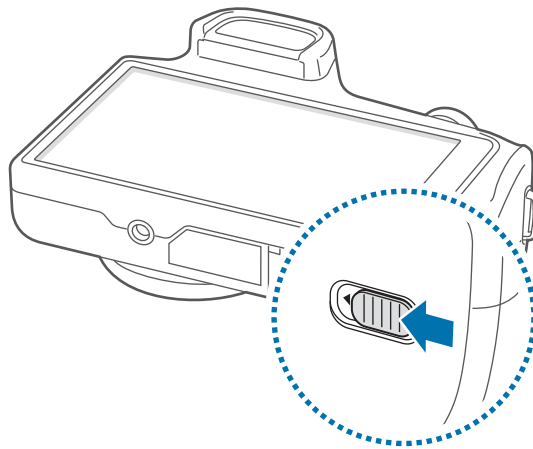
2 Insert the SIM or USIM card with the gold-coloured contacts facing upwards.
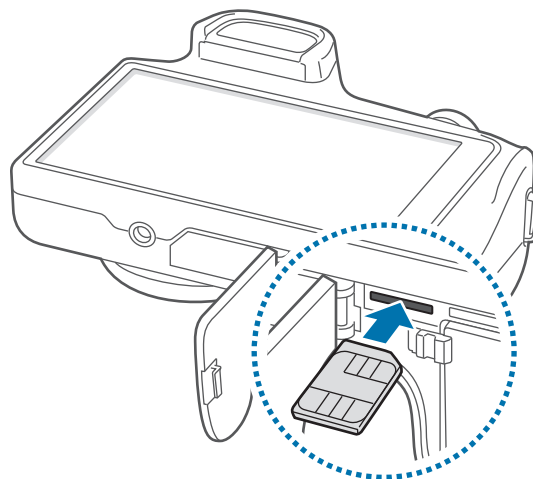
3   Push the SIM or USIM card into the slot until it locks in place.

⚠️
- Do not insert a memory card into the SIM card slot. If a memory card happens to be lodged in the SIM card slot, take the device to a Samsung Service Centre to remove the memory card.
- Use caution not to lose or let others use the SIM or USIM card. Samsung is not responsible for any damages or inconveniences caused by lost or stolen cards.

4   Insert the battery.
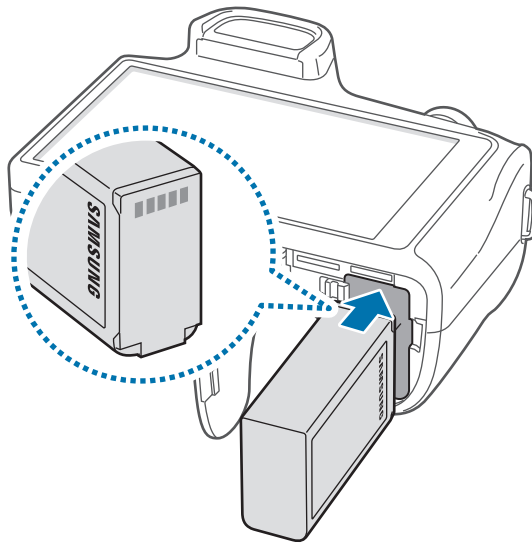
📝   Make sure to properly align the battery's gold-coloured contacts when inserting the battery.

5   Replace the flap and slide the latch.
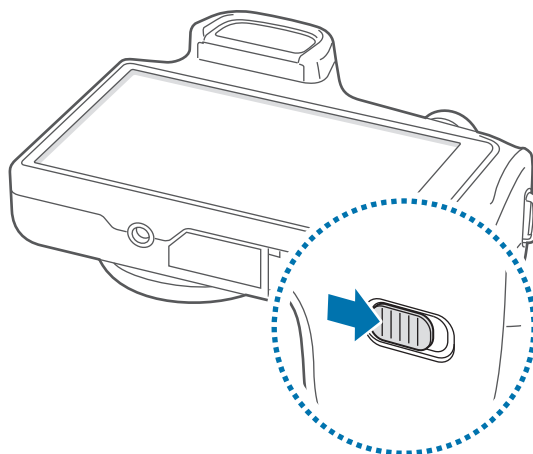
Removing the SIM or USIM card

Push the SIM or USIM card until it disengages from the device, and then pull it out.
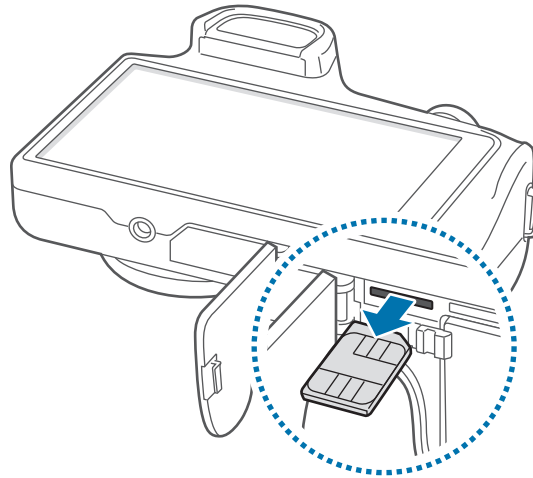
Removing the battery

Slide the battery lock to release the battery, and then pull it out.
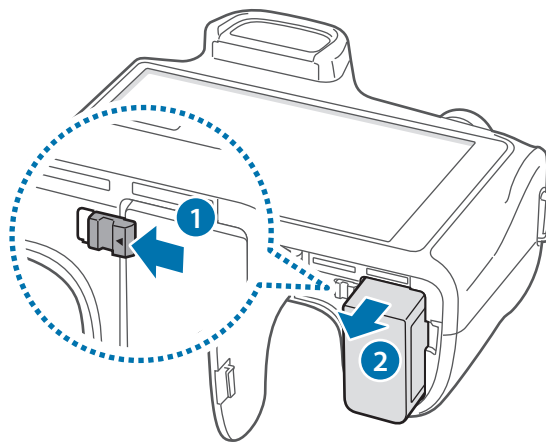
Charging the battery

Use the charger to charge the battery before using it for the first time. A computer can be also used to charge the device by connecting them via the USB cable.

> ⚠️ Use only Samsung-approved chargers, batteries, and cables. Unapproved chargers or cables can cause the battery to explode or damage the device.

> 📝 • When the battery power is low, the device emits a warning tone and displays a low battery power message.
>
> • If the battery is completely discharged, the device cannot be turned on immediately when the charger is connected. Allow a depleted battery to charge for a few minutes before turning on the device.

Charging with the charger

Connect the USB cable to the USB power adaptor and then plug the end of the USB cable into the multipurpose jack.
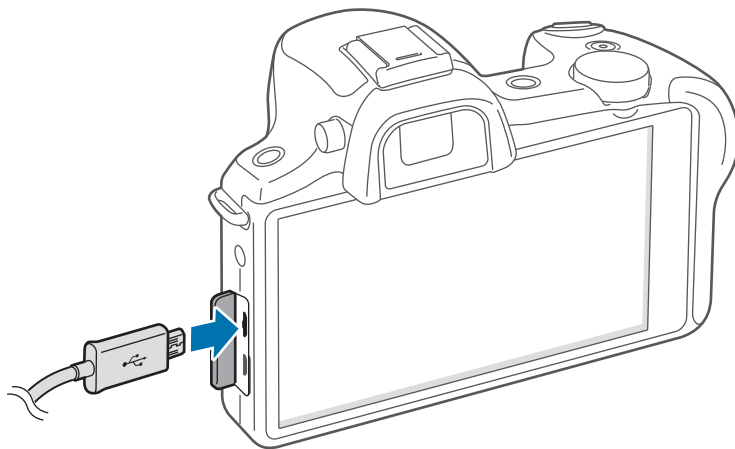
> ⚠️ Connecting the charger improperly may cause serious damage to the device. Any damage caused by misuse is not covered by the warranty.

- The device can be used while it is charging, but it may take longer to fully charge the battery.
- If the device receives an unstable power supply while charging, the touch screen may not function. If this happens, unplug the charger from the device.
- While charging, the device may heat up. This is normal and should not affect the device's lifespan or performance. If the battery gets hotter than usual, the charger may stop charging.
- If the device is not charging properly, take the device and the charger to a Samsung Service Centre.

After fully charging, disconnect the device from the charger. First unplug the charger from the device, and then unplug it from the electric socket.

Do not remove the battery before removing the charger. This may damage the device.

To save energy, unplug the charger when not in use. The charger does not have a power switch, so you must unplug the charger from the electric socket when not in use to avoid wasting power. The device should remain close to the electric socket while charging.

Checking the battery charge status

When you charge the battery while the device is off, the following icons will show the current battery charge status:

Charging	Fully charged

Reducing the battery consumption

Your device provides options that help you save battery power. By customising these options and deactivating features in the background, you can use the device longer between charges:

- When you are not using the device, switch to sleep mode by pressing the Power button.
- Close unnecessary applications with the task manager.
- Deactivate the Bluetooth feature.
- Deactivate the Wi-Fi feature.
- Deactivate auto-syncing of applications.
- Decrease the backlight time.
- Decrease the brightness of the display.
- Deactivate the fast power-on feature.
- Activate the automatic power-off feature.
- Activate the smart network feature.

Inserting a memory card

Your device accepts memory cards with maximum capacities of 64 GB. Depending on the memory card manufacturer and type, some memory cards may not be compatible with your device.

- Some memory cards may not be fully compatible with the device. Using an incompatible card may damage the device or the memory card, or corrupt the data stored in it.
- Use caution to insert the memory card right-side up.

- The device supports the FAT and the exFAT file systems for memory cards. When inserting a card formatted in a different file system, the device asks to reformat the memory card.
- Frequent writing and erasing of data shortens the lifespan of memory cards.
- When inserting a memory card into the device, the memory card's file directory appears in the **SD memory card** folder under the internal memory.

1 Slide the latch and open the flap.

2 Insert a memory card with the gold-coloured contacts facing downwards.

3 Push the memory card into the slot until it locks in place.
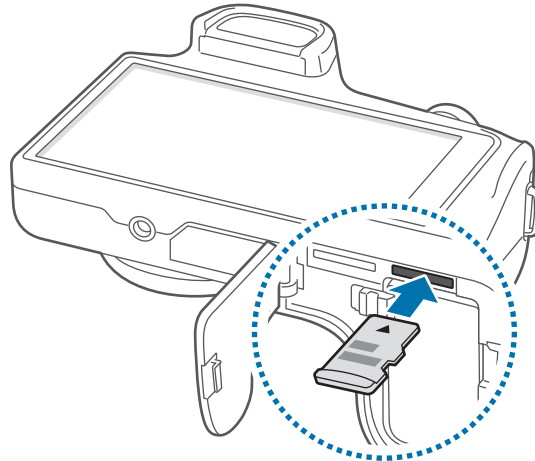
4 Replace the flap and slide the latch.

Removing the memory card

Before removing the memory card, first unmount it for safe removal. On the Home screen, tap **Apps → Settings → More → Storage → Unmount SD card**.

1 Slide the latch and open the flap.

2 Push the memory card until it disengages from the device, and then pull it out.

3 Replace the flap and slide the latch.

Do not remove the memory card while the device is transferring or accessing information. Doing so can cause data to be lost or corrupted or damage to the memory card or device. Samsung is not responsible for losses that result from the misuse of damaged memory cards, including the loss of data.

Formatting the memory card

A memory card formatted on a computer, memory card reader, or other device may not be compatible with this device. Format the memory card on this device.

On the Home screen, tap **Apps** → **Settings** → **More** → **Storage** → **Format SD card** → **Format SD card** → **Erase everything**.

⚠ Before formatting the memory card, remember to make backup copies of all important data stored on the device. The manufacturer's warranty does not cover loss of data resulting from user actions.

Attaching a strap

Attach the strap to the eyelets on both sides of the device.
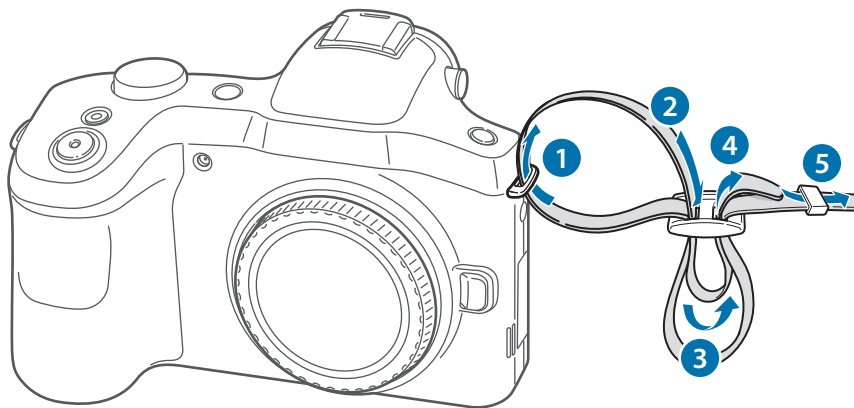
⚠ Do not swing your device by the strap. This may cause injury to yourself or others or damage to your device.

Attaching and removing a lens

- Use only Samsung-approved lenses. Samsung is not responsible for damage caused by using another manufacturer's lenses.
- Do not attach or remove lenses in dusty, dirty areas. Dust and foreign particles can damage the lens or the device.
- Do not touch the inside of the device mount. Dust and foreign particles may affect shooting results or cause a malfunction if they enter the device or the lens.
- When not using a lens, attach the body cap.

Before attaching a lens, remove the lens cap, lens mount cover, and body cap.
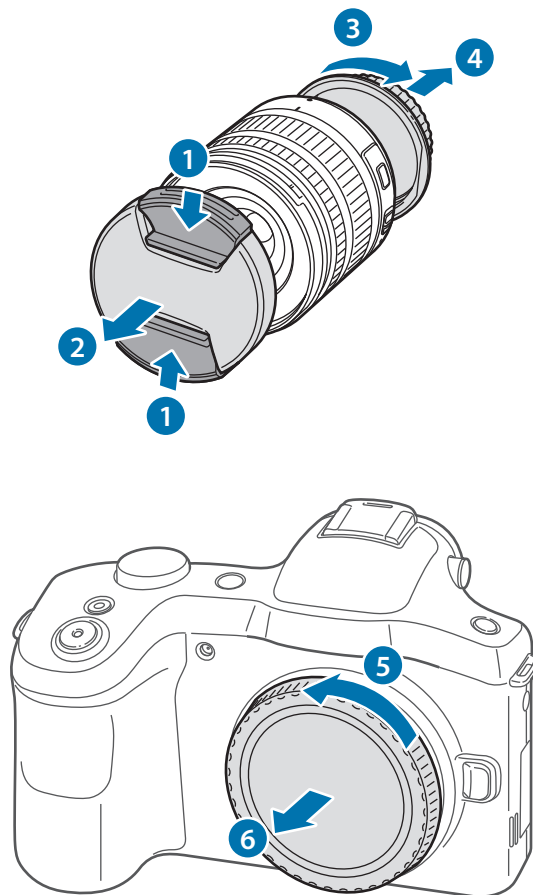
Attaching the lens

To attach the lens, align the red mark on the lens with the red mark on the device. Then, rotate the lens as shown in the illustration until it locks into place.
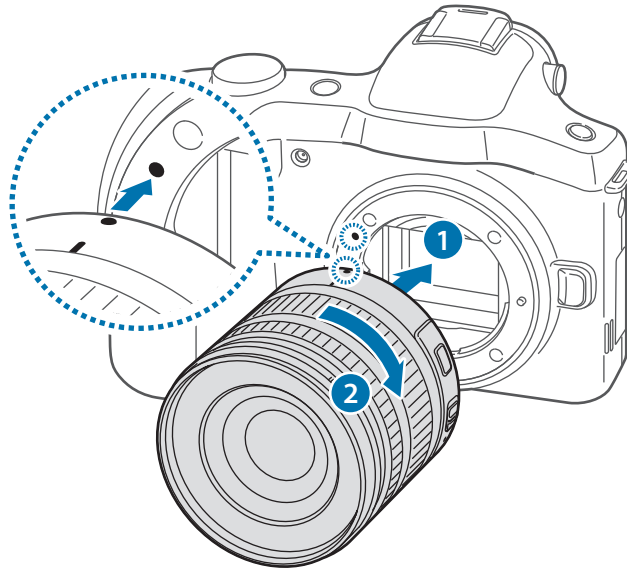
- If you attach a lens with the zoom lock switch, unlock it by rotating the zoom ring anticlockwise. When the lens is locked, you cannot take photos or videos.
- To lock the lens, pull and hold the zoom lock switch away from the device and rotate the zoom ring as shown in the illustration.
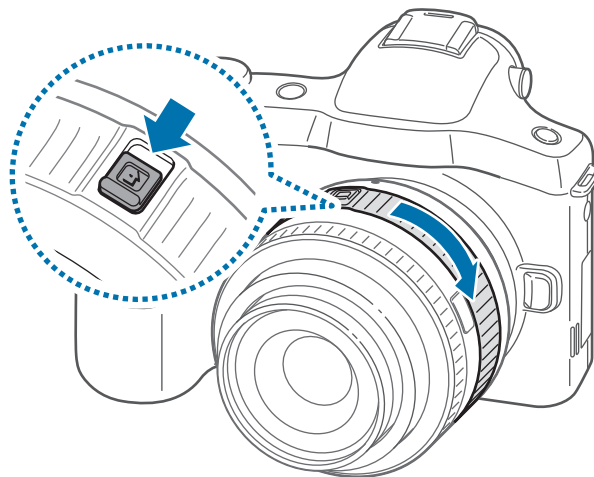
Removing the lens

To remove the lens, turn off the device, press and hold the lens release button, and then rotate the lens as shown in the illustration.
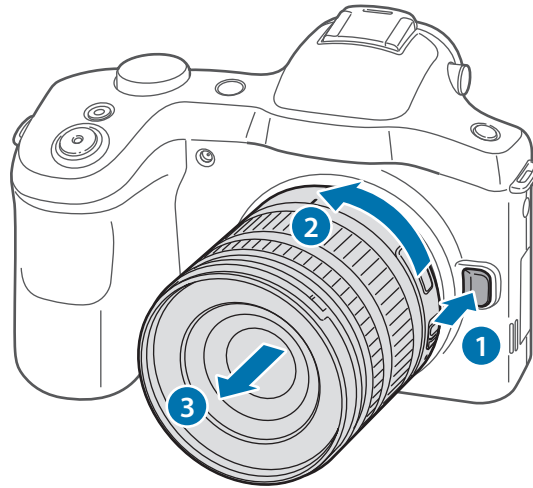
> After removing the lens from the device, attach the lens cap and lens mount cover to protect the lens surface and electrical contacts from scratches.

Turning the device on and off

When turning on the device for the first time, follow the on-screen instructions to set up your device.

Press and hold the Power button for a few seconds to turn on the device.
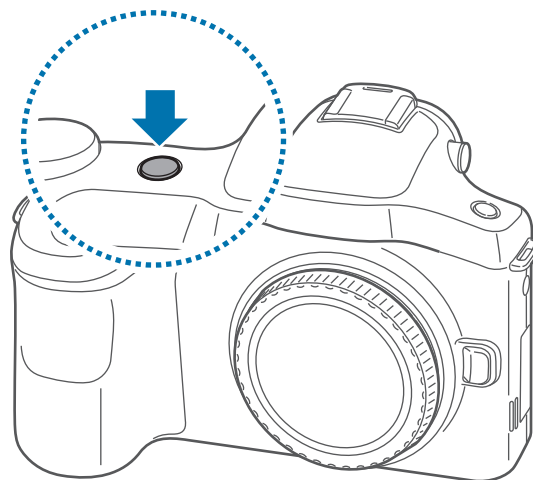
> • Follow all posted warnings and directions from authorised personnel in areas where the use of wireless devices is restricted, such as aeroplanes and hospitals.
>
> • Press and hold the Power button and tap **Flight mode** to disable the wireless features.

To turn off the device, press and hold the Power button, and then tap **Power off**.

Adjusting the volume

Rotate the Command dial to adjust the device volume or to adjust the sound volume when playing music or videos.

Switching to silent mode

Use one of the following methods:

- Press and hold the Power button, and then tap **Mute** or **Vibrate**.
- Open the notifications panel at the top of the screen, and then tap **Sound** or **Vibrate**.

Basics

Indicator icons

The icons displayed at the top of the screen provide information about the status of the device. The icons listed in the table below are most common.

Icon	Meaning
	No signal
	Signal strength
	Roaming (outside of normal service area)
	UMTS network connected
	HSDPA network connected
	HSPA+ network connected
	LTE network connected
	Wi-Fi connected
	Bluetooth feature activated
	GPS activated
	Synced with the web
	Connected to computer
	No SIM or USIM card
	New text or multimedia message
	Alarm activated
	Silent mode activated
	Vibration mode activated
	Flight mode activated
	Error occurred or caution required
	Battery power level

Using the touch screen

Use only fingers to use the touch screen.

- Do not allow the touch screen to come into contact with other electrical devices. Electrostatic discharges can cause the touch screen to malfunction.

- To avoid damaging the touch screen, do not tap it with anything sharp or apply excessive pressure to it with your fingertips.

- The device may not recognise touch inputs close to the edges of the screen, which are outside of the touch input area.

- Leaving the touch screen idle for extended periods may result in afterimages (screen burn-in) or ghosting. Turn off the touch screen when you do not use the device.

Finger gestures

Tapping

To open an application, to select a menu item, to press an on-screen button, or to enter a character using the on-screen keyboard, tap it with a finger.
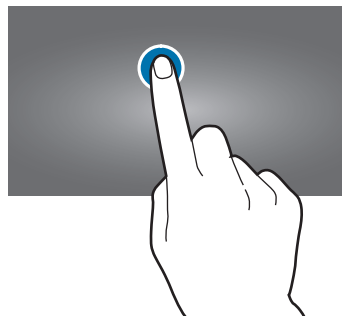
Dragging

To move an icon, thumbnail, or preview to a new location, tap and hold it and drag it to the target position.
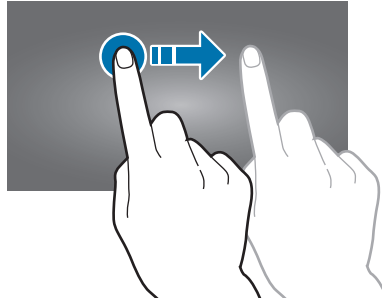
Double-tapping

Double-tap on a webpage, map, or image to zoom in a part. Double-tap again to return.
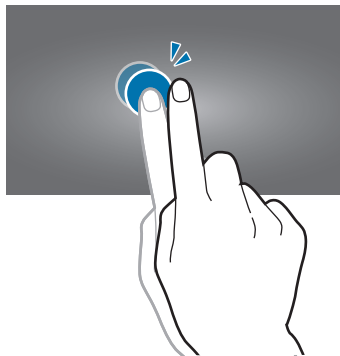
Flicking

Flick left or right on the Home screen or the Applications screen to see another panel. Flick up or down to scroll through a webpage or a list, such as contacts.
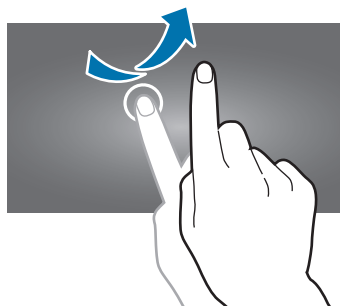
Pinching

Spread two fingers apart on a webpage, map, or image to zoom in a part. Pinch to zoom out.
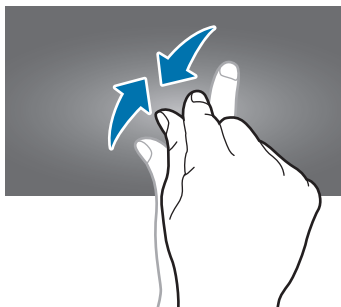
Control motions

Simple motions allow easy control of the device.

Before using motions, make sure the motion feature is activated. On the Home screen, tap **Apps** → **Settings** → **My device** → **Motions and gestures** → **Motion**, and then drag the **Motion** switch to the right.

> Excessive shaking or impact to the device may result in unintended inputs. Control motions properly.

Rotating the screen

Many applications allow display in either portrait or landscape orientation. Rotating the device causes the display to automatically adjust to fit the new screen orientation.
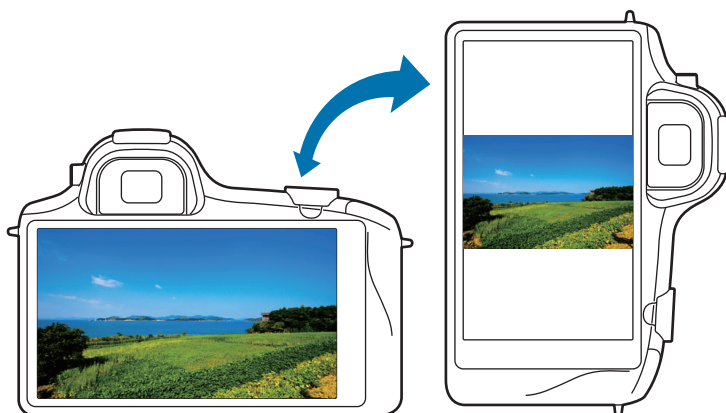
To prevent the display from rotating automatically, open the notifications panel and deselect **Screen rotation**.

- Some applications do not allow screen rotation.
- Some applications display a different screen depending on the orientation. The calculator turns into a scientific calculator when rotated to landscape.

