Bedienungsanleitung - Produkt 1:

NVIDIA Shield® TV

Get Started

What You Need

Here's what you'll need to start using your NVIDIA SHIELD TV Pro:

1. TV or monitor with HDMI port (HDCP compatible)
2. High-speed HDMI 2.0 cable
3. Internet connection via Wi-Fi or Ethernet
4. A Google account

Set Up NVIDIA SHIELD TV Pro

Here's how to plug in your NVIDIA SHIELD TV Pro and connect your controller:

1. Connect your SHIELD TV Pro to your TV with a certified HDMI 2.0 cable.
    - Make sure your TV or monitor is off, and plug one end of the HDMI cable into the HDMI port on the back of your SHIELD. Plug the other end of the cable into an HDMI port on your TV or receiver.
2. Connect your SHIELD TV Pro to power, using the power cord.
    - Plug one end of the power cable into the back of your SHIELD and plug the other end into a power outlet. SHIELD will automatically power on as you plug it in and you will see the green light turn on. When you are not using it, it will automatically go into sleep mode.
3. OPTIONAL: Connect your SHIELD TV Pro to Ethernet. If you do not use an Ethernet connection, you will have an option during setup to connect to a Wi-Fi network.
4. Turn on your TV and change to the correct HDMI input.
    - If you have trouble finding the correct input, check the label on your HDMI ports on your TV or monitor.

Connecting SHIELD Controller

If you have purchased a new SHIELD TV Pro, the SHIELD Controller is automatically paired with your SHIELD TV device. Simply press the 'A' button  to turn it on.

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Connecting SHIELD Remote

If you have purchased a new SHIELD TV Pro, the NVIDIA SHIELD Remote w/ headphone jack is automatically paired with your SHIELD TV at the factory. or connect it to another USB power source.

Connect to Wi-Fi

From the SHIELD home screen, go to **Network Settings** > **Wi-Fi** and from the list select the network you want to connect to.

SHIELD also supports captive portal, so if your network requires web authentication, SHIELD will bring up the authentication web page and allow you to sign in.

Try these troubleshooting steps if your device won't connect to Wi-Fi.

Check for System Upgrade

System upgrades are pushed to your SHIELD TV directly from NVIDIA. A notification will appear in the **Recommendations** row (the top row of the SHIELD TV Home screen) when an upgrade is available. Simply select this notification and your SHIELD TV will automatically download and apply the update. You can also manually check for updates by going to **Settings** > **About** > **System upgrade**.

Using the Android TV Remote Control App

You need an Android phone or tablet running Android 4.3 or higher to use the Android TV Remote Control app.

You can control your TV through your phone or tablet with the Android TV Remote Control app.

Set Up the Remote Control App

1. Download and install the Android TV Remote Control app on your phone or tablet. You can also search for "Android TV Remote Control" on Google Play.
2. Make sure your phone or tablet is on the same Wi-Fi network as your Android TV.
3. Open the Android TV Remote Control app on your phone or tablet.

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4. In the app, you'll see your Android TV listed. Touch the name.
5. On your TV screen, you'll see a PIN. Enter this PIN on your phone or tablet.
6. Then touch **Pair**.

Use the Remote Control App

You can use the Android TV Remote Control app to navigate your TV screen.

Search

You can also use your remote to search with your voice, by touching the Voice search button .

Keyboard

If you need to type on your Android TV, touch the keyboard at the top of the app to bing up a keyboard. The keyboard may not be supported on all apps.

Remote Layout

You can choose from two layout for your remote:

1. Standard remote layout (D-pad)
    - Touch arrows to move up, down, right, and left on your TV.
    - Touch the center circle to select.
2. Trackpad remote
    - Swipe your mobile device's screen up, down, left or right to navigate on your TV.
    - Touch anywhere on the screen to select.

Using Your TV Remote

If your TV supports HDMI-CEC, you can also use your TV remote to navigate the SHIELD UI and control video playboack.

NOTE HDMI-CEC must be enabled in your TV's settings. Search for your TV manufacturer's name and "HDMI-CEC" to find out what they call it and how to enable it.

Introduction to Android TV

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Basic Layout and Navigation

From the Android TV home screen, you can easily access movies, TV shows, music, apps, games, and settings. To get to the Home screen at any time, press the Home button on your SHIELD remote or on your SHIELD controller.



(1) Recommendations

On the top row of the Home screen, you'll see the recommendations for movies, TV shows, apps, and games. Recommendations are posted by the apps on your SHIELD. They're updated based on the recommendations you've selected in the past.

If you're signed in to these apps on your phone or computer, what you view on these other devices may affect the recommendations on your Android TV if you're using the same account. This includes Google Play apps. You won't be able to manually charge the order of the content.

You can remove recommendations from a specific app by going to **Settings** > **Preferences** > Home screen > **Recommendations** row.

NOTE The recommendations row also shows any software updates available for your SHIELD or accessories.

(2) Apps

Apps can be manually ordered by holding Select on the app in focus and moving to the desired location. You can enable automatic sorting based on usage by enabling **Settings** > **Home screen** > **Apps and games row** > Sort automatically by recent usage.