Panning to move

Tap and hold an item, and then move the device to the left or right to move the item to another panel on the Home screen or the Applications screen.
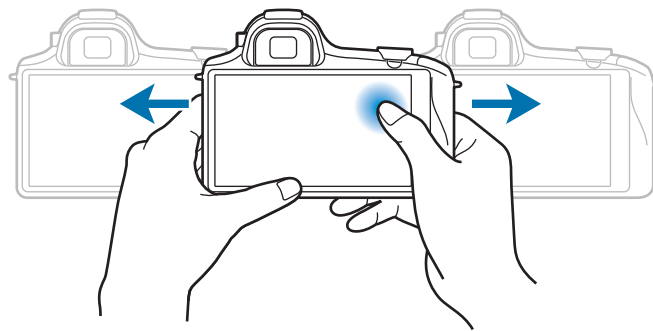
Panning to browse

When an image is zoomed in, tap and hold a point on the screen, and then move the device in any direction to browse the image.
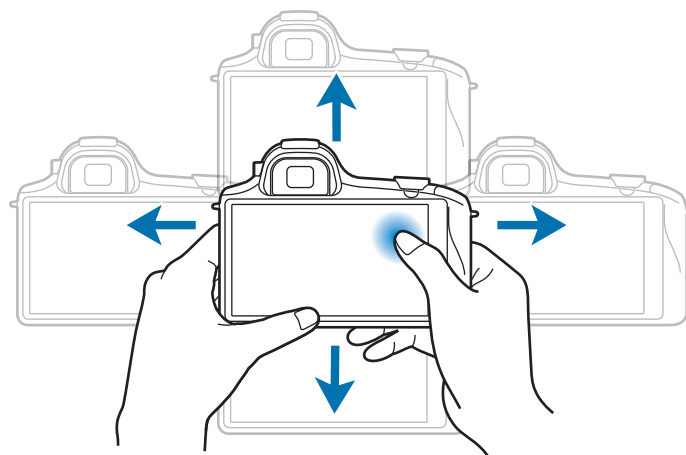
Tilting

Tap and hold two points on the screen, and then tilt the device back and forth to zoom in or out.
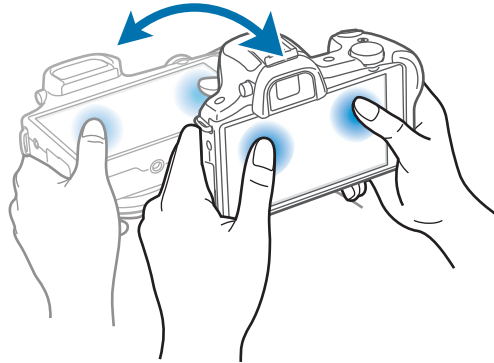
Palm motions

Use palm motions to control the device by touching the screen.

Before using motions, make sure the palm motion feature is activated. On the Home screen, tap **Apps** → **Settings** → **My device** → **Motions and gestures** → **Palm motion**, and then drag the **Palm motion** switch to the right.

Sweeping

Sweep your hand across the screen to capture a screenshot. The image is saved in **Gallery** → **Screenshots**. It is not possible to capture a screenshot while using some applications.
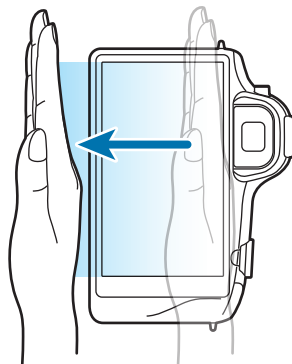
Covering

Cover the screen with a palm to pause media playback.
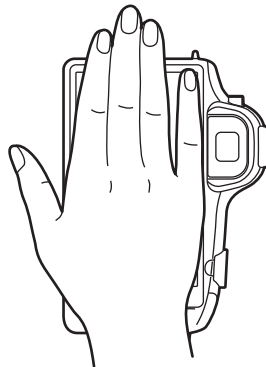
Notifications

Notification icons appear on the status bar at the top of the screen to report new messages, calendar events, device status, and more. Drag down from the status bar to open the notifications panel. Scroll the list to see additional alerts. To close the notifications panel, drag up the bar that is at the bottom of the screen.

Quick setting panel

From the quick setting panel, you can view your device's current settings. Drag down from the status bar, tap ⊞ to open the quick setting panel, and then use the following options:

- **Wi-Fi**: Activate or deactivate the Wi-Fi feature.
- **GPS**: Activate or deactivate the GPS feature.
- **Sound**: Activate or deactivate silent mode. You can vibrate or mute your device in silent mode.
- **Screen rotation**: Allow or prevent the interface from rotating when you rotate the device.
- **Bluetooth**: Activate or deactivate the Bluetooth feature.

- **Mobile data**: Activate or deactivate the data connection.
- **Blocking mode**: Activate or deactivate blocking mode. In blocking mode, the device will block notifications. To select which notifications will be blocked, tap **Settings** → **My device** → **Blocking mode**.
- **Screen Mirroring**: Activate or deactivate the screen mirroring feature.
- **Wi-Fi hotspot**: Activate or deactivate the Wi-Fi tethering feature.
- **Driving mode**: Activate or deactivate driving mode.
- **Sync**: Activate or deactivate auto-syncing of applications.
- **Flight mode**: Activate or deactivate flight mode.
- **Smart Network**: Activate or deactivate the smart network feature.

The available options may vary depending on the region or service provider.

To rearrange the options on the quick setting panel, open the quick setting panel, tap ⬈, and then tap and drag an item to another location.

Home screen

The Home screen is the starting point to access all of the device's features. It displays indicator icons, widgets, shortcuts to applications, and others.

The Home screen can have multiple panels. To view other panels, scroll left or right.

Rearranging items

Adding an application icon

On the Home screen, tap **Apps**, tap and hold an application icon, and then drag it into a panel preview.

Adding an item

Customise the Home screen by adding widgets, folders, or panels.

Tap and hold the empty area on the Home screen, and then select one of the following categories:

- **Apps and widgets**: Add widgets or applications to the Home screen.
- **Folder**: Create a new folder.
- **Page**: Add a new panel to the Home screen.

Moving an item

Tap and hold an item and drag it to a new location. To move it to another panel, drag it to the side of the screen.

Removing an item

Tap and hold an item, and drag it to the rubbish bin that appears at the top of the Home screen. When the rubbish bin turns red, release the item.

Rearranging panels

Adding a new panel

Tap ▤ → **Edit page** → ➕.

Moving a panel

Tap ▤ → **Edit page**, tap and hold a panel preview, and then drag it to a new location.

Removing a panel

Tap ▤ → **Edit page**, tap and hold a panel preview, and then drag it to the rubbish bin at the top of the screen.

Setting wallpaper

Set an image or photo stored in the device as wallpaper for the Home screen.

On the Home screen, tap ▤ → **Set wallpaper** → **Home screen**, and then select one of the following:

- **Gallery**: See photos taken by the device's camera or images downloaded from the Internet.
- **Live wallpapers**: See animated images.
- **Wallpapers**: See wallpaper images.

Then, select an image and tap **Set wallpaper**. Or, select an image, resize it by dragging the frame, and then tap **Done**.

Using widgets

Widgets are small applications that provide convenient functions and information on your Home screen. To use them, add widgets from the widgets panel to the Home screen.

- Some widgets connect to web services. Using a web-based widget may result in additional charges.
- The widgets available may vary depending on the region or service provider.

On the Home screen, tap **Apps** → **Widgets**. Scroll left or right on the widgets panel, and then tap and hold a widget to add it to the Home screen.

Using applications

This device can run many different types of applications, ranging from media to Internet applications.

Opening an application

On the Home screen or the Applications screen, select an application icon to open it.

Opening from recently-used applications

Tap and hold ⌂ to open the list of recently-used applications.

Select an application icon to open.

Closing an application

Close applications not in use to save battery power and maintain device performance.

Tap and hold ⌂, tap **Task manager**, and then tap **End** next to an application to close it. To close all running applications, tap **End all**. Alternatively, tap and hold ⌂, and then tap **Close all**.

Applications screen

The Applications screen displays icons for all applications, including any new applications installed.

On the Home screen, tap **Apps** to open the Applications screen.

To view other panels, scroll left or right.

Rearranging applications

Tap ▤ → **Edit**, tap and hold an application, and then drag it to a new location. To move it to another panel, drag it to the side of the screen.

Organising with folders

Put related applications together in a folder for convenience.

Tap ▤ → **Edit**, tap and hold an application, and then drag it to **Create folder**. Enter a folder name and then tap **OK**. Put applications into the new folder by dragging, and then tap **Save** to save the arrangement.

Rearranging panels

Pinch on the screen, tap and hold a panel preview, and then drag it to a new location.

Installing applications

Use application stores, such as **Samsung Apps**, to download and install applications.

Uninstalling applications

Tap → **Uninstall**, and then select an application to uninstall it.

Default applications that come with the device cannot be uninstalled.

Sharing applications

Share downloaded applications with other users via email, Bluetooth, or other methods.

Tap → **Share app**, select applications, tap **Done**, and then select a sharing method. The next steps vary depending on the method selected.

Help

Access help information to learn how to use the device and applications or configure important settings.

Tap **Help** on the Applications screen. Tap and select a category to view help information.

Entering text

Use the Samsung keyboard or the voice input feature to enter text.

> Text entry is not supported in some languages. To enter text, you must change the input language to one of the supported languages.

Changing the keyboard type

Tap any text field, open the notifications panel, tap **Choose input method**, and then select the type of keyboard to use.

Using the Samsung keyboard

Changing the keyboard layout

Tap → **Alphabets** or **Numbers and symbols**, and then tap **Qwerty keyboard** or **3x4 keyboard**.

> On the 3x4 keyboard, a key has three or four characters. To enter a character, tap repeatedly the key corresponding to the character.

Set options for the
Samsung keyboard.

Delete a preceding
character.

Enter uppercase.

Break to the next line.

Enter numerals and
punctuation marks.

Enter a space.
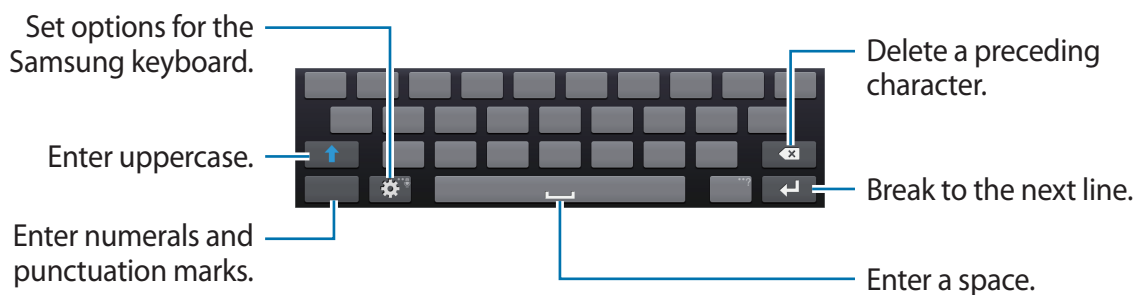
Entering uppercase

Tap before entering a character. For all caps, tap it twice.

Changing language keyboards

Add languages to the keyboard, and then slide the space key left or right to change language keyboards.

Handwriting

Tap and hold , tap , and then write a word with a finger. Suggested words appear as characters are entered. Select a suggested word.
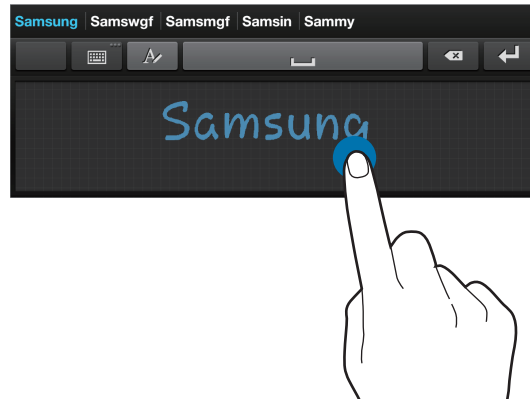
Use handwriting gestures to perform actions, such as editing or deleting characters and inserting spaces. To view the gesture guides, tap and hold , and then tap   → **Handwriting** → **Gesture guide**.

Entering text by voice

Activate the voice input feature and then speak into the microphone. The device displays what you speak.

To change the language or add languages for the voice recognition, tap the current language.

Copying and pasting

Tap and hold over text, drag   or   to select more or less text, and then tap **Copy** to copy or **Cut** to cut. The selected text is copied to the clipboard.

To paste it into a text entry field, tap and hold at the point where it should be inserted, and then tap **Paste**.

Connecting to a Wi-Fi network

Connect the device to a Wi-Fi network to use the Internet or share media files with other devices. (p. 144)

Turning Wi-Fi on and off

Open the notifications panel, and then tap **Wi-Fi** to turn it on or off.

> • Your device uses a non-harmonised frequency and is intended for use in all European countries. The WLAN can be operated in the EU without restriction indoors, but cannot be operated outdoors.
>
> • Turn off Wi-Fi to save the battery when not in use.

Joining Wi-Fi networks

On the Applications screen, tap **Settings** → **Connections** → **Wi-Fi**, and then drag the **Wi-Fi** switch to the right.

Select a network from the list of detected Wi-Fi networks, enter a password if necessary, and then tap **Connect**. Networks that require a password appear with a lock icon. After the device connects to a Wi-Fi network, the device will automatically connect to it any time it is available.

Adding Wi-Fi networks

If the desired network does not appear in the networks list, tap **Add Wi-Fi network** at the bottom of the networks list. Enter the network name in **Network SSID**, select the security type and enter the password if it is not an open network, and then tap **Connect**.

Forgetting Wi-Fi networks

Any network that has ever been used, including the current network, can be forgotten so the device will not automatically connect to it. Select the network in the networks list, and then tap **Forget**.

Setting up accounts

Google applications, such as **Play Store**, require a Google account, and **Samsung Apps** requires a Samsung account. Create Google and Samsung accounts to have the best experience with the device.

Adding accounts

Follow the instructions that appear when opening a Google application without signing in to set up a Google account.

To sign in with or sign up for a Google account, on the Applications screen, tap **Settings** → **Accounts** → **Add account** → **Google**. After that, tap **New** to sign up, or tap **Existing**, and then follow on-screen instructions to complete the account setup. More than one Google account can be used on the device.

Set up a Samsung account as well.

Removing accounts

On the Applications screen, tap **Settings** → **Accounts**, select an account name under **My accounts**, select the account to remove, and then tap **Remove account**.

Transferring files

Move audio, video, image, or other types of files from the device to the computer, or vice versa.

> The following file formats are supported by some applications. Some file formats are not supported depending on the version of the device's software or the computer operating system.
>
> - Music: mp3, m4a, 3ga, aac, ogg, oga, wav, wma, and flac
> - Image: bmp, gif, jpg, and png
> - Video: mp4, m4v, 3gp, 3g2, wmv, asf, avi, flv, webm, and mkv

Connecting with Samsung Kies

Samsung Kies is a computer application that manages media libraries, contacts, and calendars, and syncs them with Samsung devices. Download the latest Samsung Kies from the Samsung website.

1 Connect the device to the computer using the USB cable.

Samsung Kies launches on the computer automatically. If Samsung Kies does not launch, double-click the Samsung Kies icon on the computer.

2 Transfer files between your device and the computer.

Refer to the Samsung Kies help for more information.

Connecting with Windows Media Player

Ensure that Windows Media Player is installed on the computer.

1 Connect the device to the computer using the USB cable.

2 Open Windows Media Player and sync music files.

Connecting as a media device

1 Connect the device to the computer using the USB cable.

2 Open the notifications panel, and then tap **Connected as a media device** → **Media device (MTP)**.

Tap **Camera (PTP)** if your computer does not support Media Transfer Protocol (MTP) or not have any appropriate driver installed.

3 Transfer files between your device and the computer.

Securing the device

Prevent others from using or accessing personal data and information stored in the device by using the security features. The device requires an unlock code whenever unlocking it.

Setting a pattern

On the Applications screen, tap **Settings** → **My device** → **Lock screen** → **Screen lock** → **Pattern**.

Draw a pattern by connecting four dots or more, and then draw the pattern again to verify it. Set a backup unlock PIN to unlock the screen when you forget the pattern.
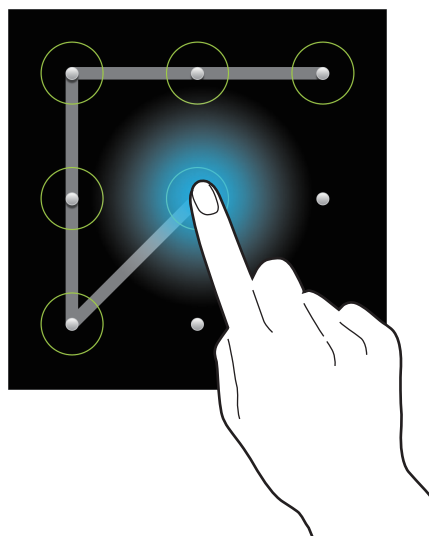
Setting a PIN

On the Applications screen, tap **Settings** → **My device** → **Lock screen** → **Screen lock** → **PIN**.

Enter at least four numbers, and then enter the password again to verify it.

Setting a password

On the Applications screen, tap **Settings** → **My device** → **Lock screen** → **Screen lock** → **Password**.

Enter at least four characters including numbers and symbols, and then enter the password again to verify it.

Unlocking the device

Turn on the screen by pressing the Power button and enter the unlock code.

> If the unlock code is forgotten, take the device to a Samsung Service Centre to reset it.

Upgrading the device

The device can be upgraded to the latest software.

> This feature may not be available depending on the region or service provider.

Upgrading with Samsung Kies

Launch Samsung Kies and connect the device to the computer. Samsung Kies automatically recognises the device and shows available updates in a dialogue box, if any. Click the Update button in the dialogue box to start upgrading. Refer to the Samsung Kies help for details on how to upgrade.

⚠ • Do not turn off the computer or disconnect the USB cable while the device is upgrading.

• While upgrading the device, do not connect other media devices to the computer. Doing so may interfere with the update process.

Upgrading over the air

The device can be directly upgraded to the latest software by the firmware over-the-air (FOTA) service.

On the Applications screen, tap **Settings** → **More** → **About device** → **Software update** → **Update**.

Camera: Basic functions

Launching Camera

Use this application to take photos or videos.

Tap **Camera** on the Applications screen. Alternatively, press the Shutter button or the Video recording button.

Use **Gallery** to view photos and videos taken with the device. (p. 100)

> - The camera automatically shuts off when unused.
> - Make sure that the lens is clean. Otherwise, the device may not work properly in some modes that require high resolutions.

Camera etiquette

- Do not take photos or videos of other people without their permission.
- Do not take photos or videos where legally prohibited.
- Do not take photos or videos in places where you may violate other people's privacy.

Learning the preview screen

Change shooting options quickly.

Change the camera settings.

Return to the Home screen.

Access shortcuts.

Focus frame

Open Gallery to view photos and videos.

Indicate the current camera settings.

Indicate which shooting mode is in use.

Take photos.

Change the shooting mode.

Start taking a video.

Select among various effects that are available.
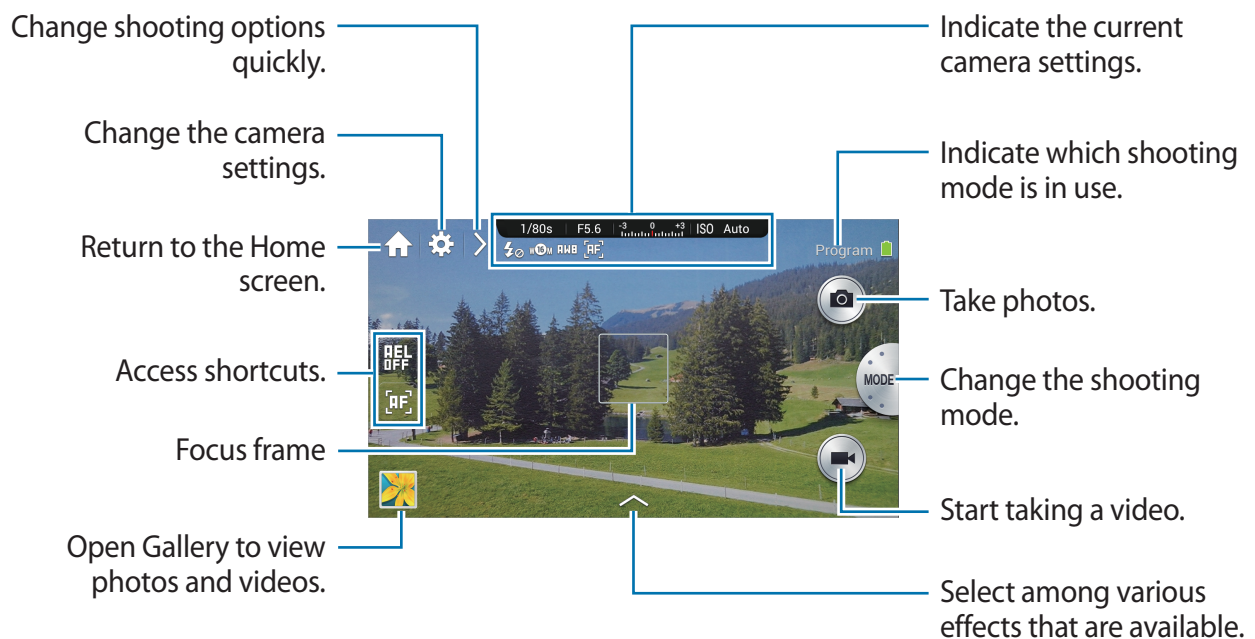
Learning icons

The icons displayed on the preview screen provide information about current shooting options and settings. The icons listed in the table below are the most common.

Icon	Meaning
1/40s	Shutter speed
F3.5	Aperture value
-3 0 +3	Exposure value
ISO 100	ISO sensitivity
	Timer
	Flash
W16M	Photo size
AWB	White balance
AF	AF mode
	Metering
N	Continuous shooting
AE	Bracket mode
RAW	Raw format file
	Voice recognition
	Geotagging
	Share shot
	Buddy photo share
	ChatON photo share
	Remote viewfinder

Closing Camera

On the preview screen, tap to close the camera application and return to the Home screen.
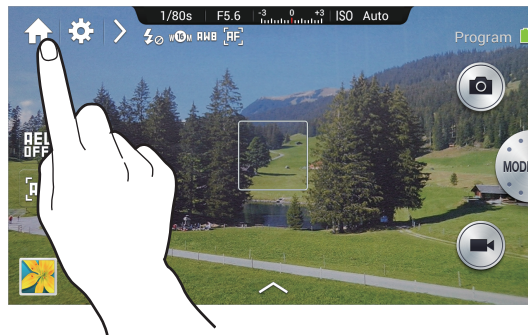
Selecting the operation type

Select the operation type for either basic or expert use.

Tap (or →) → → **User type**.

- **Standard**: Use for basic camera operations.
- **Professional**: Use for more advanced camera operations. You can conveniently change shooting options by using the smart panel, and quickly access expert modes.

> - This manual is based on the standard operation type.
> - The default settings for the dial control and power-on mode differ by operation type, as follows:
>   - Standard: **Option 1** (dial control), **Auto mode** (power-on mode)
>   - Professional: **Option 2** (dial control), **Last mode** (power-on mode)

Taking photos

Half-press the Shutter button to focus on the subject. When the subject is in focus, the focus frame turns green. Press the Shutter button to take the photo.

Or, tap the image on the preview screen where the camera should focus. When the subject is in focus, the focus frame turns green. Tap to take the photo.

> Except in interval mode, the camera will not take a photo if it cannot focus on a subject.

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Taking videos

Press the Video recording button to take a video. To stop recording, press the Video recording button again.

Or, tap ⬤ to take a video and tap ⬤ to stop recording.

While recording, tap where you want to focus to change the focus. To set the camera to focus automatically, tap ⬤.

> • You can take videos up to 20 minutes at one time.
>
> • When using a memory card with a slow writing speed, the device may not be able to save the video properly. It may stop recording, or recorded video frames may become corrupted.
>
> • Memory cards with slow writing speeds do not support high-resolution video. To record high-resolution video, use memory cards with faster writing speeds (micro SDHC Class10 or higher).
>
> • The video frame size may appear smaller depending on video resolution and frame rate.
>
> • If you set the image stabiliser option, the image stabiliser sound may be recorded.
>
> • If you adjust the lens while taking a video, the zoom sound or other lens sounds may be recorded.
>
> • Do not remove or replace the lens while taking a video. Doing this will interrupt the recording.
>
> • When using an optional video lens, the auto focus noise is not recorded.
>
> • If you change the shooting angle of the camera suddenly while taking a video, the camera may not be able to record images accurately.
>
> • The camera supports the continuous AF, touch AF, manual focus, and face detection AF functions when taking a video.
>
> • In expert mode, you can change the major shooting options before recording a video:
>
>   – Program mode: Exposure value
>
>   – Aperture priority mode: Aperture value and exposure value
>
>   – Shutter priority mode: Shutter speed and exposure value
>
>   – Manual mode: Shutter speed, aperture value, and ISO sensitivity (the maximum ISO sensitivity is 3200)

Viewing photos and videos

To view taken photos or videos, tap the gallery icon. Scroll left or right to view the next or previous image. (p. 100)

Taking photos or videos with voice commands

Use the voice recognition to take photos or videos with voice commands.

Tap → . Say a shooting command, such as Smile, Cheese, or Record video.

To check more voice commands for controlling the camera, tap → .

Taking photos or videos with filter effects

Use the filter effects to take unique photos or videos.

Tap and select a filter effect. The available options vary by mode.

- **No effect**: Do not apply an effect.
- **Vignette**: This effect applies the retro-looking colours, high contrast, and strong vignette effect of Lomo cameras.
- **Greyscale**: This effect makes the image black and white.
- **Sepia**: This effect red-shifts the background scenery.
- **Vintage**: This effect gives the image a vintage look and feel.
- **Faded colours**: This effect fades the colour of the image.
- **Turquoise**: This effect applies a soft turquoise colour effect.
- **Tint**: This effect applies a colour tint effect.
- **Cartoon**: This effect applies a cartoon painting effect.
- **Moody**: This effect applies a mono cartoon painting effect.

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- **Rugged**: This effect applies a rugged effect.

- **Oil pastel**: This effect applies a pastel painting effect.

- **Fisheye**: This effect blackens the edges of the frame and distorts objects to imitate the visual effect of a fisheye lens.

Changing shooting options quickly

Tap to change shooting options quickly. The available options vary by mode.

- : Configure settings for Camera.

- : Activate or deactivate the flash.

- : Use this to set delayed-time shots.

- : Activate or deactivate the photo suggestion feature. (p. 109)

- : Select a folder for saving photos or videos. To create a new folder, tap .

- : Activate or deactivate the voice recognition to take photos or videos.

- : Activate or deactivate the sharing options.

Reducing camera shake

Use the Optical Image Stabiliser (OIS) option to reduce or eliminate blurriness from camera shake.

If the lens has an OIS switch, set the switch to ON to use the OIS function.

Tap ⚙ (or ❯ → ⚙) → 📷 → **OIS (anti-shake)**, and select an option.

Before correction	After correction

Tips for taking clearer photos

Holding the camera correctly
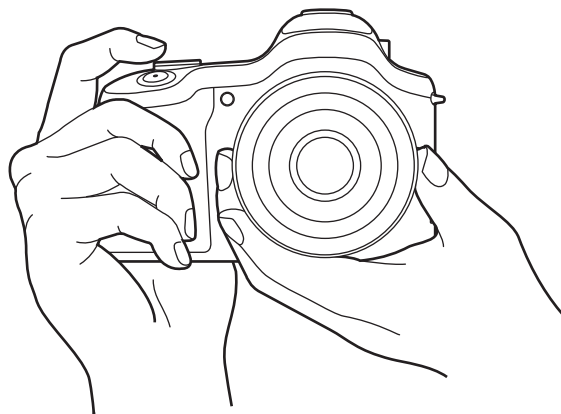
📝   Make sure not to block the screen, lens, flash, or microphone.

⚠️   Make sure not to expose the lens to direct sunlight. This may discolour the image sensor, or cause it to malfunction.

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Half-pressing the Shutter button

Press the Shutter button halfway down to adjust the focus. The camera adjusts the focus, exposure, and white balance automatically, and the focus frame turns green. The focus frame turns red if not focused.
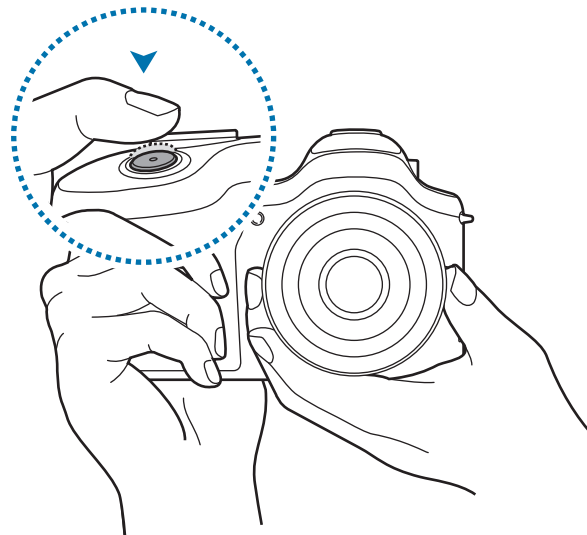
Reducing camera shake

Set the Optical Image Stabiliser (OIS) option to reduce camera shake optically. (p. 53)
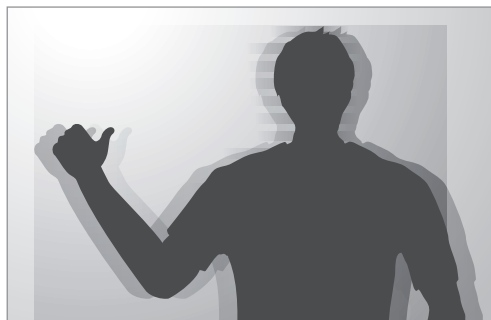
Keeping the subject in focus

Focusing on the subject may be difficult in the following conditions:

- When the contrast between the subject and background is low. For example, the subject is wearing clothing that is similar in colour to the background.
- The light behind the subject is too bright.
- The subject is shiny or reflective.
- The subject includes horizontal patterns, such as blinds.
- The subject is not positioned in the centre of the frame.
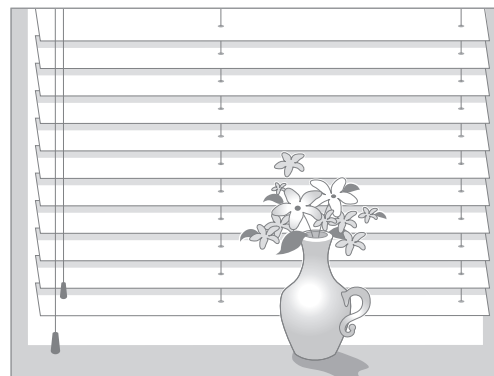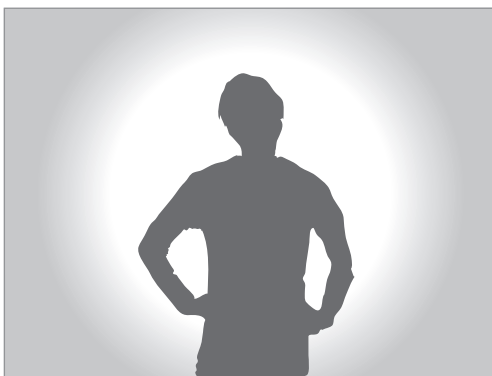
Using the focus lock

Half-press the Shutter button to focus. When the subject is focused, you can change the composition. When you are ready, press the Shutter button to take the photo.
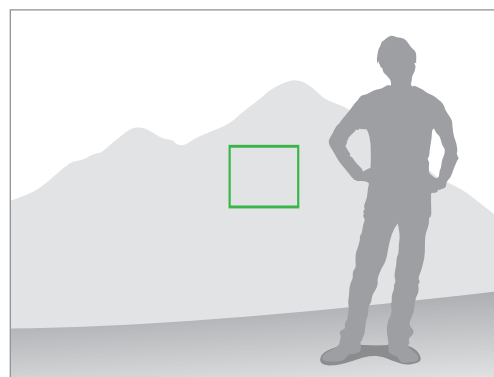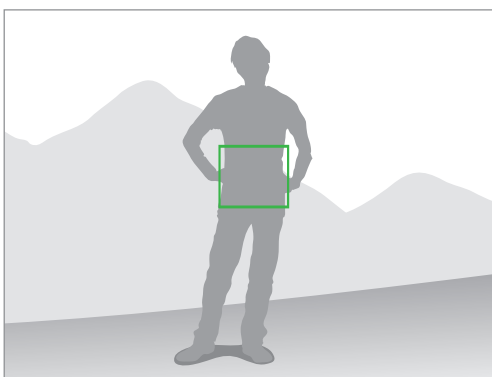
When taking photos in low-light conditions

- Turn the flash on to take photos in low-light conditions. (p. 86)
- Adjust the ISO sensitivity. (p. 80)

When subjects are moving rapidly

Use the continuous shooting option to take photos of moving subjects. (p. 64, p. 84)
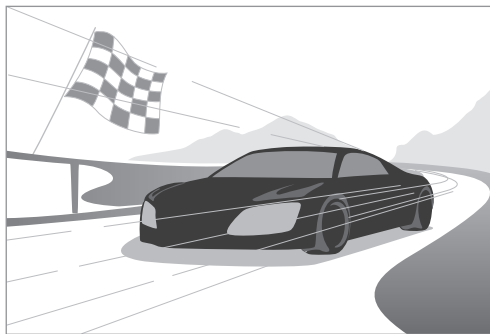
> To take several photos continuously, use memory cards with faster writing speeds (micro SDHC Class10 or higher).

Camera: Shooting modes

Auto

Use this to take photos with scene modes selected automatically by the camera. In this mode, the camera recognises surrounding conditions and automatically adjusts factors that contribute to exposure, including the shutter speed, aperture value, metering, and white balance. As the camera controls most of the functions, some shooting options are limited. This mode is useful for capturing quick snapshots with the least amount of adjustment.

Tap **MODE** → **Auto**.

To display an icon for a scene mode at the top right of the preview screen when you half-press the Shutter button, tap ▶ → ⚙ → 📷 → **Detection display** → **On**.

> - The camera may detect different scenes, even the same subjects, depending on external factors, such as camera shake, lighting, and distance to the subject.
> - If the camera does not recognise an appropriate scene mode, it uses the default settings for this mode.
> - Even if it detects a face, the camera may not select a portrait mode depending on the subject's position or lighting.
> - In this mode, the camera consumes more battery power due to constant changing of settings when selecting appropriate modes.

Expert

Use this to take photos and videos with manual adjustment of various shooting options, including the shutter speed, aperture value, exposure value, and ISO sensitivity.

When using the standard operation type, tap **MODE** → **Expert**, and select a mode.

Rotate to change the value for the shooting option.

Rotate to select a shooting option.

Use user mode.

Return to the previous screen.

Use manual mode.

Use program mode.

Use aperture priority mode.

Display descriptions of modes and functions.

Use shutter priority mode.
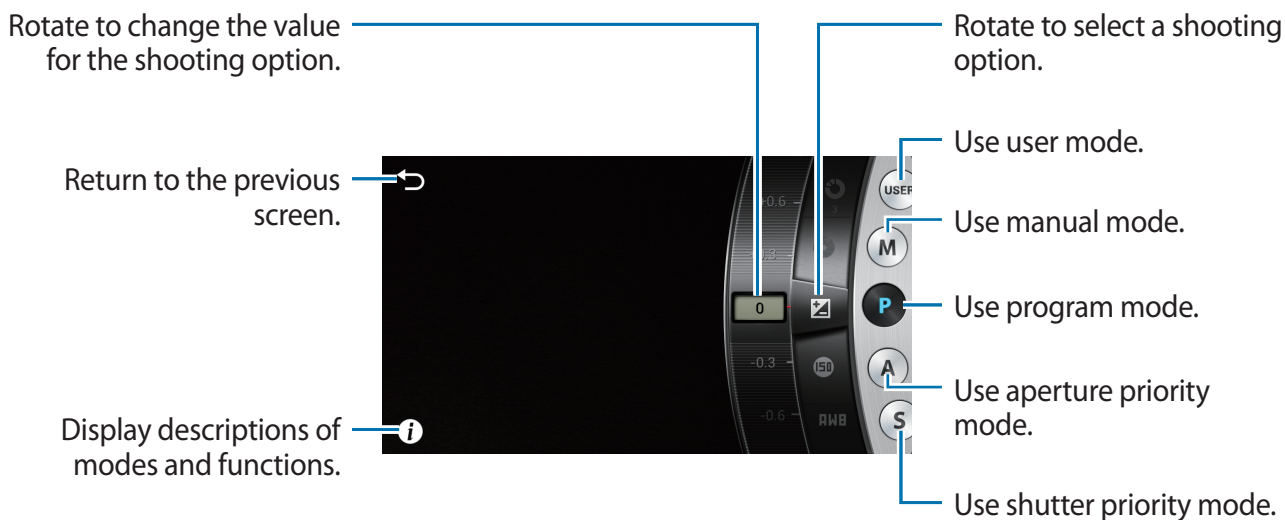
When using the professional operation type, tap **MODE**, and select a mode. To adjust various shooting options, use the smart panel. (p. 62)

Shutter speed priority
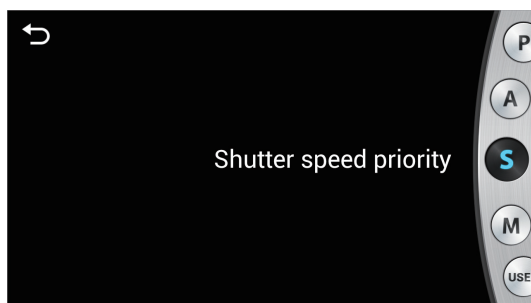
Program mode

In this mode, the camera automatically adjusts the shutter speed and aperture value so that an optimal exposure value can be achieved. This mode is useful when you want to capture shots of constant exposure while being able to adjust other settings.

Tap **MODE** → **Expert** → **P**, and set the desired shooting options.

Program shift

The program shift feature lets you adjust the combination of the shutter speed and aperture value while the camera maintains the same exposure.

Tap the shutter speed or the aperture value at the top of the screen, and then tap ◀ or ▶ to adjust the value. You can also use the Command dial or the i-Function button. (p. 61)

Aperture priority mode

In this mode, the camera automatically calculates shutter speed according to the aperture value you choose. You can adjust the depth of field (DOF) by changing the aperture value. This mode is useful for taking portraits and landscape shots.

Tap **MODE** → **Expert** → **A**, and set the desired shooting options.
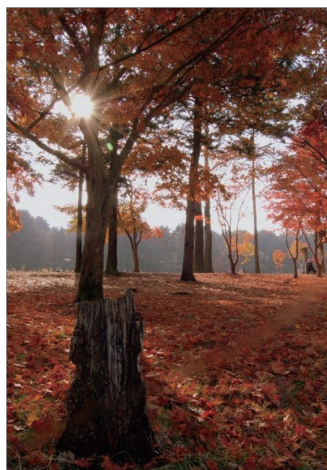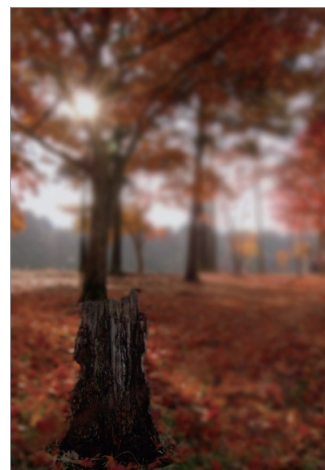
Large depth of field   Small depth of field

In low-light settings, you may need to increase the ISO sensitivity to prevent blurry photos.

Shutter priority mode

In this mode, the camera automatically adjusts the aperture value according to the shutter speed you choose. This mode is useful for taking photos of fast-moving subjects or for creating tracer effects in a photo.

Tap **MODE** → **Expert** → **S**, and set the desired shooting options.

Slow shutter speed   Fast shutter speed

> To compensate for the reduced amount of light allowed by fast shutter speeds, adjust the aperture and let in more light. If your photos are still too dark, increase the ISO sensitivity.

Manual mode

This mode lets you adjust the shutter speed and aperture value manually. In this mode, you can fully control the exposure of your photos. This mode is useful in controlled shooting environments, such as a studio, or when it is necessary to fine-tune camera settings. This mode is also recommended for shooting night scenes or fireworks.

Tap **MODE** → **Expert** → **M**, and set the desired shooting options.

> - If you set a high ISO sensitivity or open the shutter for a long time, image noise may increase.
> - Use a tripod and shutter release to prevent your camera from shaking.
> - The longer you open the shutter, the longer it takes to save a photo. Do not turn the camera off while the camera saves a photo.

Using the bulb feature

Use this feature to shoot night scenes or the night sky. While you are pressing the Shutter button, the shutter is left open so you can create moving light effects.

In manual mode, set the shutter speed to **Bulb**.

User mode

Use this to create and save your own shooting mode by adjusting settings.

Tap **MODE** → **Expert** → **P / A / S / M**, and set the desired shooting options. Then, tap   → →   → **Save as User mode** to save the current settings.

To access user mode, tap **MODE** → **Expert** → **USER**.

> Changes you make with the smart panel do not affect other expert modes.

Adjusting major shooting options

In expert mode, you can adjust the shutter speed, aperture value, exposure value, or ISO sensitivity by either tapping the screen, using the Command dial, or by using the i-Function button.

> Methods may vary depending on the selected operation type and Command dial control settings.

Tapping the screen

Tap one of the major shooting options displayed at the top of the screen, and then drag left or right until the desired value is shown. To confirm the adjustment, tap an empty area on the screen or half-press the Shutter button.

Using the Command dial

Tap   →   → **Dial control (P/A/S/M)** → **Option 3**, and then return to the preview screen. Press the Command dial repeatedly to select an option, and then rotate it to adjust the value. To confirm the adjustment, tap an empty area on the screen or half-press the Shutter button.

Using the i-Function button

Press the i-Function button on the lens repeatedly to select an option, and then rotate the focus ring on the lens to adjust the value. To confirm the adjustment, tap an empty area on the screen or half-press the Shutter button.

Using the smart panel

Use the smart panel to quickly change shooting options. The smart panel can only be used when the professional operation type has been selected.

To enable the smart panel, tap ⚙ → ⚙ → **User type** → **Professional**.

To open the smart panel, tap ⚙ → ▦.

Tap an option, and drag left or right to adjust the value or select it from the pop-up list. Alternatively, rotate the Command dial to highlight an option, press it to select the option, and then rotate it to adjust the value.

To save the current settings as user mode, tap ▤.

Using the auto exposure lock

When you cannot achieve an appropriate exposure because of a strong colour contrast, lock the exposure, and then take a photo.

To lock the exposure value, adjust the photo's exposure, and tap ▦ to lock the exposure. Aim the lens where you desire, and then press the Shutter button.

Shortcuts

Add or remove shortcuts for easy access to the camera's various options.

Tap and hold ▦ or another shortcut icon.

Tap and hold an option and drag it to the desired location. ▦ cannot be moved.
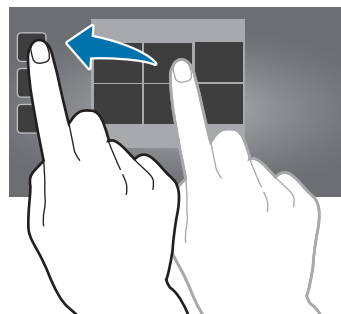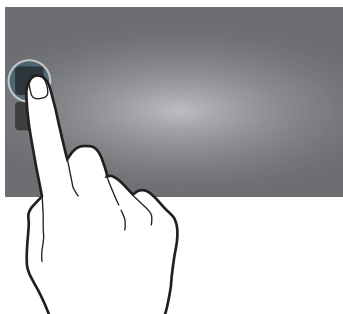
- **One Touch AF/MF**: Change the focus mode.
- **AF Lock**: Lock the focus by half-pressing the Shutter button to focus on the subject, and then tapping the shortcut icon.
- **One Touch WB**: Manually set white balance by aiming the lens at a white surface, and then pressing the Shutter button.
- **One Touch RAW+**: Set the camera to save photos in both jpg and raw file formats.
- **Optical Preview**: View the optical preview before taking a photo. The camera adjusts the aperture to predefined settings and displays the result on the screen.
- **Display**: Change the way that information is displayed on the screen. (p. 85)

Smart

Use this to take photos with predefined settings for various scenes.

Smart mode suggest

Use this to take photos with one of the smart modes that the camera automatically suggests.

Tap **MODE** → **Smart** → **Smart mode suggest**.

Half-press the Shutter button, select a mode from the suggested list, and then press the Shutter button to take a photo. If you do not select a mode from the suggested list, the camera will take a photo in auto mode.

To reset the selected mode, tap .

Beauty face

Use this to take photos with lightened faces for gentler images.

Tap **MODE** → **Smart** → **Beauty face**.

Press the Shutter button to take a photo. Tap a face, and adjust effects. To switch between the original and the adjusted photo, tap **Before & After**. Tap **Save** to save the photo.

To set the camera to automatically adjust effects, tap   →   →   → **Enhance face** → **Off**.

Best photo

Use this to take multiple photos in a short time, and then choose the best photos among them.

Tap **MODE** → **Smart** → **Best photo**.

Press the Shutter button to take multiple photos. Tap and hold thumbnails of photos to save, and then tap **Save**.

Continuous shot

Use this to take a series of photos of moving subjects.

Tap **MODE** → **Smart** → **Continuous shot**.

While holding the camera steady, press and hold the Shutter button to take several photos continuously.

> To take several photos continuously, use memory cards with faster writing speeds (micro SDHC Class10 or higher).

Golf

Use this to take consecutive photos of a golf-swing to analyse technique.

Tap **MODE** → **Smart** → **Golf**.

Press the Shutter button. When the camera detects a golf-swing, it takes multiple photos at 120 fps.

> - This feature is not available in portrait orientation.
> - Using a tripod is recommended.
> - In low-light conditions, the preview screen and photos may appear darker, due to the fixed frame rate and shutter speed. For best results, take photos in places with sufficient light.
> - In low-light conditions (below 500 lux), such as indoors, the camera may not be able to detect a golf-swing.

Best face

Use this to take multiple group shots at the same time and combine them to create the best possible image.

Tap **MODE** → **Smart** → **Best face**.

Press the Shutter button to take multiple photos. To get the best shot, hold the camera steady and remain still while taking photos. Tap the yellow frame on each face, and choose the best individual face for the subject. After choosing a face for each individual, tap **Save** to merge the images into a single photo, and save it.

Colour bracket

Use this to take three photos with different colour effects continuously.

Tap **MODE** → **Smart** → **Colour bracket**.

Kids shot

Use this to play a funny sound to get a kid's attention when shooting.

Tap **MODE** → **Smart** → **Kids shot**.

Half-press the Shutter button. The camera emits the attention sound. Press the Shutter button to take five consecutive photos.

To change the attention sound, tap 🔺.

Vignette+

Use this to highlight the centre of the photo by darkening the edges.

Tap **MODE** → **Smart** → **Vignette+**.

Landscape

Use this to take photos of blue skies and landscapes with richer colours.

Tap **MODE** → **Smart** → **Landscape**.

Dawn

Use this to take photos of the dawn sky in subtle colours.

Tap **MODE** → **Smart** → **Dawn**.

Snow

Use this to take brighter photos of snow scenery.

Tap **MODE** → **Smart** → **Snow**.

Macro

Use this to take photos of very close subjects.

Tap **MODE** → **Smart** → **Macro**.

| | Hold the camera steady to prevent blurry photos. |

Food

Use this to take photos of food in more colourful tones.

Tap **MODE** → **Smart** → **Food**.

Party/Indoor

Use this to take crisp indoor photos.

Tap **MODE** → **Smart** → **Party/Indoor**.

Action freeze

Use this to take photos of subjects moving at high speed.

Tap **MODE** → **Smart** → **Action freeze**.

 Use in bright daylight is recommended.

Rich tone

Use this to take photos without losing details in bright and dark areas. The camera automatically takes three photos with various exposure values, and then merges them into one photo. The photo taken at the original exposure value is saved also.

Tap **MODE** → **Smart** → **Rich tone**.

While holding the camera steady, press the Shutter button to take three photos.

Without effect   With effect

> - This feature may be affected by camera shake, lighting, movement of the subject, and shooting environment.
> - The flash is disabled in this feature.
> - When taking a photo of moving subjects, an afterimage may appear.
> - Using a tripod is recommended.

Panorama

Use this to take wide panoramic photos.

Tap **MODE** → **Smart** → **Panorama**.

Press the Shutter button to take a photo, and then move the camera in one direction. When the blue frame aligns with the preview screen, the camera automatically takes another shot in the panoramic sequence. To stop shooting, press the Shutter button again. Photos are automatically combined into one panoramic image.

- Avoid the following for best results:
  - Moving the camera too quickly or too slowly.
  - Moving the camera too little to take the next photo.
  - Moving the camera at irregular speeds.
  - Shaking the camera.
  - Changing the camera direction while taking a photo.
  - Taking photos in low-light conditions.
  - Taking photos of moving subjects.
  - Taking photos where the brightness or colour of the light changes.
  - Taking photos of a subject in front of unrecognisable backgrounds, such as empty skies or plain walls.
- Shooting is stopped under the following conditions:
  - Changing the distance from the subject while shooting.
  - Moving the camera too quickly.
  - Not moving the camera.
- The camera may stop taking photos due to composition or movement within the scene.
- The camera may not take the last scene entirely if you stop moving the camera at the exact position where you want the scene to end. To take the entire scene, move the camera slightly beyond the position you want the scene to end.

Waterfall

Use this to take photos of waterfalls.

Tap **MODE** → **Smart** → **Waterfall**.

The image may appear blurry due to the slow shutter speed when the camera takes photos. Make sure to use a tripod.

Animated photo

Use this to create a photo in which selected objects move by freezing or animating moving objects automatically detected by the camera.

Tap **MODE** → **Smart** → **Animated photo**.

Press the Shutter button to take a photo. Tap **Animate** or **Freeze**, and then rub the screen to animate or freeze the detected moving objects. Tap **Trim** to adjust the range to trim, or **Direction** to change the direction of the animation. Then, tap **Save** to save the photo.

Multi exposure

Use this to take multiple shots and create one photo by overlapping them.

Tap **MODE** → **Smart** → **Multi exposure**.

To set the number of shots, tap .

To set the camera to save all photos or only the final result, tap → → → **Save original**.

Drama

Use this to take a series of photos and combine them to create an image that shows trails of the movement.

Tap **MODE** → **Smart** → **Drama**.

While holding the camera steady, press the Shutter button to take several photos continuously. Select shots, and then tap **Save** to save the photo.

> To get the best shot, follow these tips. The camera may not take photos properly in other shooting conditions.
>
> - Hold the camera steady and remain still while taking photos.
> - Take photos of a subject that is moving in one direction.
> - Take photos with backgrounds that are free of moving objects.
> - Avoid taking photos of a subject and background with similar colours.
> - Avoid taking photos of a subject that is too close or too far away to fit within the screen or that is too long such as a bus or a train.

Eraser

Use this to erase moving objects in the background.

Tap **MODE** → **Smart** → **Eraser**.

Press the Shutter button to take a series of photos. The camera erases moving objects. To restore the original photo, tap **Show moving objects**, and then tap the highlighted area. Tap **Save** to save the photo.

- Hold the camera steady and remain still while taking photos.
- When taking photos of an object and background with similar colours, the camera may not recognise all of the movement.
- When taking photos of a subject that is moving very little or moving a great deal, the camera may not recognise all of the movements.
- If there are multiple subjects moving in the background, the camera may not recognise all of the movement.

Sound & shot

Use this to take a photo with sound.

Tap **MODE** → **Smart** → **Sound & shot**.

The camera records a few seconds of audio after taking a photo.

To set the camera to record sound before or after taking a photo, tap ⌃.

While taking photos in this mode, sound is recorded by the internal microphone.

Miniature

Use this to apply a miniature effect by making the centre clear and blurring the top and bottom of the image.

Tap **MODE** → **Smart** → **Miniature**.
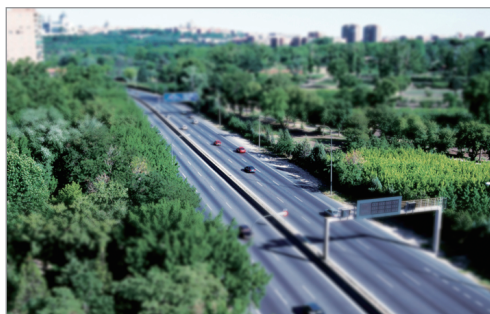
Creative shot

Use this to apply an appropriate filter to a scene automatically detected by the camera.

Tap **MODE** → **Smart** → **Creative shot**.

Interval

Use this to set the interval and number of shots to take over time.

Tap **MODE** → **Smart** → **Interval**.

Silhouette

Use this to take photos of dark shapes against a light background.

Tap **MODE** → **Smart** → **Silhouette**.

To maximise the silhouette effect, take photos at a location that is bright.

Sunset

Use this to take photos of the sunset.

Tap **MODE** → **Smart** → **Sunset**.

Night

Use this to take photos in low-light conditions, without using the flash.

Tap **MODE** → **Smart** → **Night**.

While holding the camera steady, press the Shutter button to take three photos. Photos are automatically merged into a single photo.

The image may appear blurry due to the slow shutter speed when the camera takes photos. Make sure to use a tripod.

Fireworks

Use this to take photos of fireworks.

Tap **MODE** → **Smart** → **Fireworks**.

The image may appear blurry due to the slow shutter speed when the camera takes photos. Make sure to use a tripod.

Light trace

Use this to take photos of the light trailing in low-light conditions.

Tap **MODE** → **Smart** → **Light trace**.

The image may appear blurry due to the slow shutter speed when the camera takes photos. Make sure to use a tripod.

My mode

Use this to register your favourite shooting modes and select them conveniently. You can register up to 10 modes.

Tap **MODE** → **My mode** → **Edit**, and then select your favourite shooting modes. After completing your selection, tap **Done** to save it.

3D mode

Use this to take 3D photos or videos with an optional 3D lens.

Before using this feature, attach a SAMSUNG 45 mm F1.8 [T6] 2D/3D lens to the camera.
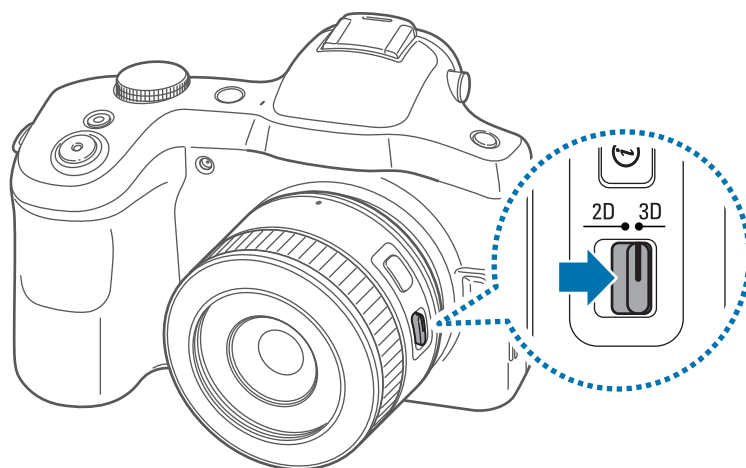
Set the 2D/3D switch on the lens to 3D, and then take a photo or video 1.5-5 m away from the subject.

- Videos recorded in 3D may be dark or playback may be jittery.
- Shooting in low temperatures may result in colour distortion in images and may consume more battery power.
- You may not be able to shoot properly in conditions below 8.5 LV/900 lux. For best results, take photos in places with sufficient light.
- When you photograph objects that contain polarising material, such as a display, sunglasses, or a polarising filter, or use the polarising material with your lens, the images may appear dark or the 3D effect may not be applied properly.
- Use a tripod to prevent the camera from shaking.
- If you rotate or tilt the camera vertically while shooting, the 3D effect may not be applied properly. Take photos or videos with the camera in the normal position.
- If you shoot in fluorescent lighting or capture images displayed by projectors or TVs, the images may appear black due to the flicker effect.
- The camera's display shows 3D photos and videos only in 2D.
- Photos taken with the 3D feature are saved in the mpo file format.
- To view 3D files, connect your camera to a 3D TV or 3D monitor with an optional HDMI cable. While viewing, wear proper 3D glasses.
- You cannot use the flash in this mode.
- You cannot take photos or videos in this mode if an HDMI cable is connected to the camera.

Camera: Shooting options and settings

Customising shooting options

Various shooting options are provided with your camera. With them, you can take more customised photos and videos.

Tap ⚙ to access shooting options. Depending on the mode selected, you may tap ❯ → ⚙. Select an option, and then save it.

> • Available options and default settings may differ depending on the shooting mode, the lens you are using, and the shooting conditions.
>
> • Depending on the option selected, some settings may not be available.

EV (brightness)

The camera automatically sets the exposure by measuring the levels of light from the photo's composition and the position of a subject. If the exposure set by the camera is higher or lower than you expected, you can adjust the exposure value manually.

Tap ⚙ → ▣ → **EV (brightness)**, and select an option.

| Darker (-) | Neutral (0) | Brighter (+) |

- • When taking a photo, if the appropriate exposure value cannot be decided, use the **AE BKT** option to take three consecutive photos with different exposure values.
- • Taking photos with higher exposure values may result in blurry photos due to the slower shutter speed.

ISO (sensitivity)

The ISO sensitivity value represents the sensitivity of the camera to light.

The higher the ISO sensitivity, the more sensitive the camera is to light. Consequently, by selecting a higher ISO sensitivity, you can take photos in dim or dark places at faster shutter speeds. However, this may increase electronic noise and result in a grainy photo.

Tap   →   → **ISO (sensitivity)**, and select an option.

Examples

ISO 100

ISO 400

ISO 800

ISO 3200

> - Increase the ISO sensitivity in places where flash use is prohibited. You can take a clear photo by setting a high ISO sensitivity without having to secure more light.
>
> - Use the noise reduction feature to reduce the visual noise that can appear on photos of a high ISO sensitivity. (p. 95)

WB (light source)

The white balance represents the light source that influences on the colour of a photo.

The colour of a photo depends on the type and quality of the light source. If you want the colour of your photo to be realistic, select an appropriate lighting condition to calibrate the white balance, or adjust the colour temperature manually. You can also adjust colour for the preset light sources so that the colours of the photo match the actual scene under mixed lighting conditions.

Tap → → **WB (light source)**, and select an option.

- **Auto**: Use automatic settings depending on the lighting conditions.
- **Daylight**: Use this for sunny days. This option results in photos closest to the natural colours of the scene.
- **Cloudy**: Use this for cloudy days or in shadows. Photos taken on cloudy days tend to be more bluish than on sunny days. This option offsets that effect.
- **Fluorescent W**: Use this under a daylight fluorescent lamp, especially for white fluorescent lighting.
- **Fluorescent NW**: Use this under a daylight fluorescent lamp, especially for white fluorescent lighting with very white hues.
- **Fluorescent D**: Use this under a daylight fluorescent lamp, especially for white fluorescent lighting with slightly bluish hues.
- **Tungsten**: Use this under incandescent bulbs or halogen lamps. Incandescent tungsten bulbs tend to have a reddish hue. This option offsets that effect.
- **Flash WB**: Use this when using a flash.
- **Custom**: Use this to set a custom white balance. Tap , aim the lens at a piece of white surface, and then press the Shutter button.

- **Colour temperature**: Use this to manually adjust the colour temperature of the light source. Colour temperature is a measurement in degrees Kelvin that indicates the specific type of light source. As the colour temperature increases, the colour distribution becomes cooler. Alternatively, as the colour temperature decreases, the colour distribution becomes warmer. Tap ⊙, and then drag the slider or tap ⊞ or ⊟ to adjust the colour temperature.

10,000 K	Clear sky
8,000 K	Fluorescent H
6,000 K	Cloudy
5,000 K	Daylight
4,000 K	Fluorescent L
3,000 K	Halogen lamp
	Tungsten
2,000 K	Candle light
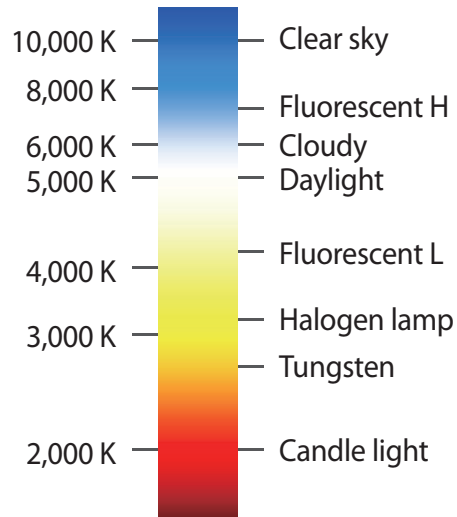
Examples

Auto WB

Daylight

Fluorescent daylight

Tungsten

When taking a photo, if the appropriate white balance option cannot be decided, use the **WB BKT** option to take three consecutive photos with different white balance settings.

Customising preset white balance options

Adjust the colour for the preset light sources.

Tap ◈ next to a white balance option. Tap the arrows or tap an area on the screen to adjust the value on the coordinates.

- **G**: Green
- **A**: Amber
- **M**: Magenta
- **B**: Blue

Metering

The metering mode refers to the method the camera measures the quantity of light.
The camera measures the amount of light in a scene, and in many of its modes, uses the measurement to adjust various settings. For example, if a subject looks darker than its actual colour, the camera takes an overexposed photo of it. If a subject looks lighter than its actual colour, the camera takes an underexposed photo of it.

Tap ⚙ → 📷 → **Metering**, and select an option.

- **Multi**: The camera calculates the amount of light in multiple areas. When light is sufficient or insufficient, the camera adjusts the exposure by averaging the overall brightness of the scene. This mode is suitable for general photos.

- **Spot**: The camera calculates the amount of light in the centre. When you take a photo in conditions where there is a strong backlight behind a subject, the camera adjusts the exposure to shoot a subject correctly.

- **Centre-weighted**: The camera calculates a broader area than the camera does in spot mode. It sums up the amount of light in the centre portion of the shot (60–80 %) and that of the rest of the shot (20–40 %).

Drive

Use this option to set the shooting method. Continuous or burst shots are recommended for shooting the rapid motion of fast moving subjects, such as racing cars.

Tap   →   → **Drive**, and select an option.

- **Single shot**: Use this to take a single photo.
- **Continuous normal**: Use this to take five photos per second continuously while you are pressing the Shutter button.
- **Continuous high**: Use this to take about eight photos per second continuously while you are pressing the Shutter button.
- **Burst shot (10 fps)** / **Burst shot (15 fps)** / **Burst shot (30 fps)**: Use this to take 30 photos continuously when you press the Shutter button once.
- **AE BKT**: Use the auto exposure bracketing option to take three consecutive photos with different exposure values (one a step lighter, the original, and one a step darker). Use a tripod to prevent blurry photos. You can adjust the interval range in **Bracket set**. (p. 94)
- **WB BKT**: Use the white balance bracketing option to take three consecutive photos with different white balance settings (the original and two more with different white balance settings). The original photo is taken when you press the Shutter button. The other two are automatically adjusted to the white balance you have set. You can adjust the interval range in **Bracket set**. (p. 94)

> - Saving photos may take longer depending on the memory card's capacity and performance when taking photos continuously.
> - Using a tripod is recommended when taking photos continuously.

Display

Use this option to add or remove shooting information from the screen.

Tap ⚙ → 📷 → **Display**, and select an option.

- **Normal**: The camera displays basic shooting information on the screen.
- **Histogram**: The camera displays the histogram on the screen. A histogram is a graph that shows the brightness distribution of a photo. A histogram inclined to the left indicates a dark photo. A histogram inclined to the right indicates a bright photo. The height of the graph is related to colour information. The graph gets higher if a specific colour is more common.

Insufficient exposure   Balanced exposure   Excessive exposure
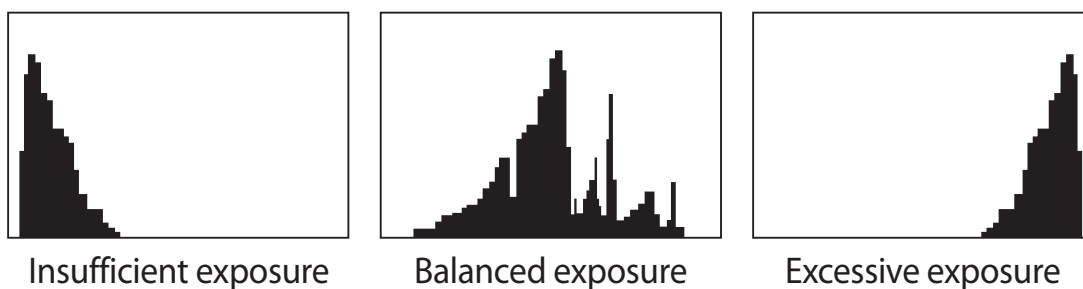
- **Horizontal level**: The camera displays the level gauge on the screen. The level gauge helps you align the camera with the horizontal lines on the screen.

▲Level   ▲ Unlevel

- **Distance scale**: The camera displays the distance scale on the screen. The distance scale indicates the distance between a subject and the camera. This function is available only when you attach a lens that supports the distance scale function.
- **Hide**: The camera hides icons that indicate the current camera settings except major shooting options.

Save as User mode

Use this to save the current settings as your own shooting mode.

Tap ⚙ → 📷 → **Save as User mode**.

Flash

To take a realistic photo of a subject, the amount of light should be constant. When the light source varies, you can use a flash and supply a constant amount of light.

In auto or smart mode, the flash pops up automatically depending on the flash option when you half-press the Shutter button or tap the screen in low-light conditions.

Tap ⚙ → 📷 → **Flash**, and then select an option. In expert mode, press the Flash release button to open the flash manually before setting the option.

- **Off**: Use this to turn the flash off.
- **Smart flash**: Use this to automatically adjust the brightness of the flash according to the amount of light in the surrounding environment.
- **Auto flash**: Use this to automatically use the flash. The flash fires when the subject or background is dark.
- **Auto + Red-eye**: Use this to automatically use the flash and reduce red-eyes.
- **Fill in**: Use this to always use the flash.
- **Fill in + Red-eye**: Use this to always use the flash and reduce red-eyes.
- **1st Curtain**: Use this to fire the flash immediately after the shutter opens. The camera takes a photo of a subject earlier in an action sequence clearly.

Ball moving direction
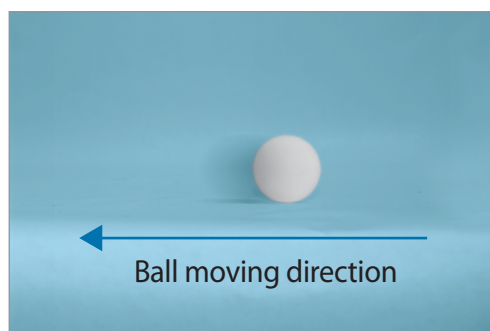
- **2nd Curtain**: Use this to fire the flash just before the shutter closes. The camera takes a photo of a subject later in an action sequence clearly.

Ball moving direction
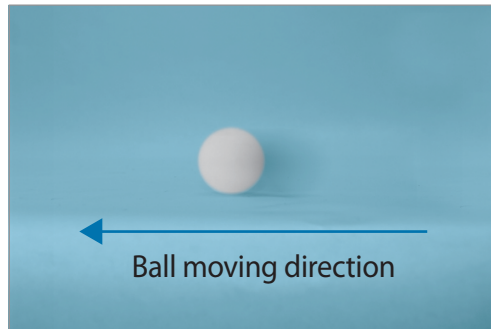
- Keep the flash retracted when not in use to avoid damage.
- Forcing the flash to open may cause damage to the camera.
- Use only Samsung-approved flashes. Using incompatible flashes may damage your camera.

- There is an interval between two bursts of the flash. Do not move until the flash fires a second time.
- If you select **Off**, the flash does not fire even when an external flash is attached.
- If light from the flash is reflected, or if a substantial amount of dust is in the air, tiny spots may appear in the photo.
- If you attach an intensity-adjustable external flash to the camera, the intensity settings of the flash will be applied.
- If the subject is too close when you use the flash, some light may be blocked, resulting in a dark photo. Ensure that the subject is within the recommended range, which varies by lenses.
- When a lens hood is attached, the light from the flash can be blocked by the hood. Remove the hood to use the flash.

Adjusting the flash intensity

When the flash is on, adjust the flash intensity.

Tap ❯ next to an option, and then drag the slider or tap ➕ or ➖ to adjust the intensity.

AF mode

Use this option to select a focus mode appropriate to the subject.

If the lens has an AF/MF switch, you must set the switch to select the focus mode that you require. Set the switch to AF to select either **Single AF** or **Continuous AF**. Set the switch to MF to select **Manual focus**.

Tap ⚙ → 📷 → **AF mode**, and select an option.

- **Single AF**: Use this to capture a still subject. When you half-press the Shutter button, the focus fixes in the focus area. The area turns green when the focus is achieved.

- **Continuous AF**: Use this to capture fast moving subjects. When you half-press the Shutter button, the camera continues to focus. Once the focus area is fixed on the subject, the subject is always in focus even when moving.

- **Manual focus**: Use this to manually focus on a subject by rotating the focus ring on the lens.

  MF assist helps you achieve a focus easily. While you are rotating the focus ring, the focus area is magnified. (p. 92) When you use **Focus peaking**, the colour you selected appears on the focused subject. (p. 92)

AF Area

Use this option to change the positions of the focus area.

Generally, cameras focus on the nearest subject. When there are a lot of subjects, however, unwanted subjects can be in focus. To prevent unwanted subjects from being in focus, change the focus area so that a desired subject is in focus. You can get a clearer and sharper photo by selecting an appropriate focus area.

Tap   →   → **AF Area**, and select an option.

- **Centre AF**: Use this to focus on the centre of the frame.
- **Multi AF**: Use this to focus on multiple areas. The photo is divided into two or more areas, and the camera obtains focus points of each area and displays a green rectangle in places where focus is set correctly. This option is recommended for scenery photos.
- **Face Detection**: Use this to focus on human faces preferentially. This option is recommended for shooting a group of people.

> This feature may not be effective in the following conditions:
> - The subject is too far from the camera.
> - The lighting is too bright or too dark.
> - The subject is not facing the device.
> - The subject is wearing sunglasses or a mask.
> - The subject's facial expression changes drastically.
> - The subject is backlit, or the lighting conditions are unstable.

- **Tracking AF**: Use this to track and automatically focus on your subject, even when the subject is moving or when you change the shooting composition.

> - Tracking a subject may fail in the following conditions:
>   - The subject is too small.
>   - The subject moves excessively.
>   - The subject is backlit or you are shooting in a dark place.
>   - Colours or patterns on the subject and the background are the same.
>   - The subject includes horizontal patterns, such as blinds.
>   - The camera shakes excessively.
> - If the camera fails to track the subject, the focus area will be reset.
> - If the camera fails to focus, the focus frame will change to red and the focus will be reset.

- **One touch shot**: Use this to take a photo with the touch of your finger. As you tap on the subject, the camera focuses on the subject and takes a photo automatically.

AF size

Use this option to change the size of the auto focus frame.

Tap 　→ 　→ **AF size**, and tap 　or 　to adjust the frame size.

Photo size

As you increase the resolution, your photo will include more pixels, so it can be printed on larger paper or displayed on a larger screen. When you use a high resolution, the file size will also increase. Select a low resolution for photos that will be displayed in a digital picture frame or uploaded to the web.

Tap 　→ 　→ **Photo size**, and select an option.

Quality

Use this option to select a higher photo quality for better photos. Selecting a higher photo quality also increases the file size.

Tap ⚙ → 📷 → **Quality**, and select an option.

The camera saves photos in either the jpg or raw file format. Photos in the jpg format are stored in the memory according to the settings of the camera at the time of shooting. However, raw format files are not transformed to jpg and are saved in the memory without any changes.

Raw format files have the srw file extension. To convert raw format files into other file formats or to calibrate exposures, white balance, tones, contrasts, and colours, use the Adobe Photoshop Lightroom program found on the supplied DVD-ROM. Ensure you have enough space in the memory to save photos in the raw file format.

Installing Adobe Photoshop Lightroom

Insert the Adobe Photoshop Lightroom DVD into your computer, select a language, and then follow the on-screen instructions to complete the installation.

With Adobe Photoshop Lightroom, you can convert or calibrate image files, including jpg, tiff, and raw file formats. For more information, refer to the program guide.

> • In Adobe Photoshop Lightroom, an image's brightness, colour and other effects may be displayed differently. This occurs because the original camera settings and options applied during image capture are removed, ready for it to be processed in Adobe Photoshop Lightroom.
>
> • If you use PTP mode to connect your device to a Mac OS computer with a USB cable, you may not be able to preview image thumbnails on the import panel in Adobe Photoshop Lightroom. In this case, click the import button and preview them in the Library module.

Adjust image

Use this option to adjust the colour, saturation, sharpness, or contrast of your photos.

Tap ⚙ → 📷 → **Adjust image**, and drag the slider or tap ➕ or ➖ for each value.

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Timer

Use this option for delayed-time shots.

Tap ⚙ → 📷 → **Timer**, and select an option.

Press the Shutter button to start the timer. The camera takes photos after a specified length of time. Press the Shutter button to cancel the timer.

MF assist

Use this option to enlarge the scene and easily adjust the focus while rotating the focus ring.

Tap ⚙ → 📷 → **MF assist**, and select an option.

- **Off**: Use to turn this option off.
- **Enlarge x5**: Use this to magnify the focus area by five times when you rotate the focus ring.

Focus peaking

Use this option to set the colour you selected appears on the focused subject to help you focus while rotating the focus ring.

Tap ⚙ → 📷 → **Focus peaking**, and select an option.

- **Level**: Use this to set a sensitivity level for detecting the focused subject or turn the option off.
- **Colour**: Use this to set a colour to appear on the focused subject.

Link AE to AF Point

Use this option to measure the exposure value of the focus area. When this option is on, the camera automatically sets an optimal exposure by calculating the brightness of the focus area.

Tap 　 → 　 → **Link AE to AF Point**, and turn this option on or off.

Framing mode

When you adjust the aperture value or shutter speed, the exposure value changes according to the settings, so the display may darken. When this option is on, the brightness of the display is constant regardless of the settings, so you can better frame your shot.

Tap 　 → 　 → **Framing mode**, and turn this option on or off.

OIS (anti-shake)

Use the Optical Image Stabiliser (OIS) option to reduce or eliminate blurriness from camera shake.

If your lens has an OIS switch, set the switch to ON to use the OIS feature.

Tap 　 → 　 → **OIS (anti-shake)**, and select an option.

- **Off**: Use to turn this option off.
- **OIS (half shutter)**: Use this to apply the OIS feature only when you half-press the Shutter button.
- **OIS (always)**: Use this to continuously apply the OIS feature.

- This feature may not function properly in the following conditions:
  - When you move the camera to follow a moving subject.
  - If the camera is shaking too much.
  - When the shutter speed is slow (for example, when taking photos in low-light conditions).
  - If the battery power is low.
  - When you take close-up photos.
- Using this feature with a tripod may blur photos because of vibration from the OIS sensor. Deactivate this feature when using a tripod.
- The display may be blurry if the camera is hit or dropped. When this happens, restart the device.

Bracket set

Use this option to change the settings for auto exposure bracketing and white balance bracketing.

Tap → → **Bracket set**, and select an option.

- **AE Bracket set**: Use this to adjust the exposure interval range of the three bracketed photos.
- **WB Bracket set**: Use this to adjust the white balance interval range of the three bracketed photos.

ISO customisation

Use this option to change the settings for the ISO sensitivity.

Tap → → **ISO customisation**, and select an option.

- **ISO sensitivity step**: Use this to set the size for the ISO sensitivity by either 1/3 or one step.
- **Auto ISO Range**: Use this to set the maximum ISO value under which each EV step is chosen when you set the ISO sensitivity to **Auto**.

DMF

Use the Direct Manual Focus (DMF) option to adjust the focus manually by rotating the focus ring after achieving the focus by half-pressing the Shutter button.

Tap   →   → **DMF**, and turn this option on or off.

Noise reduction

Use this option to reduce the visual noise in photos.

Tap   →   → **Noise reduction**, and select an option.

- **High ISO NR**: Use this to reduce noise that may occur when you set a high ISO sensitivity. You can adjust the noise reduction intensity by selecting one from **High**, **Normal**, and **Low**.

- **Long term NR**: Use this to reduce noise when you set the camera for a long exposure.

Distortions correct

Use this option to correct distortion that might occur from lenses.

Tap   →   → **Distortions correct**, and turn this option on or off.

Colour space

Use this option to select methods for representing colours. Digital imaging devices, such as digital cameras, monitors, and printers, have their own methods for representing colours, which are called colour spaces.

Tap   →   → **Colour space**, and select an option.

- **S RGB**: sRGB (Standard RGB) is an international specification to define the colour space created by IEC (International Electrotechnical Commission). It is widely used for creating colours on computer monitors and is also the standard colour space for Exif. sRGB is recommended for regular images and images you intend to publish on the Internet.

- **Adobe RGB**: Adobe RGB is used for commercial printing and has a larger colour range than sRGB. Its wider range of colours helps you to easily edit photos on a computer. Note that individual programs are generally compatible with a limited number of colour spaces.

> The rule for creating file names varies depending on the selected colour space option.
>
> - sRGB files: YYYYMMDD_hhmmss.jpg. For example, for a photo taken on Jan. 02, 2013, at 15:30:45, the file name would be 20130102_153045.jpg. File names for continuous, burst, or bracketed photos would be YYYYMMDD_hhmmss_x.jpg, for the previous example, the file name would be 20130102_153045_1.jpg.
>
> - Adobe RGB files: YYYYMMDD_hhmmss_A.jpg. File names for continuous, burst, or bracketed photos would be YYYYMMDD_hhmmss_Ax.jpg.

Dynamic range

Use this option to correct the loss of bright detail that can occur due to shading differences in a photo.

Tap   →   → **Dynamic range**, and select an option.

- **Off**: Use to turn this option off.

- **Smart Range+**: Use this to correct the loss of bright detail.

- **HDR (High Dynamic Range)**: Use this to take three photos with different exposure values and combine them to create a single image. The photo taken at the original exposure value is saved also.

Overexposure guide

Use this option to set the camera to indicate the overexposed area on the preview screen.

Tap   →   → **Overexposure guide**, and turn this option on or off.

Video recording options

Tap ⚙ → 🎬 , and configure the settings for video recording.

- **Movie size**: Select a resolution for videos. Use higher resolution for higher quality. Higher resolution videos take up more memory.
- **Quality**: Set the quality level for videos. Higher quality images require more storage space.
- **Multi motion**: Set the playback speed of videos.

> If you select an option other than **x1**, sound will not be recorded.

- **Voice**: Set the camera to record sound with videos.
- **Windcut**: Remove some surrounding noise in addition to wind noise.
- **Video output format**: Set the video signal output that is appropriate for your country. You can take videos at 60, 30, or 24 fps with **NTSC** and at 50, 25, or 24 fps with **PAL**.

Sharing options

Share photos as they are taken by setting sharing options. Tap ⚙ → ⬦ , and select an option.

- **Share shot**: Send a photo directly to another device via Wi-Fi Direct.

> - You cannot use this feature if the signature option is activated.
> - If this feature is activated, you cannot set the quality option to **RAW** or **RAW+JPEG**.

- **Buddy photo share**: Set the camera to recognise a person's face that you have tagged in a photo and send it to that person.
- **ChatON photo share**: Send a photo directly to another device via ChatON.

> You cannot use this feature if the signature option is activated.

- **Remote viewfinder**: Set a device to control the camera remotely.

Camera settings

Tap ⚙ → ⚙, and configure the settings for Camera.

- **User type**: Select the operation type for basic or expert use.
- **AF sound**: Adjust the auto focus sound.
- **Beep**: Activate or deactivate beep sounds.
- **Description**: Display mode descriptions.
- **Guidelines**: Display a guide to help you compose a scene.
- **Auto screen off**: Set the length of time the device waits before turning off the display's backlight.
- **Review**: Briefly display photos or videos taken.
- **Signature**: Use this to add a signature to the image.

> You cannot use this feature when the **Date/time Imprint** setting is activated.

- **Date/time Imprint**: Use this to imprint the time and date on photos.

> - You cannot use this feature when the **Signature** setting is activated.
> - The time and date cannot be imprinted on raw format files.

- **GPS tag**: Attach GPS information (location and time) and weather information to the file. Activate this feature when taking photos to create albums in **Story Album** or use the photo suggestion feature.

> - To improve GPS signals, avoid shooting in locations where the signal may be obstructed, such as between buildings or in low-lying areas, or in poor weather conditions.
> - Your location may appear on your photos when you upload them to the Internet. To avoid this, deactivate the GPS tag setting.

- **Voice control**: Activate or deactivate the voice recognition to take photos or videos.
- **Contextual filename**: Set the camera to add contextual tags, such as location information, to filenames.

> - To use this feature, you must activate the GPS tag setting.
> - The contextual information appears in the display language used by the device at the time the files were created.

- **AF lamp**: Use this to activate the AF-assist light in low-light conditions.
- **Power-on mode**: Select the default camera mode that launches when the device is turned on.
- **Dial control (P/A/S/M)**: Set Command dial functions when you first press or rotate it on the preview screen of expert mode.
    - **Option 1**: Access the mode selection screen by rotating or pressing the Command dial.
    - **Option 2**: Access the mode selection screen by rotating the Command dial. Move through the major shooting options by pressing the Command dial repeatedly.
    - **Option 3**: Move through the major shooting options by pressing the Command dial repeatedly. Adjust the option by rotating the Command dial.

> In auto or smart mode, you can only change modes with the Command dial.

- **Storage**: Select the memory location for storage.
- **Display select**: Use this to set the proximity/light sensor to automatically adjust between the screen and the viewfinder, or to always use the screen.
- **Horizontal calibration**: Calibrate the level gauge. If the level gauge is not level, position the camera on the level surface, and then follow the on-screen instructions.

> - You cannot calibrate the level gauge in portrait orientation.
> - The camera must be level (not tilted up or down) to complete the calibration.

- **Sensor cleaning**: Use this to remove dust from the image sensor.
- **Lens firmware**: Update the firmware of the lens.

> Before updating the lens firmware, download the firmware file into the root directory of the internal memory or a memory card, access the Home screen, and then launch the camera application.

- **Reset**: Reset the camera settings.

Media

Gallery

Use this application to view images and videos.

Tap **Gallery** on the Applications screen.

> * Some file formats are not supported depending on the software installed on the device.
> * Some files may not play properly depending on the encoding method used.

Viewing images

Launching **Gallery** displays available folders. When another application, such as **Email**, saves an image, the **Download** folder is automatically created to contain the image. Likewise, capturing a screenshot automatically creates the **Screenshots** folder. Select a folder to open it.

In a folder, images are displayed by creation date. Select an image to view it in full screen.

Scroll left or right to view the next or previous image.

> Continuous and burst photos appear as a bundle in the thumbnails view. Tap the thumbnail to view individual photos.

Zooming in and out

Use one of the following methods to zoom in an image:

* Double-tap anywhere to zoom in.
* Spread two fingers apart on any place to zoom in. Pinch to zoom out, or double-tap to return.

Viewing images using the motion feature

When an image is zoomed in, tap and hold a point on the screen, and then move the device in any direction to browse the image.

On the Applications screen, tap **Settings** → **My device** → **Motions and gestures** → **Motion**, drag the **Motion** switch to the right, and then turn on the switch for **Browse an image**.

To stop using the motion feature, turn off the switch for the feature.

Playing videos

Video files show the icon on the preview. Select a video to watch it and tap .

Editing images

When viewing an image, tap and use the following functions:

- **Edit**: Launch the Photo editor application to edit the image.
- **Details**: View image details.
- **Slideshow**: Start a slideshow with the images in the current folder.
- **Favourite**: Add the image to favourites.
- **Photo frame**: Use this to add a frame and a note to an image. The edited image is saved in the **Photo frame** folder.
- **Photo note**: Use this to write a note on the back of the image. Tap to edit the note.
- **Signature**: Add a signature to the image. Signatures are saved in the **My Signature** folder.
- **Copy to clipboard**: Copy to clipboard.
- **Rotate left**: Rotate anticlockwise.
- **Rotate right**: Rotate clockwise.
- **Crop**: Resize the blue frame to crop and save the image in it.
- **Buddy photo share**: Send the image to a person whose face is tagged in the image.
- **Print**: Print the image via a USB or Wi-Fi connection. The device is only compatible with some Samsung printers.

- **Rename**: Rename the file.
- **Set as**: Set the image as wallpaper or a contact image.
- **Settings**: Change the Gallery settings.

Modifying images

When viewing an image, tap   → **Edit**.

Undo and redo the last action.

Save changes.

Edit the image.

Rotate Crop Colour Effect Portrait Sticker Drawing Frame
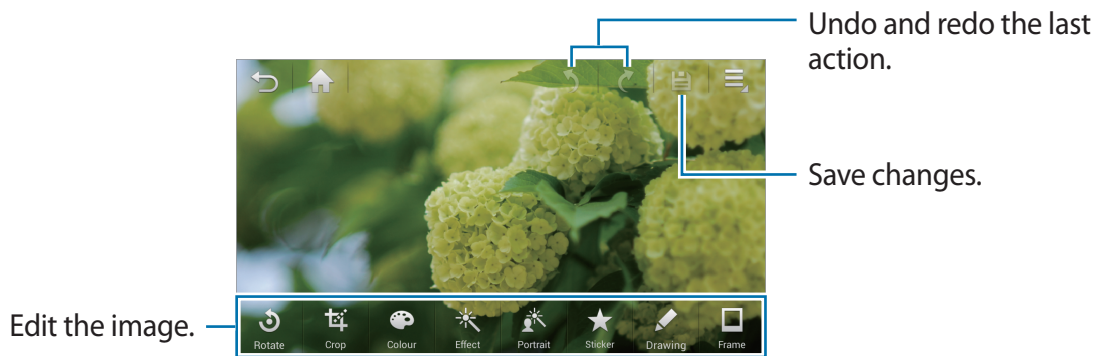
To select an area to edit, tap and hold the screen, and then tap **Selection mode**.

Rotating images

Tap **Rotate**, select an option at the bottom of the screen, and then tap   .

Cropping photos

Tap **Crop**, select an option at the bottom of the screen, rotate or resize the frame by dragging the dots on the frame, and then tap   .

Changing colours

Tap **Colour**, select a colour effect at the bottom of the screen, drag the slider to left or right if required, and then tap   .

Applying filter effects

Tap **Effect**, select a filter effect at the bottom of the screen, drag the slider to left or right if required, and then tap ⊟.

Adjusting a portrait photo

Tap **Portrait**, select a portrait effect at the bottom of the screen, drag the slider to left or right if required, and then tap ⊟.

Putting stickers on images

Tap **Sticker**, select a sticker type at the bottom of the screen, select a sticker, and then tap ⊟.

Drawing on images

Tap **Drawing**, draw on the image, and then tap ⊟.

To change the pen settings, tap **Pen**.

To erase the drawings, tap **Eraser**. To change the eraser size, tap **Eraser** again.

Framing images

Tap **Frame**, select a frame at the bottom of the screen, and then tap ⊟.

Favourite images

When viewing an image, tap ▤ → **Favourite** to add the image to the favourites list.

Making image collages

In a folder, tap ▤ → **Select item**, select two to four images by ticking, and then tap ▤ → **Create collage**. Select a style at the bottom of the screen, and then tap **Save**.

To add images, tap ⋁ → **Add picture**.

To delete images, tap ⊖.

To change the split type, tap ◁.

Deleting images

Use one of the following methods:

- In a folder, tap → **Select item**, select images by ticking, and then tap .
- When viewing an image, tap .

Sharing images

Use one of the following methods:

- In a folder, tap → **Select item**, select images by ticking, and then tap to send them to others.
- When viewing an image, tap to send it to others.

Setting as wallpaper

When viewing an image, tap → **Set as** to set the image as wallpaper or to assign it to a contact.

Tagging faces

When viewing an image, tap → **Settings**, and then tick **Face tag**. A yellow frame appears around the recognised face on an image. Tap the face, tap **Add name**, and then select or add a contact.

When the face tag appears on an image, tap the face tag and use available options, such as sending messages.

> Face recognition may fail depending on the face angle, face size, skin colour, facial expression, light conditions, or accessories the subject is wearing.

Organising with folders

Create a folder to organise images or videos stored in the device. You can copy or move files from one folder to another.

To create a new folder, tap . Enter a name for the folder, tap **OK**, and then tick images or videos. Tap and hold any selected image or video, drag it to the new folder, and then tap . Tap **Copy** to copy or **Move** to move.

Video

Use this application to play video files.

Tap **Video** on the Applications screen.

- Some file formats are not supported depending on the device's software.
- Some files may not play properly depending on the encoding method used.

Playing videos

Select a video to play.

Scan DLNA-enabled devices.

Move forwards or backwards by dragging the bar.

Change screen ratio.

Restart the current video or skip to the previous video. Tap and hold to move backwards quickly.

Adjust the volume.

Skip to the next video. Tap and hold to move forwards quickly.

Reduce the size of the video screen.

Pause and resume playback.
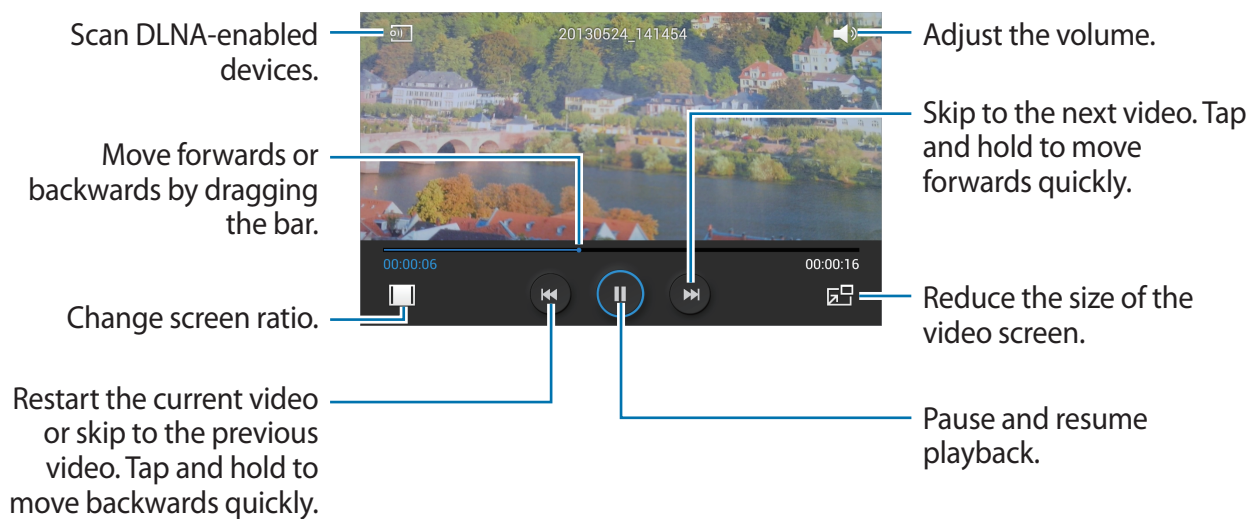
Deleting videos

Tap   → **Delete**, select videos by ticking, and then tap **Delete**.

Sharing videos

Tap   → **Share via**, select videos by ticking, tap **Done**, and then select a sharing method.

Using Popup Video player

Use this feature to use other applications without closing the video player. While watching videos, tap ⊞ to use the pop-up player.

Spread two fingers apart on the screen to enlarge the player or pinch to reduce it. To move the player, drag the player to another location.

Music

Use this application to listen to music.

Tap **Music** on the Applications screen.

> • Some file formats are not supported depending on the device's software version.
> • Some files may not play properly depending on the encoding method used.

Playing music

Select a music category, and then select a song to play.

Tap the album image at the bottom of the screen to open the music player screen.

Scan DLNA-enabled devices.

Adjust the volume.

Set the file as your favourite song.

Turn on shuffle.

Change the repeat mode.

Hide the music player screen.

Open the playlist.

Restart the currently-playing song or skip to the previous song. Tap and hold to move backwards quickly.

Skip to the next song. Tap and hold to move forwards quickly.

Pause and resume playback.
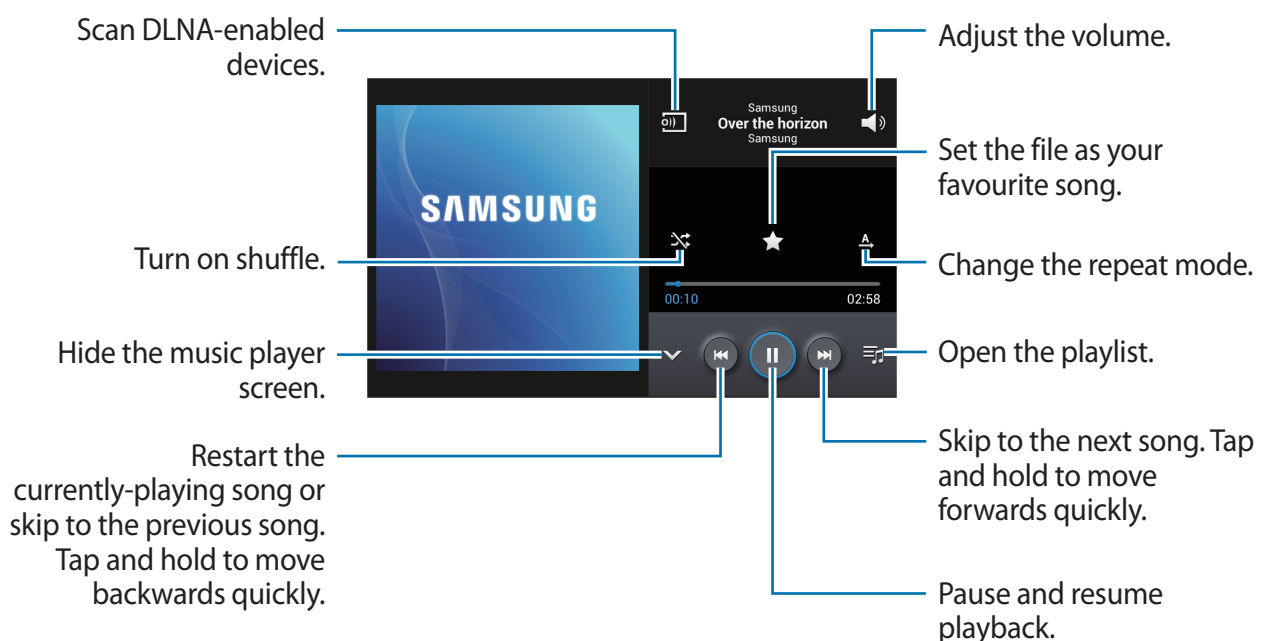
To listen to songs at equal volume levels, tap → **Settings** → **Smart volume**.

When **Smart volume** is activated, the volume may end up louder than the device volume level. Use caution to avoid long-term exposure to loud sounds to prevent damage to your hearing.

Creating playlists

Make an own selection of songs.

Tap **Playlists**, and then tap → **Create playlist**. Enter a title and tap **OK**. Tap **Add music**, select songs to include, and then tap **OK**.

To add the currently-playing song to a playlist, tap → **Add to playlist**.

Playing music by mood

Play music grouped by mood. The playlist is automatically created by the device. When a new song is added, tap **Music square** → → **Library update**.

Tap **Music square** and select a cell of mood. Or select multiple cells by dragging your finger.

YouTube

Use this application to watch videos from the YouTube website.

Tap **YouTube** on the Applications screen.

This application may not be available depending on the region or service provider.

Watching videos

Tap 🔍, and then enter a keyword. Select one of the returned search results to watch a video. Rotate the device to landscape orientation to display full screen.

Add the video to the playlist.

Search for videos.

Pause or resume playback.

Send the URL to others.

Move forwards or backwards by dragging the bar.

Change display quality.
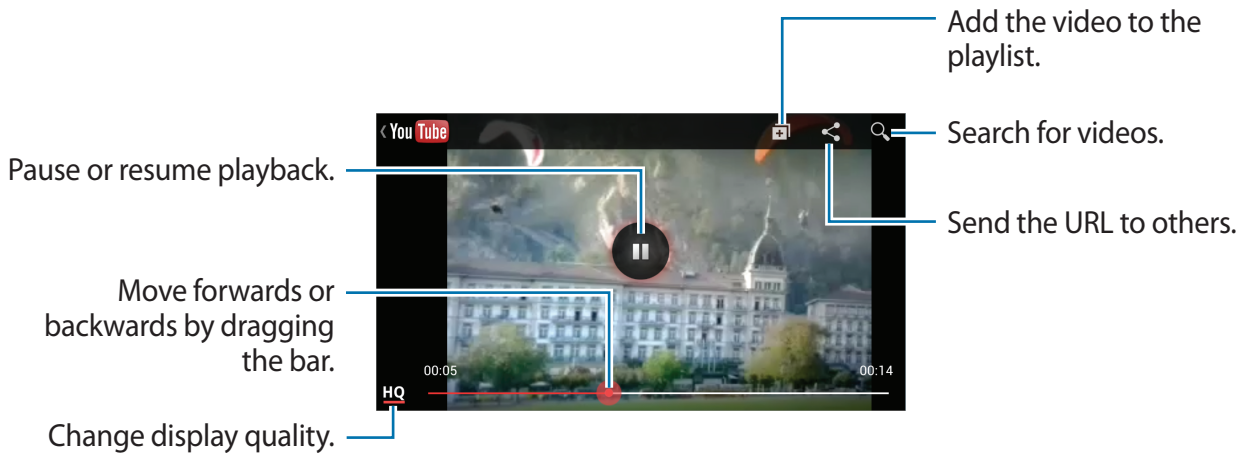
Sharing videos

Select the video to view, tap ⬍, and then select a sharing method.

Uploading videos

Select your account, tap ⬆, select a video, enter information for the video, and then tap **UPLOAD**.

Photo Suggest

Use this application to view photos taken by other users of points of interest near your current location.

Tap **Photo Suggest** on the Applications screen.

Viewing photos

Based on your current location, the device suggests photos of nearby places on a map. Search for a place and tap a thumbnail photo to view it in full screen.

While viewing a photo, tap   → **Add to favourites/places**, add the photo or place to the favourites list, and turn on the notification setting. You will be notified when you visit the place in the photo.

Using photos as a shooting guide

You can use the suggested photos as guides for shooting the same or similar places.

While viewing a photo, tap   . The camera application launches and displays the photo. Use the shooting angle and composition in the photo as a guide for taking your own shot.

Communication

Contacts

Use this application to manage contacts, including phone numbers, email addresses, and others.

Tap **Contacts** on the Applications screen.

Managing contacts

Creating a contact

Tap ![icon] and enter contact information.

- ![icon] : Add an image.
- ![icon] / ![icon] : Add or delete a contact field.

Editing a contact

Select a contact to edit, and then tap ![icon].

Deleting a contact

Tap ![icon] → **Delete**.

Searching for contacts

Use one of the following search methods:

- Scroll up or down the contacts list.
- Use the index at the right side of the contacts list for quick scrolling, by dragging a finger along it.
- Tap the search field at the top of the contacts list and enter search criteria.

Once a contact is selected, take one of the following actions:

- ⭐ : Add to favourite contacts.
- ✉ : Compose a message.
- 📧 : Compose an email.

Displaying contacts

By default, the device shows all saved contacts on the device, the SIM or USIM card, or another account.

Tap ▤ → **Contacts to display**, and then select a location where contacts are saved.

Moving contacts

Moving contacts to Google

Tap ▤ → **Merge accounts** → **Merge with Google**.

Contacts moved to Google Contacts appear with 🔵 in the contacts list.

Moving contacts to Samsung

Tap ▤ → **Merge accounts** → **Merge with Samsung**.

Contacts moved to Samsung Contacts appear with 🔵 in the contacts list.

Importing and exporting contacts

Importing contacts

Tap → **Import/Export** → **Import from SIM card**, **Import from SD card**, or **Import from USB storage**.

Exporting contacts

Tap → **Import/Export** → **Export to SIM card**, **Export to SD card**, or **Export to USB storage**.

Sharing contacts

Tap → **Share namecard via**, select contacts, tap **Done**, and then select a sharing method.

Favourite contacts

Tap , and then take one of the following actions:

- **Search**: Search for contacts.
- **Add to favourites**: Add contacts to favourites.
- **Remove from favourites**: Remove contacts from favourites.
- **Grid view** / **List view**: View contacts in grid or list form.

Contact groups

Adding contacts to a group

Select a group, and then tap . Select contacts to add, and then tap **Done**.

Managing groups

Tap ▤ , and then take one of the following actions:

- **Create**: Make a new group.
- **Search**: Search for contacts.
- **Change order**: Tap and hold ▦ next to the group name, drag it up or down to another position, and then tap **Done**.
- **Delete groups**: Select user-added groups, and then tap **Delete**. Default groups cannot be deleted.

Sending a message or email to a group's members

Select a group, tap ▤ → **Send message** or **Send email**, select members, and then tap **Done**.

Business card

Create a business card and send it to others.

Tap **Set up my profile**, enter details, such as phone number, email address, and postal address, and then tap **Save**. If user information has been saved when you set up the device, select the business card in **ME**, and then tap ◈ to edit.

Tap ▤ → **Share namecard via**, and then select a sharing method.

Messaging

Use this application to send text messages (SMS) or multimedia messages (MMS).

Tap **Messaging** on the Applications screen.

> You may incur additional charges for sending or receiving messages while you are outside your home service area. For details, contact your service provider.

Sending messages

Tap **Compose**, add recipients, enter a message, and then tap .

Use the following methods to add recipients:

- Enter a phone number.

- Tap , select contacts, and then tap **Done**.

Use the following methods to make a multimedia message:

- Tap , and attach images, videos, contacts, memos, events, and others.

- Tap → **Add subject** to enter a subject.

Sending scheduled messages

While composing a message, tap → **Scheduling**. Set a time and date, and then tap **OK**. The device will send the message at the specified time and date.

> - If the device is turned off at the scheduled time, is not connected to the network, or the network is unstable, the message will not be sent.
>
> - This feature is based on the time and date set on the device. The time and date may be incorrect if you move across time zones and the network does not update the information.

Translating and sending messages

To use the translating feature while composing a message, tap → **Translate**, drag the **Translate** switch to the right, set a language pair, and then tap **OK**.

Tap to translate the message, and then tap **Done**. The translated message will replace the message of the source language.

Viewing incoming messages

Incoming messages are grouped into message threads by contact.

Select a contact to view the person's message.

Email

Use this application to send or view email messages.

Tap **Email** on the Applications screen.

Setting up email accounts

Set up an email account when opening **Email** for the first time.

Enter the email address and password. Tap **Next** for a private email account, such as Google Mail, or tap **Manual setup** for a company email account. After that, follow on-screen instructions to complete the setup.

To set up another email account, tap   → **Settings** → **Add account**.

Sending messages

Tap the email account to use, and then tap   at the top of the screen. Enter recipients, subject, and message, and then tap   .

Tap   to add a recipient from the contacts list.

Tap   to attach images, videos, contacts, memos, events, and others.

Tap   to insert images, events, contacts, location information, and others into the message.

Sending scheduled messages

While composing a message, tap ☰ → **Schedule sending**. Tick **Schedule sending**, set a time and date, and then tap **Done**. The device will send the message at the specified time and date.

> • If the device is turned off at the scheduled time, is not connected to the network, or the network is unstable, the message will not be sent.
>
> • This feature is based on the time and date set on the device. The time and date may be incorrect if you move across time zones and the network does not update the information.

Reading messages

Select an email account to use, and new messages are retrieved. To manually retrieve new messages, tap 🔄.

Tap a message to read.

Reply to all recipients.

Reply to the message.

Add this email address to the contacts list.

Forward the message.

Delete the message.

Go to the previous or next message.

About Samsung

Samsung
samsungusermanual@yahoo.com

15/05/2013 09:36

Message   Attachments

Samsung

Mark the message as a reminder.
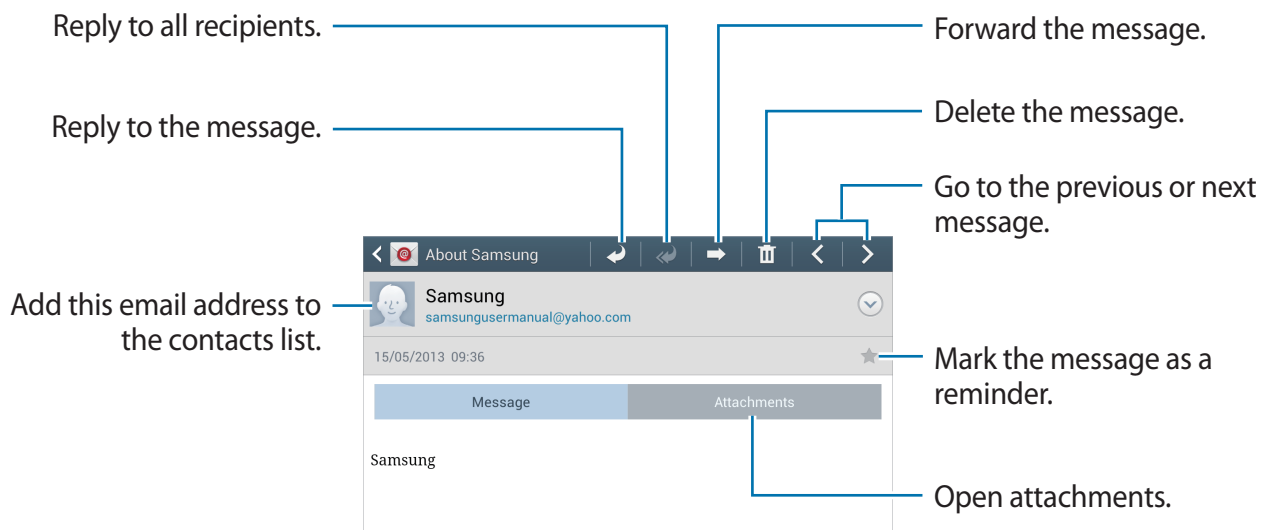
Open attachments.

Tap the attachment tab to open attachments, and then tap **Save** to save it.

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Google Mail

Use this application to quickly and directly access the Google Mail service.

Tap **Google Mail** on the Applications screen.

* This application may not be available depending on the region or service provider.
* This application may be labelled differently depending on the region or service provider.

Sending messages

In any mailbox, tap ⊠, enter recipients, a subject, and a message, and then tap **SEND**.

Tap ⊟ → **Attach picture** to attach images.

Tap ⊟ → **Attach video** to attach videos.

Tap ⊟ → **Add Cc/Bcc** to add more recipients.

Tap ⊟ → **Save draft** to save the message for later delivery.

Tap ⊟ → **Discard** to start over.

Reading messages

Delete this message.

Keep this message for long-term storage.

Add this email address to the contacts list.

Preview attachment.

Add a label to this message.

Mark the message as unread.

Forward this message to others.

Reply to all recipients.

Reply to this message.

Mark the message as a reminder.

About Samsung

Inbox

Samsung
samsungusermanual@yahoo.com

To: me   15 May ⌄

Samsung

ATTACHMENTS

Newer   9 of 79   Older

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Labels

Google Mail does not use actual folders, but uses labels instead. When Google Mail is launched, it displays messages labelled Inbox.

Tap ✐ to view messages in other labels.

To add a label to a message, select the message, tap ✐, and then select the label to assign.

Talk

Use this application to chat with others.

Tap **Talk** on the Applications screen.

> This application may not be available depending on the region or service provider.

Select a friend from the friends list or enter data to search and select a friend from the results to start chatting.

Google+

Use this application to stay connected with people via Google's social network service.

Tap **Google+** on the Applications screen.

> This application may not be available depending on the region or service provider.

Tap **All Circles** to change the category, and then scroll up or down to view posts from your circles.

Tap ⊞ to use other social network features.

Messenger

Use this application to chat with others via Google+ instant messaging service.

Tap **Messenger** on the Applications screen.

This application may not be available depending on the region or service provider.

Select a friend from the friends list, enter a message in the field at the bottom of the screen, and then tap ➤.

ChatON

Use this application to chat with any device.

Tap **ChatON** on the Applications screen.

This application may not be available depending on the region or service provider.

Create a buddies list by entering phone numbers or Samsung account email addresses, or by selecting buddies from the list of suggestions. Alternatively, tap **Contact sync** to manually sync contacts from the device.

Tap **Chats** → **Start chat** and select a buddy to start chatting.

The video chatting feature is enabled for up to 15 minutes at a time. After 15 minutes, the device will turn off the video chatting feature for optimal performance.

Web & network

Internet

Use this application to browse the Internet.

Tap **Internet** on the Applications screen.

Viewing webpages

Tap the address field, enter the web address, and then tap **Go**.

Tap ![icon] to share, save, or print the current webpage while viewing a webpage.

To change the search engine, tap the address field, and then tap the search engine icon next to the web address.

Opening a new page

Tap ![icon] → **New window**.

To go to another webpage, tap ![icon], scroll up or down, and tap the page to select it.

Bookmarks

To bookmark the current webpage, tap ![icon] → **Add bookmark**.

To open a bookmarked webpage, tap ![icon], and then select one.

History

Tap ![icon] → **History** to open a webpage from the list of recently-visited webpages. To clear the history, tap ![icon] → **Clear history**.

Links

Tap and hold a link on the webpage to open it in a new page, save, or copy.

To view saved links, use **Downloads**. (p. 140)

Sharing webpages

To share a webpage address with others, tap → **Share via**.

To share a part of a webpage, tap and hold the desired text, and then tap **Share**.

Chrome

Use this application to search for information and browse webpages.

Tap **Chrome** on the Applications screen.

> This application may not be available depending on the region or service provider.

Viewing webpages

Tap the address field, and then enter a web address or search criteria.

Opening a new page

Tap → **New tab**.

To go to another webpage, tap → a webpage.

Searching the web by voice

Tap the address field, tap , speak a keyword, and then select one of the suggested keywords that appear.

Syncing with other devices

Sync open tabs and bookmarks to use with Chrome on another device, when you are logged in with the same Google account.

To view open tabs on other devices, tap → **Other devices**. Select a webpage to open.

To view bookmarks, tap .

Bluetooth

Bluetooth creates a direct wireless connection between two devices over short distances. Use Bluetooth to exchange data or media files with other devices.

> • Samsung is not responsible for the loss, interception, or misuse of data sent or received via the Bluetooth feature.
>
> • Always ensure that you share and receive data with devices that are trusted and properly secured. If there are obstacles between the devices, the operating distance may be reduced.
>
> • Some devices, especially those that are not tested or approved by the Bluetooth SIG, may be incompatible with your device.
>
> • Do not use the Bluetooth feature for illegal purposes (for example, pirating copies of files or illegally tapping communications for commercial purposes).
>
>   Samsung is not responsible for the repercussion of illegal use of the Bluetooth feature.

To activate Bluetooth, on the Applications screen, tap **Settings** → **Connections** → **Bluetooth**, and then drag the **Bluetooth** switch to the right.

Pairing with other Bluetooth devices

On the Applications screen, tap **Settings** → **Connections** → **Bluetooth** → **Scan**, and detected devices are listed. Select the device you want to pair with, and then accept the auto-generated passkey on both devices to confirm.

Sending and receiving data

Many applications support data transfer via Bluetooth. An example is **Gallery**. Open **Gallery**, select an image, tap → **Bluetooth**, and then select one of the Bluetooth devices. After that, accept the Bluetooth authorisation request on the other device to receive the image. The transferred file is saved in the **Bluetooth** folder. If a contact is received, it is added to the contacts list automatically.

Screen Mirroring

Use this feature to connect your device to a large screen with an AllShare Cast dongle or HomeSync and then share your contents. You can also use this feature with other devices that support the Wi-Fi Miracast feature.

- This feature may not be available depending on the region or service provider.
- Miracast-enabled devices that do not support High-bandwidth Digital Content Protection (HDCP) may not be compatible with this feature.
- Some files may be buffered during playback, depending on the network connection.
- To save energy, deactivate this feature when not in use.
- If you specify a Wi-Fi frequency, AllShare Cast dongles or HomeSync may not be discovered or connected.
- If you play videos or games on a TV, select an appropriate TV mode to get the best experience.

On the Applications screen, tap **Settings** → **Connections** → **Screen Mirroring**. Select a device, open or play a file, and then control the display with the keys on your device.

Group Play

Use this application to share screens with multiple devices. Create or join a Group Play session, and then share images, documents, or music.

Tap **Group Play** on the Applications screen.

- This application may not be available depending on the region or service provider.
- While using this application, you cannot use the Internet.

Creating a group for Group Play

Tap **Create group**, set a password, and then use the following features:

* **Share music**: Select music files to share. You can connect two or more devices and use them to achieve a surround sound effect.

* **Share pictures**: Select images to share.

* **Share documents**: Select documents to share.

Tap ![icon] and write a note or draw on the screen. All participants can see what you create.

Tap ![icon] to view all shared images in mosaic layout.

Tap ![icon] or ![icon] to select more images or documents.

Tap ![icon] to view the group participants.

Joining Group Play

Tap **Join group**, select a Group Play session to join, and then enter the password for the group. Select a media category and the content that is currently being shared will appear on the device.

Application & media stores

Play Store

Use this application to purchase and download applications and games that are able to run on the device.

Tap **Play Store** on the Applications screen.

> This application may not be available depending on the region or service provider.

Installing applications

Browse applications by category, or tap to search with a keyword.

Select an application to view information. To download it, tap **Install**. If there is a charge for the application, tap the price, and follow on-screen instructions to complete the purchase process.

> - When a new version is available for any installed application, an update icon appears at the top of the screen to alert you to the update. Open the notifications panel and tap the icon to update the application.
> - To install applications that you downloaded from other sources, on the Applications screen, tap **Settings** → **More** → **Security** → **Unknown sources**.

Uninstalling applications

Uninstall the applications purchased from **Play Store**.

Tap → **My apps**, select an application to delete in the list of installed applications, and then tap **Uninstall**.

Samsung Apps

Use this application to purchase and download dedicated Samsung applications. For more information, visit *www.samsungapps.com.*

Tap **Samsung Apps** on the Applications screen.

> This application may not be available depending on the region or service provider.

Installing applications

Browse applications by category.

To search for an application, tap 🔍 at the top of the screen, and then enter a keyword in the search field.

Select an application to view information. To download it, tap **Free**. If there is a charge for the application, tap the price, and follow on-screen instructions to complete the purchase process.

> When a new version is available for any installed application, an update icon appears at the top of the screen to alert you to the update. Open the notifications panel and tap the icon to update the application.

Play Books

Use this application to read and download book files.

Tap **Play Books** on the Applications screen.

> This application may not be available depending on the region or service provider.

Play Movies

Use this application to watch, download, and rent movies or TV shows.

Tap **Play Movies** on the Applications screen.

> This application may not be available depending on the region or service provider.

Play Music

Use this application to listen to music from the device or stream music from the Google cloud service.

Tap **Play Music** on the Applications screen.

> This application may not be available depending on the region or service provider.

Play Magazines

Use this application to read and download magazines.

Tap **Play Magazines** on the Applications screen.

> This application may not be available depending on the region or service provider.

Utilities

S Memo

Use this application to create a memo using images and voice recordings.

Tap **S Memo** on the Applications screen.

Composing memos

Create memos with enriched content by drawing sketches with your finger or adding images or voice memos.

Tap ⊞✎ to write or draw on the screen, or tap ⊞T to enter text with the keyboard.

Erase the handwritten memo.

Undo and redo the last action.

Jot down or draw a memo.

Enter a memo.

Switch to view mode.

Append another page to the current memo.

Insert a multimedia file.

Make a voice recording to insert.

When jotting down a memo, tap ✎ once more to change the pen type, line thickness, or pen colour.

When erasing the handwritten memo, tap ⬦ once more to change the eraser size or clear the memo.

Change the pen type.

Change the line thickness.

Expand the pen settings panel to change the pen colour.

Save the current setting as a pen profile.
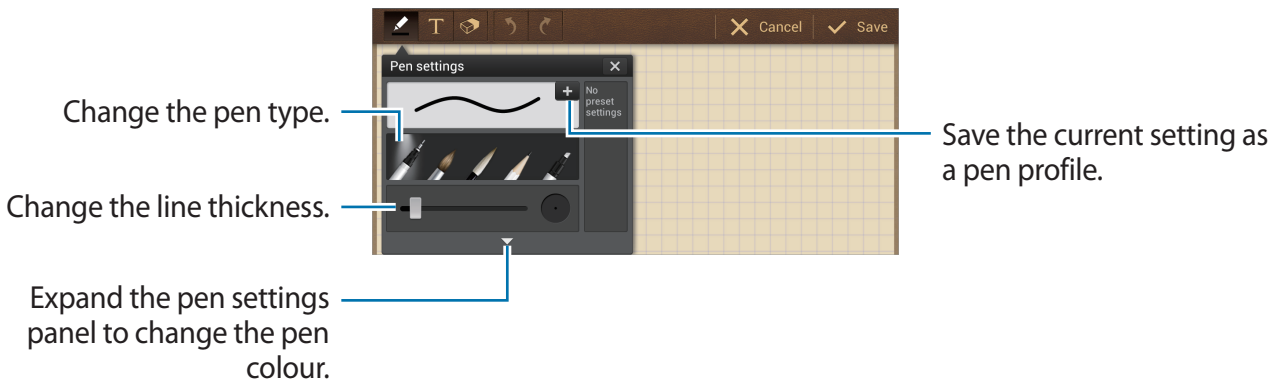
To change the sheet background, tap ▤ → **Change background.**

To add tags, tap ▤ → **Add tag.**

Browsing memos

Browse memo thumbnails by scrolling up or down.

To search for a memo, tap ▤ → **Search.**

To delete memos, tap ▤ → **Delete.**

To sort memos by date, title, tag, or others, tap ▤ → **Sort by.**

To change the view mode, tap ▤ → **List view.**

To create a memo by importing a file, tap ▤ → **Import.**

To export memos as another file format, tap ▤ → **Export.**

To create a folder, tap ▤ → **Create folder.**

To change the order of memos, tap ▤ → **Change order.**

To move memos to another folder, tap ▤ → **Move.**

To copy memos, tap ▤ → **Copy.**

To change the S Memo settings, tap ▤ → **Settings.**

To back up or restore memos to or from a storage location, tap ▤ → **Backup and restore.**

Viewing a memo

Tap the memo thumbnail to open it.

To delete the memo, tap → **Delete**.

To send the memo to others, tap → **Share via**.

To save the memo as an image file or a PDF file, tap → **Export**.

To add the memo as your favourites list, tap → **Add to Favourites**.

To save the memo as an event, tap → **Create event**.

To set the memo as wallpaper or to assign it to a contact, tap → **Set as**.

To print the memo via a USB or Wi-Fi connection, tap → **Print**. The device is only compatible with some Samsung printers.

To edit the memo, tap .

To play the voice recording, tap .

S Planner

Use this application to manage events and tasks.

Tap **S Planner** on the Applications screen.

Creating events or tasks

Tap **New** and then use one of the following methods:

- **Add event**: Enter an event with an optional repeat setting.
- **Add task**: Enter a task with an optional priority setting.
- **Add memo**: Create a handwritten memo to attach to the date.

To add an event or task more briefly, tap a date to select it and tap it again.

Enter a title and specify which calendar to use or sync with. Then tap **Edit event details** or **Edit task details** to add more details, such as how often the event repeats, when it has an advance alert, or where it takes place.

Attach a map showing the location of the event. Enter the location in the **Location** field, tap 🗺 next to the field, and then pinpoint the precise location by tapping and holding on the map that appears.

Attach a memo from S Memo. Tap **Memos**, and then compose a new memo or select one of the existing memos.

Attach an image. Tap **Images**, and then take a photo or select one of the existing images.

Attaching memos to a date

Tap and hold a date to select it and the memo pad appears.
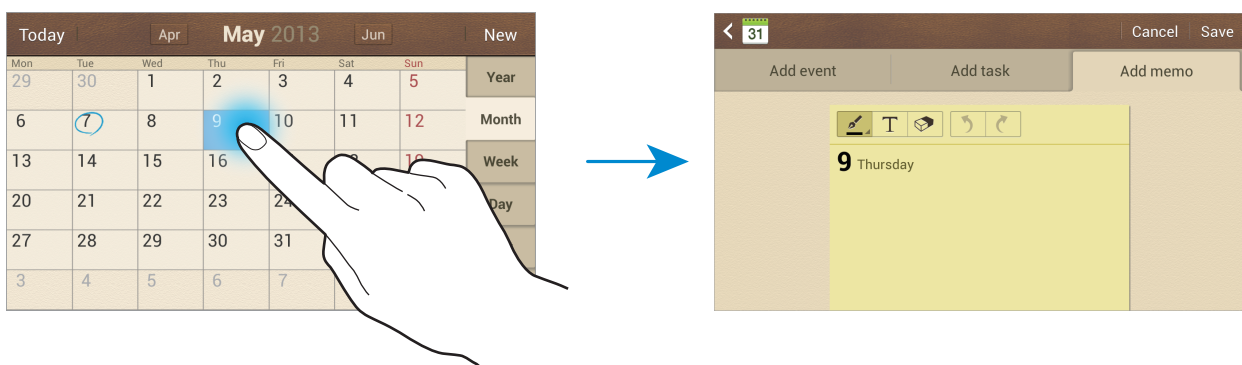
Syncing with Google Calendar

On the Applications screen, tap **Settings** → **Accounts** → **Google** under **My accounts** → a Google account → **Sync Calendar**. To manually sync for updating, on the Applications screen, tap **S Planner** →   → **Sync**.

To display synced event or tasks, tap   → **Calendars** → **Display**, tick the Google account, and then tap **Done**.

Changing calendar type

Select one from among different types of calendars including year, month, week, and others at the right side of the screen. A pinch gesture can be used to change calendar type. For example, pinch to change from the monthly calendar to the yearly calendar, and spread apart to change yearly calendar back to monthly calendar.

Searching for events

Tap   → **Search**, and then enter a keyword to search for.

To view today's events, tap **Today** at the top of the screen.

Deleting events

Select a date or event, and then tap   → **Delete**.

Sharing events

Select an event, tap   → **Share via**, and then select a sharing method.

Dropbox

Use this application to save and share files with others via the Dropbox cloud storage. When you save files to Dropbox, your device automatically syncs with the web server and any other computers that have Dropbox installed.

Tap **Dropbox** on the Applications screen.

> This application may not be available depending on the region or service provider.

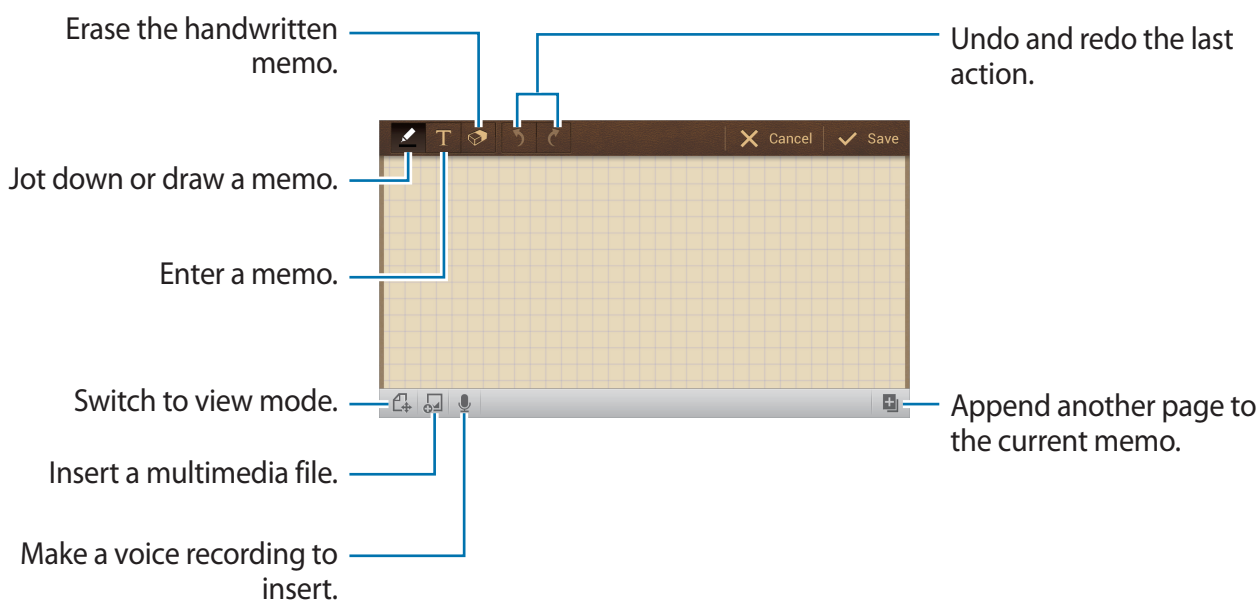When running Dropbox for the first time, tap **Start** to activate it. Follow the on-screen instructions to complete the setup.

Once Dropbox is activated, photos and videos taken with the device's camera are uploaded to Dropbox automatically. To view the uploaded photos or videos, tap ▨. To share or delete files or create albums, tap ☑, and then select files.

To upload files to Dropbox, tap ▨ → ☰ → **Upload here** → **Photos or videos** or **Other files**. To open files in Dropbox, select a file.

While viewing images or videos, tap ☆ to add it to the favourites list. To open files in the favourites list, tap ☆.

Cloud

Use this feature to sync files or back up application data with your Samsung account or Dropbox.

On the Applications screen, tap **Settings** → **Accounts** → **Cloud**.

> This feature may not be available depending on the region or service provider.

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Syncing with the Samsung account

Tap your Samsung account or **Sync settings** to sync files.

Backing up or restoring data

Tap **Backup** or **Restore** to back up or restore data with your Samsung account.

Syncing with Dropbox

Tap **Link Dropbox account**, and then enter the Dropbox account. Follow the on-screen instructions to complete the setup.

Once you sign in, tap **Allow** and the device automatically syncs files with Dropbox whenever you make some changes.

Clock

Use this application to set alarms, check the time in any location in the world, measure the duration of an event, or set a timer.

Tap **Clock** on the Applications screen.
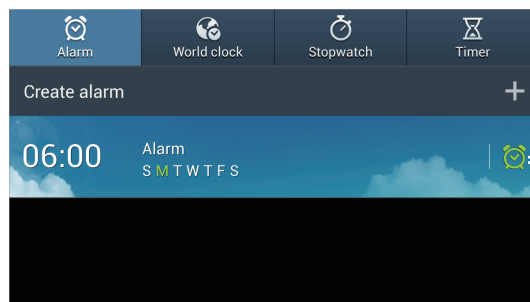
Turn this alarm on or off.

Alarm

Setting alarms

Tap **Create alarm**, set a time for the alarm to go off, select days for the alarm to repeat, and then tap **Save**.

- **Location alarm**: Set a location. The alarm goes off only when you are in the location.
- **Snooze**: Set an interval and the number of times for the alarm to repeat after the preset time.
- **Smart alarm**: Set a time for the alarm to go off before the preset time.

Stopping alarms

Drag ✕ outside the large circle to stop an alarm. Drag ZZ outside the large circle to repeat the alarm after a specified length of time.

Deleting alarms

Tap and hold the alarm, and then tap **Delete**.

World clock

Creating clocks

Tap **Add city**, and then enter a city name or select a city from the cities list.

To apply summer time, tap and hold a clock, and then tap **DST settings**.

Deleting clocks

Tap and hold the clock, and then tap **Delete**.

Stopwatch

Tap **Start** to time an event. Tap **Lap** to record lap times.

Tap **Reset** to clear lap time records.

Timer

Set the duration, and then tap **Start**.

Drag ✖ outside the large circle when the timer goes off.

Calculator

Use this application for simple or complex calculations.

Tap **Calculator** on the Applications screen.

To see the calculation history, tap ▬ to hide the keypad.

To clear the history, tap ▤ → **Clear history**.

To change the character size for the history, tap ▤ → **Text size**.

S Translator

Use this application to translate text into other languages.

Tap **S Translator** on the Applications screen.

Using S Translator

Set the source and target languages, enter text in the input field, and then tap ⬗.

To add a language pair to your favourites list, tap **Add to favourites**.

To send a language pair to others, tap **Share via**.

Starting a conversation with the translator

Tap the buttons at the bottom of the screen to communicate with another person via spoken translation.

Tap **Speak** for your language, and then speak into the microphone. The device will translate what you say. Tap ![icon] in the target language field to let the device read the translation out loud.

Then, tap **Speak** for the language of the person you are talking with and let the person reply in their language. The device will translate what they say. Tap ![icon] in the source language field to let the device read it back to you.

S Voice

Use this application to command the device by voice to send a message, write a memo, set an alarm, and more.

Tap **S Voice** on the Applications screen. Alternatively, tap ![icon] twice.

> This application may not be available depending on the region or service provider.

Here are several examples of spoken commands:

- Open music
- Launch calculator
- Check schedule

Tips for better voice recognition

- Speak clearly.
- Speak in quiet places.
- Do not use offensive or slang words.
- Avoid speaking in dialectal accents.

The device may not recognise your commands or may perform unwanted commands depending on your surroundings or how you speak.

Google

Use this application to search not only the Internet, but also applications and their contents on the device as well.

Tap **Google** on the Applications screen.

> This application may not be available depending on the region or service provider.

Searching the device

Tap the search field, and then enter a keyword. Alternatively, tap , and then speak a keyword.

Searching with images

To search with an image, tap → **Search with camera**. Aim the camera at an image, and then tap .

> This feature is available only for English.

Search scope

To select what applications to search, tap → **Settings** → **Phone search**, and then tick the items to search for.

Google Now

Launch Google search to view Google Now cards that show the current weather, public transit info, your next appointment, and more when you are most likely to need it.

Join Google Now when opening Google search for the first time. To change Google Now settings, tap → **Settings** → **Google Now**.

Voice Search

Use this application to search webpages by speaking.

Tap **Voice Search** on the Applications screen.

> This application may not be available depending on the region or service provider.

Speak a keyword or phrase when **Speak now** appears on the screen.

My Files

Use this application to access all kinds of files stored in the device, including images, videos, songs, and sound clips.

Tap **My Files** on the Applications screen.

Select a folder to open it. To go back to the parent folder, tap **Up**. To return to the root directory, tap **Home**.

In a folder, tap , and then use one of the following options:

- **Select all**: Select all files or folders to apply the same option to them at once.
- **Create folder**: Create a folder.
- **Search**: Search for files or folders.
- **View by**: Change the view mode.
- **Sort by**: Sort files or folders.
- **Settings**: Change the file manager settings.

Downloads

Use this application to see what files are downloaded through the applications.

Tap **Downloads** on the Applications screen.

This application may not be available depending on the region or service provider.

Select a file to open it with an appropriate application.

To sort the files by size, tap **Sort by size**.

To sort the files by date, tap **Sort by date**.

TripAdvisor

Use this application to get travel information such as destination or hotel. You can also book for a room and share your reviews with others.

Tap **TripAdvisor** on the Applications screen.

Travel & local

Maps

Use this application to pinpoint the location of the device, search for places, or get directions.

Tap **Maps** on the Applications screen.

> This application may not be available depending on the region or service provider.

Searching for locations

Tap 🔍, enter an address, and then tap 🔍. Select a location to view the detailed location information. To search for nearby locations, tap 📍.

Once the location is found, tap 📄 and use one of the following functions:

- **Clear Map**: Clear the map.
- **Make available offline**: Save the map of a specified area to view it offline.
- **Layers**: Overlay multiple layers including satellite images, traffic information, and more.
- **Settings**: Change the map settings.
- **Help**: View information about using the map.

To view current location, tap ◉.

Getting directions for a destination

1 Tap .

2 Tap , and then select a method to enter starting and ending locations:

- **My current location**: Use current location for starting location.
- **Contacts**: Select from the contacts list.
- **Point on map**: Pinpoint by tapping on the map.
- **My Places**: Select from the list of offline maps, starred places, recent places, and more.

3 Select a travel method, such as driving, public transit, or walking, and then tap **GET DIRECTIONS**.

4 Select one of the routes that appear, and then tap **MAP VIEW** to view details.

Local

Use this application to search for nearby restaurants, banks, bus stops, and more.

Tap **Local** on the Applications screen.

> This application may not be available depending on the region or service provider.

Select a place category, and then select a place from the list of search results.

- **Map**: Pinpoint the place on the map.
- **Directions**: Search for a route to the place.

To add a place category, tap   → **Add a search** on the category list, and then enter a keyword to search into the text field.

Navigation

Use this application to search for a route to a destination.

Tap **Navigation** on the Applications screen.

> • Navigation maps, your current location, and other navigational data may differ from actual location information. You should always pay attention to road conditions, traffic, and any other factors that may affect your driving. Follow all safety warnings and regulations while driving.
>
> • This application may not be available depending on the region or service provider.

Specify the destination by using various methods, such as speaking or entering the destination address. Once a route is found, follow the on-screen instructions to navigate to the destination.

Settings

About Settings

Use this application to configure the device, set application options, and add accounts.

Tap **Settings** on the Applications screen.

Connections

Wi-Fi

Activate the Wi-Fi feature to connect to a Wi-Fi network and access the Internet or other network devices.

To use options, tap .

- **Advanced**: Customise Wi-Fi settings.
- **WPS push button**: Connect to a secured Wi-Fi network with a WPS button.
- **WPS PIN entry**: Connect to a secured Wi-Fi network with a WPS PIN.

Setting Wi-Fi sleep policy

On the Settings screen, tap **Connections** → **Wi-Fi** →   → **Advanced** → **Keep Wi-Fi on during sleep**.

> When the screen is turned off, the device automatically turns off Wi-Fi connections. When this happens, the device automatically accesses data networks if it is set to use them. This may incur data transfer fees. To avoid data-usage bills, set this option to **Always**.

Setting Network notification

The device can detect open Wi-Fi networks and display an icon on the status bar to notify when available.

On the Settings screen, tap **Connections** → **Wi-Fi** → → **Advanced** and tick **Network notification** to activate this feature.

Wi-Fi Direct

Wi-Fi Direct connects two devices directly via a Wi-Fi network without requiring an access point.

On the Settings screen, tap **Connections** → **Wi-Fi** → **Wi-Fi Direct**.

Bluetooth

Activate the Bluetooth feature to exchange information over short distances.

To use more options, tap .

- **Visibility timeout**: Set duration that the device is visible.
- **Received files**: View received files via the Bluetooth feature.

Data usage

Keep track of your data usage amount, and customise the settings for the limitation.

- **Mobile data**: Set the device to use data connections on any mobile network.
- **Set mobile data limit**: Set a limit for the mobile data usage.
- **Data usage cycle**: Enter monthly reset date to monitor your data usage.

To use more options, tap .

- **Data roaming**: Set the device to use data connections when you are roaming.
- **Restrict background data**: Set the device to disable sync in the background while using a mobile network.
- **Auto sync data**: Activate or deactivate auto-syncing of applications. You can select what information to sync for each account in **Settings** → **Accounts**.

- **Show Wi-Fi usage**: Set the device to show your data usage via Wi-Fi.
- **Mobile hotspots**: Select Wi-Fi hotspots to prevent applications that are running in the background from using them.

More networks

Customise settings to control networks.

Flight mode

This disables all wireless functions on your device. You can use only non-network services.

Smart network

This disables all data network functions on your device when the screen is turned off, and disconnects applications, such as SNS applications or **Email**. When the screen is turned on, all new notifications that were not received while the screen was off are retrieved.

> You can save battery power by turning on this feature.

Mobile networks

- **Mobile data**: Use to allow packet switching data networks for network services.
- **Data roaming**: Use the device to connect to another network when you are roaming or your home network is not available.
- **Access Point Names**: Set up access point names (APNs).
- **Network mode**: Select a network type.
- **Network operators**: Search for available networks and select a network for roaming.

Tethering and portable hotspot

- **Portable Wi-Fi hotspot**: Use the portable Wi-Fi hotspot to share the device's mobile network connection with computers or other devices through the Wi-Fi network.
- **USB tethering**: Use USB tethering to share the device's mobile network connection with a computer via USB. When connected to a computer, the device is used as a wireless modem for the computer.

- **Bluetooth tethering**: Use Bluetooth tethering to share the device's mobile network connection with computers or other devices via Bluetooth.

- **Help**: Learn more about USB, Wi-Fi, and Bluetooth tethering.

VPN

Set up and connect to virtual private networks (VPNs).

Nearby devices

- **File sharing**: Activate media sharing to allow other DLNA-enabled devices to access media files on your device.

- **Shared contents**: Set the device to share your content with other devices.

- **Allowed devices list**: View the list of devices that can access your device.

- **Not-allowed devices list**: View the list of devices that are blocked from accessing your device.

- **Download to**: Select a memory location for saving media files.

- **Upload from other devices**: Set the device to accept uploads from other devices.

Screen Mirroring

Activate the screen mirroring feature and share your display with others.

Kies via Wi-Fi

Connect the device to Samsung Kies via a Wi-Fi network.

My device

Lock screen

Change settings for the locked screen.

Display

Change the settings for the display.

- **Wallpaper**:
    - **Home screen**: Select a background image for the Home screen.
    - **Lock screen**: Select a background image for the locked screen.
    - **Home and lock screens**: Select a background image for the Home screen and the locked screen.
- **Notification panel**: Customise the items that appear on the notifications panel.
- **Screen mode**:
    - **Adapt display**: Use this mode for optimising the display according to the display settings.
    - **Dynamic**: Use this mode to make the display tone more vivid.
    - **Standard**: Use this mode for normal surroundings.
    - **Movie**: Use this mode for dim surroundings, such as in a dark room.
- **Brightness**: Set the brightness of the display.
- **Auto-rotate screen**: Set the content to rotate automatically when the device is turned.
- **Screen timeout**: Set the length of time the device waits before turning off the display's backlight.
- **Daydream**: Set the device to launch a screensaver when your device is connected to a desktop dock or charging.
- **Font style**: Change the font type for display text.
- **Font size**: Change the font size.
- **Display battery percentage**: Set the device to display the remaining battery life.
- **Edit after screen capture**: Set the device to edit the screenshot after capturing it.

Sound

Change settings for various sounds on the device.

- **Volume**: Adjust the volume level for music and videos, system sounds, and notifications.
- **Vibration intensity**: Adjust the force of the vibration notification.
- **Default notification sound**: Select a ringtone for events, such as incoming messages.
- **Touch sounds**: Set the device to sound when selecting an application or option on the touch screen.
- **Screen lock sound**: Set the device to sound when locking or unlocking the touch screen.
- **Vibration feedback**: Set the device to vibrate when touching keys.

Blocking mode

Select which notifications will be blocked and how long to block them.

Driving mode

Activate driving mode to set the device to read contents aloud and specify applications to use in driving mode.

Accessory

- **Audio output**: Select a sound output format to use when connecting your device to HDMI devices. Some devices may not support the surround sound setting.

Accessibility

Accessibility services are special features for those with certain physical disabilities. Access and alert the following settings to improve accessibility to the device.

- **Auto-rotate screen**: Set the interface to rotate automatically when you rotate the device.
- **Screen timeout**: Set the length of time the device waits before turning off the display's backlight.
- **Speak passwords**: Set the device to read aloud passwords you enter with Talkback.
- **Show shortcut**: Add a shortcut to **Accessibility** on the quick menu that appears when you press and hold the Power button.
- **Manage accessibility**: Export or import the accessibility settings to share them with other devices.
- **TalkBack**: Activate Talkback, which provides voice feedback.
- **Font size**: Change the font size.
- **Magnification gestures**: Set the device to zoom in and out with finger gestures.
- **Negative colours**: Reverse the display colours to improve visibility.
- **Colour adjustment**: Adjust the colour scheme for the screen when the device determines that you are colour blind or having difficulty reading content.
- **Accessibility shortcut**: Set the device to activate Talkback when you press and hold the Power button, and then tap and hold the screen with two fingers.
- **Text-to-speech options**:
  - **Preferred TTS engine**: Select a speech synthesis engine. To change the settings for speech synthesis engines, tap .
  - **Speech rate**: Select a speed for the text-to-speech feature.
  - **Listen to an example**: Listen to the spoken text for an example.
- **Enhance web accessibility**: Set applications to install web scripts to make their web content more accessible.
- **Sound balance**: Adjust the sound balance when using a dual headset.
- **Mono audio**: Enable mono sound when listening to audio with one earbud.
- **Turn off all sounds**: Mute all device sounds.

- **Assistant menu**: Set the device to show the assistive shortcut icon that helps you access functions supported by external buttons or features on the notifications panel. You can also edit the menu on the shortcut icon.

- **Tap and hold delay**: Set the recognition time for tapping and holding the screen.

- **Interaction control**: Set an area of the screen to be excluded from touch inputs.

Language and input

Change the settings for text input. Some options may not be available depending on the selected language.

Language

Select a display language for all menus and applications.

Default

Select a default keyboard type for text input.

Google voice typing

To change the voice input settings, tap ⚙.

- **Choose input languages**: Select input languages for text input.

- **Block offensive words**: Set the device to prevent the device from recognising offensive words in voice inputs.

- **Download offline speech recognition**: Download and install language data for offline voice input.

Samsung keyboard

To change the Samsung keyboard settings, tap ⚙.

> The available options may vary depending on the region or service provider.

- **Alphabets**: Change the keyboard layout.

- **Numbers and symbols**: Change the keyboard layout.

- **Input languages**: Select languages for text input.

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- **Predictive text**: Activate predictive text mode to predict words based on your input and show word suggestions. You can also customise the word prediction settings.

- **Continuous input**: Set the device to enter text by sweeping on the Qwerty keyboard.

- **Cursor control**: Enable or disable the smart keyboard navigation feature to move the cursor by scrolling the keyboard.

- **Key-tap vibration**: Set the device to vibrate when a key is touched.

- **Key-tap sound**: Set the device to sound when a key is touched.

- **Handwriting**: Customise settings for handwriting mode, such as recognition time, pen thickness, or pen colour.

- **Advanced**:

  - **Auto capitalisation**: Set the device to automatically capitalise the first character after a final punctuation mark, such as a full stop, question mark, or exclamation mark.

  - **Auto spacing**: Set the device to automatically insert a space between words.

  - **Auto-punctuate**: Set the device to insert a full stop when you double-tap the space bar.

  - **Character preview**: Set the device to display a large image of each character tapped.

- **Tutorial**: Learn how to enter text with the Samsung keyboard.

- **Reset settings**: Reset Samsung keyboard settings.

Voice recogniser

Select a voice recognition engine.

> This feature appears once you use a voice recognition application.

Voice search

For Samsung voice recognition, use the following options:

- **Language**: Select a language for the voice recognition.

- **Open via the home key**: Set the device to launch **S Voice** by tapping the Home button twice.

- **Use location data**: Set the device to use location information for voice search results.

- **Hide offensive words**: Hide offensive words from voice search results.
- **Help**: Access help information for **S Voice**.
- **About**: View version information.
- **Voice control**: Control applications by voice commands.
- **Show body of message**: Set the device to view the text of a new message received while in driving mode.
- **Wake up command**: Set the device to start voice recognition by saying a wake up command while using **S Voice**.
- **Wake up in lock screen**: Set the device to recognise your wake up command when the screen is locked.
- **Set wake-up command**: Set a wake up command to launch **S Voice** or perform a specified function.
- **Check missed events**: Set the device to check missed events when **S Voice** is launched by pressing the headset button.
- **Home address**: Enter your home address to use location information with the voice command feature.
- **Log in to Facebook**: Enter your Facebook account information to use Facebook with **S Voice**.
- **Log in to Twitter**: Enter your Twitter account information to use Twitter with **S Voice**.

For Google voice recognition, use the following options:

- **Language**: Select a language for the voice recognition.
- **Speech output**: Set the device to provide voice feedback to alert you to the current action.
- **Block offensive words**: Hide offensive words from voice search results.
- **Download offline speech recognition**: Download and install language data for offline voice input.
- **Bluetooth headset**: Set the device to allow a voice search with a Bluetooth headset, when it is connected to the device.

Text-to-speech options

- **Preferred TTS engine**: Select a speech synthesis engine. To change the settings for speech synthesis engines, tap ⚙.

- **Speech rate**: Select a speed for the text-to-speech feature.

- **Listen to an example**: Listen to the spoken text for an example.

Pointer speed

Adjust the pointer speed for the mouse or trackpad connected to your device.

Motions and gestures

Activate the motion recognition feature and change the settings that control motion recognition on your device.

- **Motion**:
  - **Zoom**: Set the device to zoom in or out while viewing images in **Gallery**, when you tap and hold two points with your fingers and then tilt the device back and forth.

  - **Move an icon**: Set the device to move an item to another page when tapping and holding the item and then panning the device to the left or right.

  - **Browse an image**: Set the device to scroll through an image by moving the device in any direction when the image is zoomed in.

- **Palm motion**:
  - **Capture screen**: Set the device to capture an image of the screen when you sweep your hand to the left or right across the screen.

  - **Mute/Pause**: Set the device to pause media playback when you touch the screen with your palm.

- **Gyroscope calibration**: Calibrate the gyroscope so your device can correctly recognise rotation.

> - Place the device on a stable surface during calibration. The calibration process may fail if the device vibrates or moves.
>
> - Calibrate the gyroscope when you experience drifting or unintended movements when using tilting or panning motions or motion-enabled games.

Voice control

Change settings to control options by voice commands.

Accounts

Add account

Add email or SNS accounts.

Cloud

Change settings for syncing data or files with your Samsung account or Dropbox cloud storage.

Backup and reset

Change the settings for managing settings and data.

- **Back up my data**: Set the device to back up settings and application data to the Google server.

- **Backup account**: Set up or edit your Google backup account.

- **Automatic restore**: Set the device to restore settings and application data when the applications are reinstalled on the device.

- **Factory data reset**: Reset settings to the factory default values and delete all data.

More

Customise settings for location services, security, and other options.

Location services

Change settings for location information permissions.

* **Access to my location**: Set the device to allow applications to use your current location information.

* **Use GPS satellites**: Set the device to use the GPS satellite for finding the current location.

* **Use wireless networks**: Set the device to allow location data collection or to determine the location of your lost or stolen device via Wi-Fi or mobile network.

* **My places**: Set up profiles that will be used for specific locations when you use GPS, Wi-Fi, or Bluetooth features to find your current location.

Security

Change settings for securing the device and the SIM or USIM card.

* **Encrypt device**: Set a password to encrypt data saved on the device. You must enter the password each time you turn on the device.

    > Charge the battery before enabling this setting because it may take more than an hour to encrypt your data.

* **Encrypt external SD card**: Set the device to encrypt files on a memory card.

    > If you reset your device to the factory defaults with this setting enabled, the device will not be able to read your encrypted files. Disable this setting before resetting the device.

* **Remote controls**: Set the device to allow control of your lost or stolen device remotely via the Internet. To use this feature, you must sign in to your Samsung account.

    – **Account registration**: Add or view your Samsung account.

    – **Use wireless networks**: Set the device to allow location data collection or to determine the location of your lost or stolen device via Wi-Fi or mobile network.

* **SIM Change Alert**: Activate or deactivate the Find my mobile feature which helps locate the device when lost or stolen.

- **Go to the find my mobile webpage**: Access the Find my mobile website (*findmymobile.samsung.com*). You can track and control your lost or stolen device on the Find my mobile website.

- **Set up SIM card lock**:

  - **Lock SIM card**: Activate or deactivate the PIN lock feature to require the PIN before using the device.

  - **Change SIM PIN**: Change the PIN used to access SIM or USIM data.

- **Make passwords visible**: Set the device to display passwords as they are entered.

- **Device administrators**: View device administrators installed on the device. You can allow device administrators to apply new policies to the device.

- **Unknown sources**: Choose to install applications from any source. If not chosen, download applications only from **Play Store**.

- **Verify apps**: Set this to allow Google to check the application for harmful behaviour before installing it.

- **Trusted credentials**: Use certificates and credentials to ensure secure use of various applications.

- **Install from device storage**: Install encrypted certificates stored on the USB storage.

- **Clear credentials**: Erase the credential contents from the device and reset the password.

Application manager

View and manage the applications on your device.

Battery

View the amount of battery power consumed by your device.

Power

Activate power-saving mode and change the settings for power-saving mode.

- **Auto power off**: Set the length of time the device waits before turning off.

    - The device automatically turns off if the screen is not touched, or the buttons are not pressed for a preset length of time. For extended use, select a longer time period.
    - This feature is disabled when playing videos or listening to music.
    - You can save battery power by turning on this feature.

- **Power saving mode**:
    - **CPU power saving**: Set the device to limit some system resource usage.
    - **Screen power saving**: Set the device to decrease the brightness of the display.
    - **Turn off haptic feedback**: Set the device to turn off the vibration when touching keys.
    - **Learn about Power saving mode**: Discover how to reduce battery consumption.
- **Fast power-on**: Activating this causes the device to start quickly for the next 24 hours.

Storage

View memory information for your device and memory card, or format a memory card.

Formatting a memory card permanently deletes all data from it.

The actual available capacity of the internal memory is less than the specified capacity because the operating system and default applications occupy part of the memory. The available capacity may change when you upgrade the device.

Date and time

Access and alter the following settings to control how the device displays the time and date.

If the battery remains fully discharged or removed from the device, the time and date is reset.

- **Automatic date and time**: Automatically update the time and date when moving across time zones.
- **Set date**: Set the current date manually.
- **Set time**: Set the current time manually.
- **Automatic time zone**: Set the device to receive time zone information from the network when you move across time zones.
- **Select time zone**: Set the home time zone.
- **Use 24-hour format**: Display time in 24-hour format.
- **Select date format**: Select a date format.

About device

Access device information and update device software.

Google Settings

Use this application to configure settings for some features provided by Google.

Tap **Google Settings** on the Applications screen.

Optional applications

The following applications must be downloaded before you can use them.

- Paper Artist
- Samsung Link
- Sphere
- Story Album
- Video editor

On the Home screen or the Applications screen, tap an application icon and follow on-screen instructions to download it.

> Some of the listed applications may be preloaded depending on the region or service provider.

Troubleshooting

Before contacting a Samsung Service Centre, please attempt the following solutions. Some situations may not apply to your device.

The subject's eyes appear red

Red eyes occur when the subject's eyes reflect light from the camera flash.

- Set the flash option to **Auto** + **Red-eye** or **Fill in** + **Red-eye**.
- If the photo has already been taken, tap ▤ → **Edit** → **Portrait** → **Red-eye fix** in **Gallery**.

Photos have dust spots

If dust particles are present in the air, you may capture them in photos when you use the flash.

- Turn the flash off or avoid taking photos in a dusty place.
- Adjust the ISO sensitivity. (p. 80)

Photos are blurred

Blurring can occur if you take photos in low light conditions or hold the device incorrectly.

- Half-press the Shutter button to ensure the subject is focused.
- Set the image stabiliser option.
- Use a tripod to prevent your device from shaking.

Photos are blurred when shooting at night

As the device tries to let in more light, the shutter speed slows. This can make it difficult to hold the device steady long enough to take a clear picture and may result in device shake.

- Set **Night** in smart mode.
- Turn the flash on.
- Adjust the ISO sensitivity. (p. 80)
- Use a tripod to prevent your device from shaking.

Subjects come out too dark because of backlighting

When the light source is behind the subject or when there is a high contrast between light and dark areas, the subject may appear too dark.

- Avoid shooting toward the sun.
- Set the flash option to **Fill in**.
- Adjust the exposure value.
- Set the metering option to **Spot** if a subject is in the centre of the frame.

When you cannot turn on the device

- Ensure that the battery is inserted. (p. 15)
- Charge the battery.

When you cannot take photos or videos

- Your storage may be full. Delete unnecessary files, or insert a new memory card.
- Format the memory card.
- The memory card may be defective. Purchase a new card.
- Ensure that the device is turned on.
- Charge the battery.
- Ensure that the battery is inserted. (p. 15)

When the flash is not functional

- Press the Flash release button to pop the flash up.
- The flash option may be set to **Off**. (p. 86)
- In some modes, the flash is disabled.

When the flash fires unexpectedly

The flash may fire unexpectedly due to static electricity. The device is not malfunctioning.

When the colours in the photo do not match the actual scene

Select an appropriate white balance option to suit the light source. (p. 81)

When the photo is too bright

- Turn the flash off. (p. 86)
- Adjust the ISO sensitivity. (p. 80)
- Adjust the exposure value. (p. 79)

When the photo is too dark

- Turn the flash on. (p. 86)
- Adjust the ISO sensitivity. (p. 80)
- Adjust the exposure value. (p. 79)

When you turn on your device or while you are using the device, it prompts you to enter one of the following codes:

- Password: When the device lock feature is enabled, you must enter the password you set for the device.

- PIN: When using the device for the first time or when the PIN requirement is enabled, you must enter the PIN supplied with the SIM or USIM card. You can disable this feature by using the Lock SIM card menu.

- PUK: Your SIM or USIM card is blocked, usually as a result of entering your PIN incorrectly several times. You must enter the PUK supplied by your service provider.

- PIN2: When you access a menu requiring the PIN2, you must enter the PIN2 supplied with the SIM or USIM card. For details, contact your service provider.

Your device displays network or service error messages

- When you are in areas with weak signals or poor reception, you may lose reception. Move to another area and try again. While moving, error messages may appear repeatedly.

- You cannot access some options without a subscription. Contact your service provider for more details.

Your device does not turn on

- When the battery is completely discharged, your device will not turn on. Charge the battery completely before turning on the device.

- The battery may not be inserted properly. Insert the battery again.

- Wipe both gold-coloured contacts and insert the battery again.

The touch screen responds slowly or improperly

- If you attach a protective cover or optional accessories to the touch screen, the touch screen may not function properly.

- If you are wearing gloves, if your hands are not clean while touching the touch screen, or if you tap the screen with sharp objects or your fingertips, the touch screen may malfunction.

- The touch screen may malfunction in humid conditions or when exposed to water.

- Restart your device to clear any temporary software bugs.

- Ensure that your device software is upgraded to the latest version.

- If the touch screen is scratched or damaged, visit a Samsung Service Centre.

Your device freezes or has fatal errors

If your device freezes or hangs, you may need to close applications or reinsert the battery and turn on the device to regain functionality. If your device is frozen and unresponsive, press and hold the Power button for 6-8 seconds to reboot.

If this does not solve the problem, perform a factory data reset. On the Applications screen, tap **Settings** → **Accounts** → **Backup and reset** → **Factory data reset** → **Reset device** → **Erase everything**. Before performing the factory data reset, remember to make back-up copies of all important data stored on the device.

If the problem is still not resolved, contact a Samsung Service Centre.

The battery icon is empty

Your battery is low. Recharge or replace the battery.

The battery does not charge properly (For Samsung-approved chargers)

- Ensure that the charger is connected properly.

- If the battery terminals are dirty, the battery may not charge properly or the device may turn off. Wipe both gold-coloured contacts and try charging the battery again.

- The batteries in some devices are not user-replaceable. To have the battery replaced, visit a Samsung Service Centre.

The battery depletes faster than when first purchased

- When you expose the battery to very cold or very hot temperatures, the useful charge may be reduced.

- Battery consumption increases when you use messaging features or some applications, such as games or the Internet.

- The battery is consumable and the useful charge will get shorter over time.

Your device is hot to the touch

When you use applications that require more power or use applications on your device for an extended period of time, your device may feel hot to the touch. This is normal and should not affect your device's lifespan or performance.

Error messages appear when launching the camera

Your device must have sufficient available memory and battery power to operate the camera application. If you receive error messages when launching the camera, try the following:

- Charge the battery or replace it with a battery that is fully charged.

- Free some memory by transferring files to a computer or deleting files from your device.

- Restart the device. If you are still having trouble with the camera application after trying these tips, contact a Samsung Service Centre.

Photo quality is poorer than the preview

- The quality of your photos may vary, depending on the surroundings and the photography techniques you use.
- If you take photos in dark areas, at night, or indoors, image noise may occur or images may be out of focus.

Error messages appear when opening multimedia files

If you receive error messages or files do not play, when opening multimedia files on your device, try the following:

- Free some memory by transferring files to a computer or deleting files from your device.
- Ensure that the music file is not Digital Rights Management (DRM)-protected. If the file is DRM-protected, ensure that you have the appropriate licence or key to play the file.
- Ensure that your device supports the file type.
- Your device supports photos and videos captured with the device. Photos and videos captured by other devices may not work properly.
- Your device supports multimedia files that are authorised by your network service provider or providers of additional services. Some content circulated on the Internet, such as ringtones, videos, or wallpapers, may not work properly.

Another Bluetooth device is not located

- Ensure that the Bluetooth wireless feature is activated on your device.
- Ensure that the Bluetooth wireless feature is activated on the device you wish to connect to.
- Ensure that your device and the other Bluetooth device are within the maximum Bluetooth range (10 m).

If the tips above do not solve the problem, contact a Samsung Service Centre.

A connection is not established when you connect the device to a computer

- Ensure that the USB cable you are using is compatible with your device.

- Ensure that you have the proper driver installed and updated on your computer.

- If you are a Windows XP user, ensure that you have Windows XP Service Pack 3 or higher installed on your computer.

- Ensure that you have Samsung Kies 2.0 or Windows Media Player 10 or higher installed on your computer.

Your device cannot find your current location

GPS signals may be obstructed in some locations, such as indoors. Set the device to use Wi-Fi or a mobile network to find your current location in these situations.

Data stored on the device has been lost

Always make backup copies of all important data stored on the device. Otherwise, you cannot restore data if it is corrupted or lost. Samsung is not responsible for the loss of data stored on the device.

A small gap appears around the outside of the device case

- This gap is a necessary manufacturing feature and some minor rocking or vibration of parts may occur.

- Over time, friction between parts may cause this gap to expand slightly.

Cleaning the device

Camera lens and display

Use a blower brush to remove dust, and then wipe the lens gently with a soft cloth. If any dust remains, apply lens cleaning liquid to a lens cleaning paper, and wipe gently.
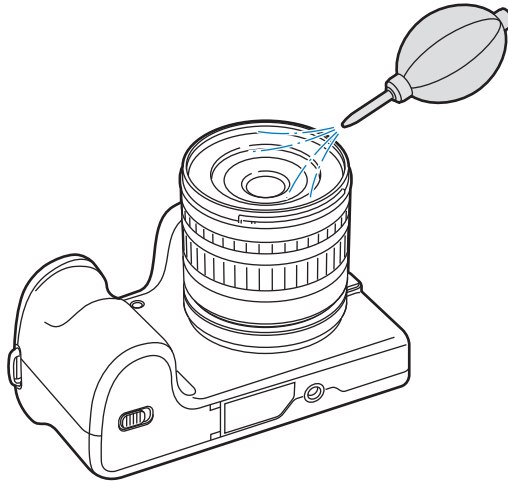

Image sensor

Depending on different shooting conditions, dust may appear in photos because the image sensor is exposed to the external environment. This problem is normal, and the exposure to dust occurs in everyday use of the camera. You can remove dust from the sensor by operating the sensor cleaning function. (p. 99) If dust remains after cleaning the sensor, contact a service centre. Do not insert the blower into the mounting opening of the lens.

Camera body

Wipe gently with a soft, dry cloth.

⚠ Never use benzene, thinners, or alcohol to clean the device. These solutions can damage the device or cause it to malfunction.

Concepts in Photography

Shooting postures

A correct posture for stabilising the camera is necessary for taking a good photo. Even if you hold a camera correctly, the wrong posture can cause the camera to shake. Stand up straight and remain still to maintain a steady base for your camera. When shooting with a slow shutter speed, hold your breath to minimise body movement.

Holding the camera

Hold the camera with your right hand and place you right index finger on the Shutter button. Place your left hand under the lens for support.
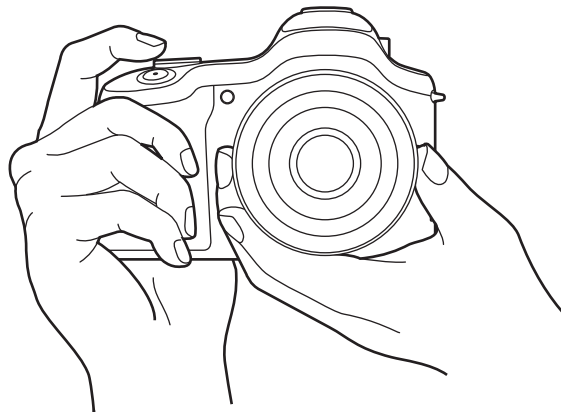
Standing photography

Compose your shot, stand up straight with your feet shoulder-length apart, and keep your elbows pointed down.
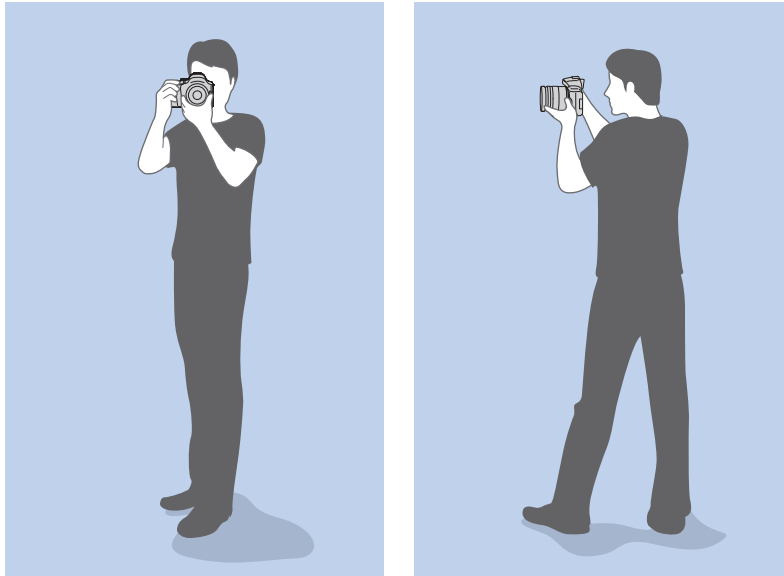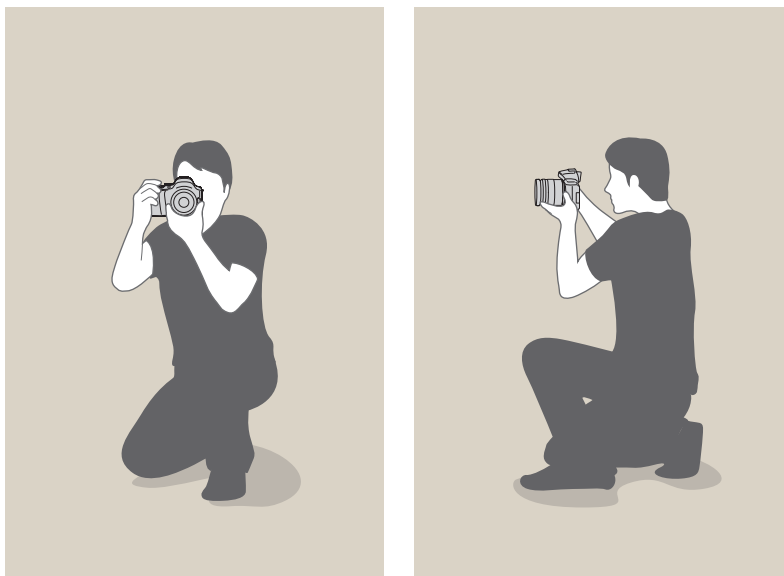

Crouching photography

Compose your shot, crouch with one knee touching the ground, and keep a straight posture.

Aperture

The aperture, a hole that controls the amount of light that enters the camera, is one of the three factors that determine the exposure. The aperture housing contains thin and metal plates that open and close to let light through the aperture and into the camera. The size of the aperture is closely related to the brightness of a photo: the larger the aperture, the brighter the photo; the smaller the aperture, the darker the photo.

Darker photo
(aperture opened slightly)

Brighter photo
(aperture opened wide)

The size of the aperture is represented by a value known as an F-number. The f-number represents the focal length divided by the diameter of the lens. For example, if a lens with a 50 mm focal length has an f-number of F2, the diameter of the aperture is 25 mm. (50 mm/25 mm=F2) The smaller the f-number, the greater the size of the aperture.

The opening in the aperture is described as the exposure value (EV). Increasing the exposure value (+1 EV) means the amount of light doubles. Decreasing the exposure value (-1 EV) means the amount of light halves. You can also use the exposure compensation feature to fine-tune the amount of light by subdividing exposure values into 1/2, 1/3 EV, and so on.

+1 EV   -1 EV

F1.4   F2   F2.8   F4   F5.6   F8

Exposure value steps
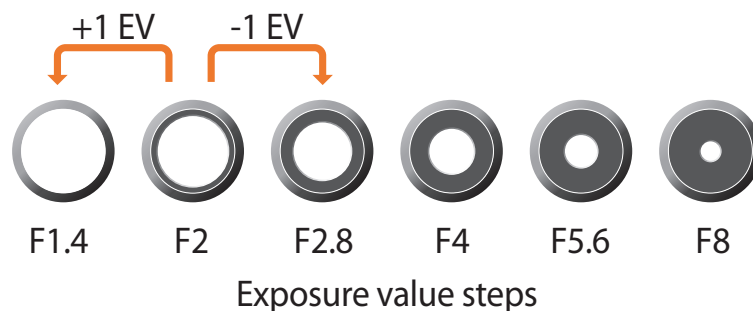
Aperture value and the depth of field

You can blur or sharpen the background of a photo by controlling the aperture. It is closely related to the depth of field (DOF), which can be expressed as small or large.

A photo with a large DOF

A photo with a small DOF

The aperture housing contains several blades. These blades move together and control the amount of light passing through the centre of the aperture. The number of blades also affects the shape of light when shooting night scenes. If an aperture has an even number of blades, light divides into an equal number of sections. If the number of blades is odd, the number of sections is double the number of blades.

For example, an aperture with 8 blades divides light into 8 sections and an aperture with 7 blades into 14 sections.
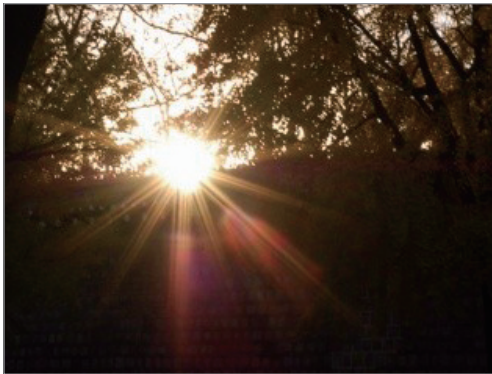
7 blades

8 blades

Shutter speed

Shutter speed refers to the amount of time it takes to open and close the shutter, and it is an important factor in the brightness of a photo, as it controls the amount of light which passes through the aperture before it reaches the image sensor.

Usually, the shutter speed is manually adjustable. The measurement of the shutter speed is the exposure value (EV), which is marked in intervals of 1 s, 1/2 s, 1/4 s, 1/8 s, 1/15 s, 1/1000 s, 1/2000 s, and so on.
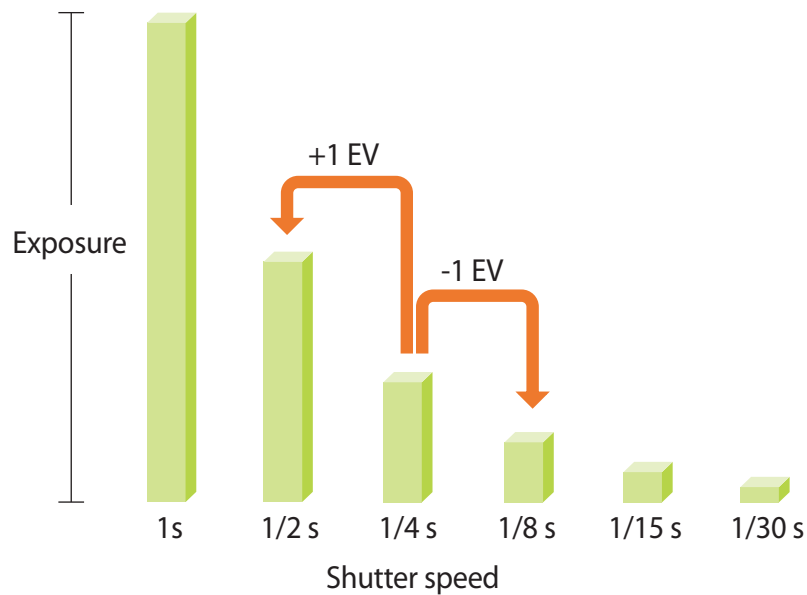
Therefore, the faster the shutter speed, the less light will be let in. Likewise, the slower the shutter speed, the more light will be let in.

As the photos below illustrate, a slow shutter speed allows more time to let light in, so the photo becomes brighter. On the other hand, a fast shutter speed allows less time to let light in and the photo becomes darker and more easily freezes subjects in motion.


0.8 s

0.004 s

ISO sensitivity

The exposure of an image is determined by the sensitivity of the camera. This sensitivity is based on international film standards, known as ISO standards. On digital cameras, this sensitivity rating is used to represent the sensitivity of the digital mechanism that captures the image.

ISO sensitivity doubles as the number doubles. For example, an ISO 200 setting is capable of taking photos at twice the speed of an ISO 100 setting. However, higher ISO settings can result in noise. As a general rule, it is best to use a low ISO setting to prevent noise in your photos, unless you are shooting in darkened environments or at night.
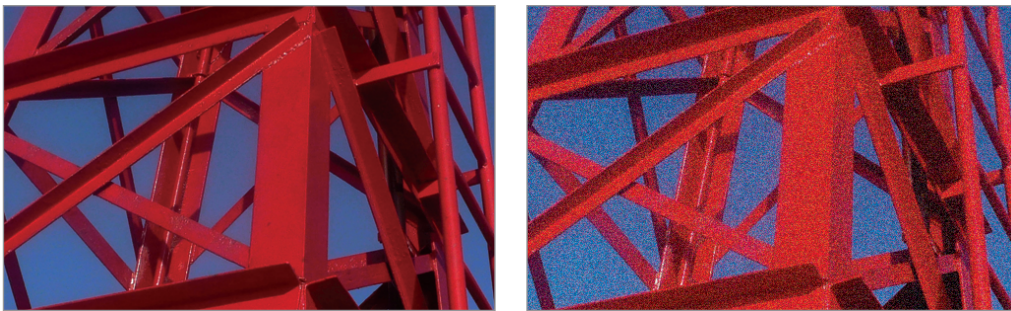
Changes in the quality and brightness according to ISO sensitivity

Because a low ISO sensitivity means the camera will be less sensitive to light, you need more light to have an optimal exposure. When using a low ISO sensitivity, open the aperture more or reduce the shutter speed to allow more light to enter the camera. For example, on a sunny day when light is abundant, a low ISO sensitivity does not require a slow shutter speed. However, in a dark place or at night, a low ISO sensitivity and a slow shutter speed will result in a blurry photo.

A photo taken with a tripod and high ISO sensitivity

A blurred photo with a low ISO sensitivity

How the aperture setting, shutter speed, and ISO sensitivity control exposure

The aperture setting, shutter speed, and ISO sensitivity are closely interconnected in photography. The aperture setting controls the opening that regulates the light that enters the camera, while the shutter speed determines the length of time that light is allowed to enter. ISO sensitivity determines the speed at which the film reacts to light. Together, these three aspects are described as the triangle of exposure.

A change in shutter speed, aperture value, or ISO sensitivity can be offset by adjustments to the others to maintain the amount of light. The results, however, change according to the settings. For example, shutter speed is useful in expressing movement, the aperture can control the depth of field, and the ISO sensitivity can control the graininess of a photo.

Aperture value

Setting	Result
Wide aperture = more light Narrow aperture = less light	Wide = small depth of field Narrow = large depth of field

Shutter speed

| Setting	Result
Fast speed = less light Slow speed = more light	 Fast = still Slow = blurry

ISO sensitivity

Setting	Result
High sensitivity = more sensitive to light Low sensitivity = less sensitive to light	 High = more grainy Low = less grainy

Correlation between focal length, angle, and perspective

Focal length, which is measured in millimetres, is the distance between the middle of the lens to its focal point. It affects the angle and perspective of taken photos. A short focal length translates into a wide angle, which allows you to take wide shots. A long focal length translates into a narrow angle, which allows you to take telephoto shots.

Short focal length

Long focal length

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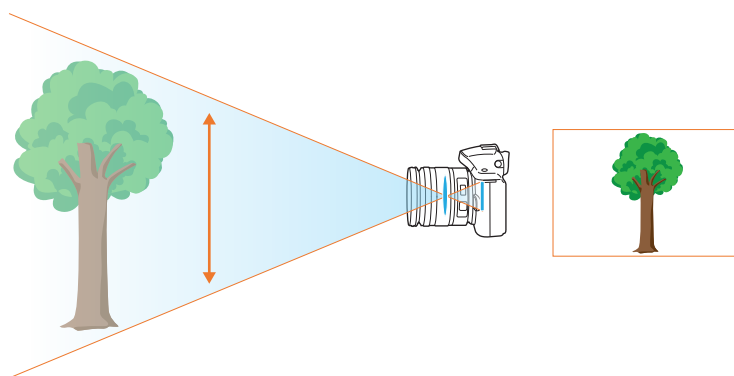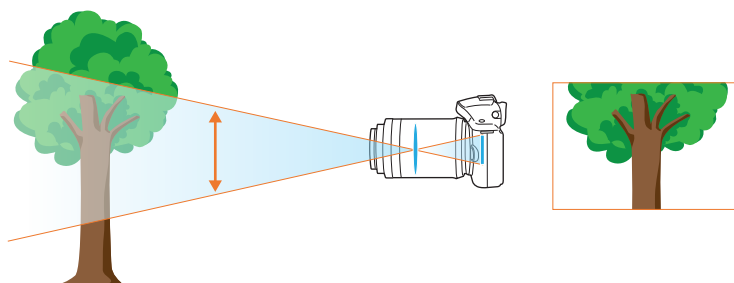
Look at these photos below and compare the changes.

| 20 mm angle | 50 mm angle | 200 mm angle |

Normally, a lens with a wide angle is suitable for shooting landscapes and a lens with a narrow angle is recommended for shooting sports events or portraits.

Depth of field

Portraits or still-life photos mostly acclaimed by people are the ones on which the background is out of focus so the subject looks pronounced. Depending on the focused areas, a photo can be blurred or sharpened. This is called 'a low DOF' or 'a high DOF'.

The depth of field is the focused area around the subject. Therefore, a small DOF signifies that the focused area is narrow and a large DOF means the focused area is wide.

A photo with a small DOF, which stresses the subject and makes the rest of it blurred, can be obtained by using a telescope lens or selecting a low aperture value. Conversely, a photo with a large DOF which shows all the elements on the photo sharply focused can be achieved by using a wide angle lens or selecting a high aperture value.

Small depth of field   Large depth of field

What controls out-of-focus effects?

DOF depends on aperture value

The wider the aperture is (namely the lower the aperture value), the lower the DOF becomes. Under the condition where the other values including the shutter speed and ISO sensitivity are equal, a low aperture value leads to a photo with a low DOF.

50 mm F5.7   50 mm F22

DOF depends on focal length

The longer the focal length is, the lower the DOF gets. A telescope lens with a longer focal length than a wide-angle lens with a short focal length is better to take a photo of a low DOF.

A photo taken with a
20 mm wide-angle lens

A photo taken with a
100 mm telescope lens

DOF depends on the distance between the subject and the camera

The shorter the distance between the subject and the camera is, the lower the DOF gets. Therefore, taking a photo close to a subject can result in a photo of low DOF.

A photo taken with a 100 mm
telescope lens


A photo taken close to the
subject

Composition

It is fun to take a photo of the beauty of world with a camera. No matter how the world is beautiful, however, a poor composition cannot capture the beauty of it.

When it comes to composition, it is very important to prioritise subjects.

Composition in photography means arranging objects in a photo. Usually, abiding by the rule of thirds leads to a good composition.
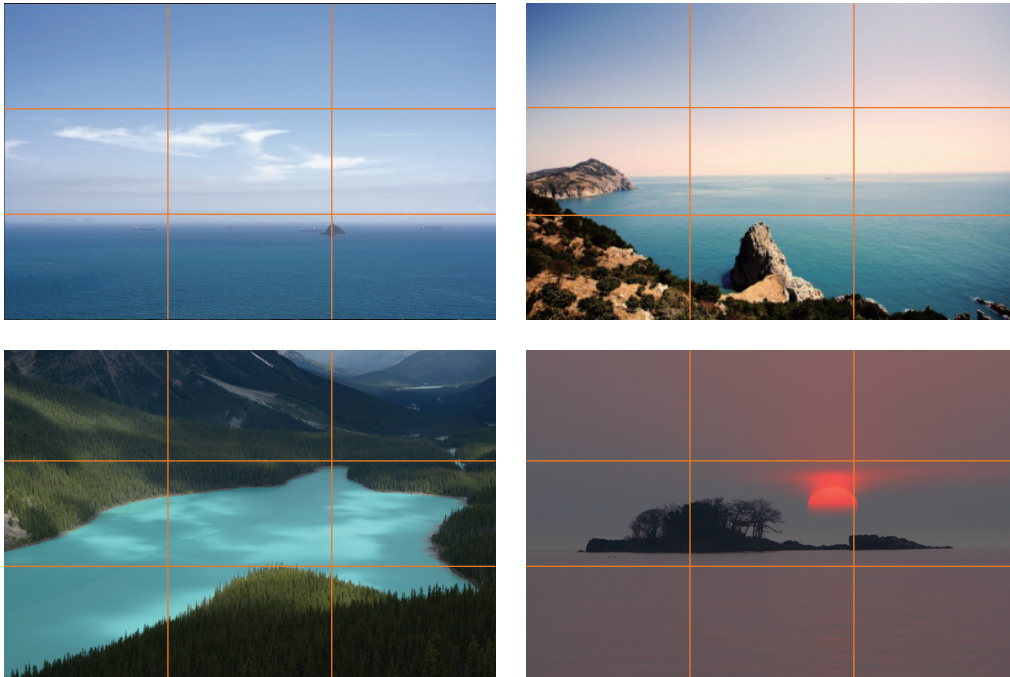
Rule of thirds

To use the rule of thirds, divide the image into a 3x3 pattern of equal rectangles.
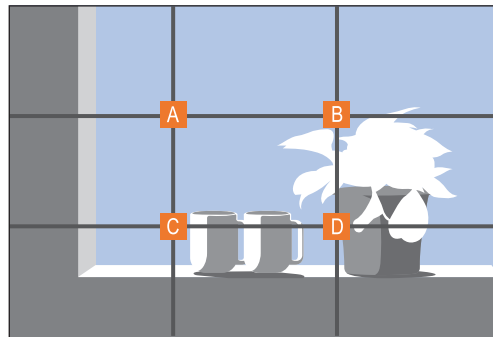
To compose photos that best emphasise the subject, make sure the subject is located at one of the corners of the centre rectangle.

Using the rule of thirds will create photos with stable and compelling compositions. Below are a few examples.

Photos with two subjects

If your subject is in one corner of the photo, it creates an unbalanced composition. You can stabilise the photo by capturing a second subject in the opposite corner to balance the weight of the photo.
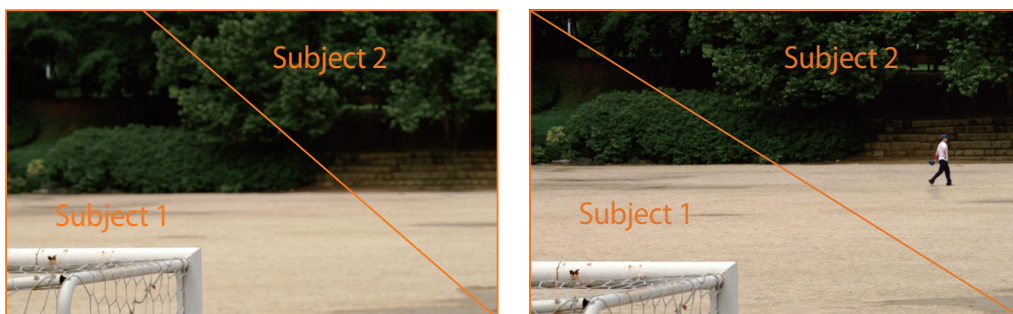
Unstable   Stable

When taking landscape photos, centring the horizon will create an unbalanced effect. Give more weight to the photo by moving the horizon up or down.

Unstable   Stable

Flash

Light is one of the most important components in photography. It's not easy, however, to have an enough amount of light anytime and anywhere. Making use of a flash allows you to optimise light settings and create a variety of effects.

Flash, also known as strobe or speed light, helps to create adequate exposure in low-light conditions. It is also useful in light-abundant situations. For example, flash can be used in compensating the exposure of a subject's shadow or capturing clearly both the subject and the background in backlit conditions.

Before correction   After correction
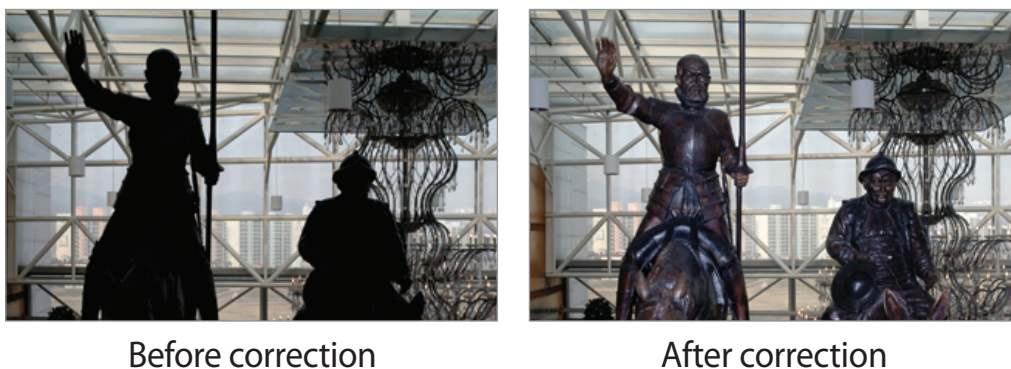
Flash guide number

The model number of a flash refers to the flash's power, and the maximum amount of light created is represented by a value known as a guide number. The bigger the guide number, the more light is emitted from the flash. The guide number is achieved by multiplying the distance from the flash to the subject and the aperture value when the ISO sensitivity is set to 100.

Guide number = Flash to Subject Distance X Aperture value

Aperture value = Guide number / Flash to Subject Distance

Flash to Subject Distance = Guide number / Aperture value

Therefore, if you know the guide number of a flash, you can estimate an optimum flash to subject distance when setting the flash manually. For example, if a flash has a guide number of GN 20 and is 4 metres away from the subject, the optimal aperture value is F5.0.

Bounce photography

Bounce photography refers to the method of bouncing light off of the ceiling or walls so that the light spreads evenly over the subject. Normally, photos taken with flash may appear unnatural and cast shadows. Subjects in photos taken with bounce photography cast no shadows and look smooth due to evenly spread light.

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