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(3) Games

Games appears in the third row. Here you will find the NVIDIA Games app 

, which is your portal to discover games on SHIELD. Here you will access Android games, GeForce NOW games, and GameStream games. Also, any game you play on your SHIELD TV will be shown in the **Games** row, whether it was streamed with GameStream, streamed from the cloud with GeForce NOW, or an Android game run natively on SHIELD TV.

(4) Settings

The bottom row contains **Settings** for SHIELD TV.

Search

You can also search on Android TV by navigating to the top of the Home screen and selecting the search icon. You can also initiate Voice search instantly at any time by pressing the NVIDIA button on your SHIELD Controller or by pressing the Voice search button on your SHIELD Remote. Learn more about what you can search for on Android TV.

Using Search

To find what you're looking for on Android TV, or to discover more content, you can start a search. You can also get facts and quick answers through your TV.

Voice Search

On your SHIELD controller or remote:

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1. While you are on the Home screen, pressing the NVIDIA button  (SHIELD controller) or



press the Voice search button (SHIELD remote).

2. Hold your SHIELD Controller or SHIELD Remote in front of you, and say your question. Your search results appear as soon as you finish speaking.



NOTE If you are in a room with a lot of background noise or other people speaking, when you are done speaking immediately press A on your SHIELD controller or Select on your SHIELD remote to submit the voice search. This will stop the voice detection from continuing to listen.

What You Can Search For

Check out the examples below to learn about some of the things you can search for on your Android TV.

Voice search language availability

You can say most of these examples in English, French, German, Italian, Japanese, Korean, Russian, Spanish, and Brazilian Portuguese, but some examples aren't available in every language.

Entertainment

To find a movie, TV show, artist, or song, just say the name:

- "Batman" or "Robin Hood."
- "Ghostbusters" or "Game of Thrones."
- "Billie Jean."
- "Matt Damon" or "Madonna."

You can also:

- Search for content featuring a certain actor. Say: "Show me movies with Meryl Streep."
- Search for a specific genre. Say: "Romantic comedies" or "Football movies."
- Find when movies are playing in theaters. Say: "Show me movies playing nearby" or "Show me movies playing in Hermosa Beach.

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You may also see search results from apps you've installed on your Android TV. These results will show up in a separate row. Some search results will be available in a few different apps. When you select the content, you'll be able to choose the app you'd like to use.

Facts and Quick Answers

- **Find the time:** "What time is it in London?"
- **Check the weather:** "What's the weather in Seattle?"
- **Answer trivia questions:** "What's the population of Romania?" or "How tall is Mount Kilimanjaro?" or "Where was Albert Einstein born?"
- **Solve a math problem:** "What's 34 times 94?"
- **Get sports scores and schedules:** "What's the score of the Jets vs. Broncos game?"
- **Search for photos:** "Show me photos of the Golden Gate Bridge."

What apps show up in search results

You may also see search results from apps you've installed on your Android TV. These results will show up in a separate row. Some search results will be available in a few different apps. When you select the content, you'll be able to choose the app you'd like to use.

Performing a Voice search within an app.

You may also use voice search within many apps. If you initiate a voice search within an app, you will get serach results only from that app.

Block in appropriate or explicit images with SafeSearch

SafeSearch can help you block inappropriate or explicit images from your Google Search results. The SafeSearch filter isn't 100% accurate but it helps you avoid most adult content. Learn more about how SafeSearch works.

Turn SafeSearch on or off

NOTE This only turns on SafeSearch on your Android TV.

1. From Android TV's Home screen, scroll down until you reach **Settings** .
2. Select **Settings** .
3. Under "Preferences," select **Search** .
4. Select **SafeSearch filter** .

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5. Select **On** or **Off**.

For help with the Android TV OS, please visit Google's support site at https://support.google.com/androidtv/#topic=6121147.

Sleep Now or Restart

Sleep Now

SHIELD TV will automatically go to sleep after the time period:

1. On the SHIELD TV Home screen, select **Settings** .
2. Under "Device," select **Screen saver**.
3. Select **When to start**.
4. Select one of the options.

Restart

To restart:



1. On the SHIELD TV Home screen, select **Power** and "Restart."
2. If this is unsuccessful, you can also unplug the power cord, wait 10 seconds, and then plug the power cord back in.

Sleep Timing and Screen saver

You can set up a screen saver for your SHIELD TV that displays photos and colorful designs. Daydream uses a collection of scenic photos.

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Choose Your Screen saver

1. On the SHIELD TV Home screen, select **Settings** .
2. Under "Device," select **Screen saver** .
3. Select **Screen saver** again.
4. Choose from the available options.

Set Wait Time for Screen saver

You can choose how long it takes for your screen saver to start when not using your SHIELD TV:

1. On the SHIELD TV Home screen, select **Settings** .
2. Under "Device," select **Screen saver** .
3. Select **Put device to sleep**.
4. Select one of the options.

Add Bluetooth Accessories

You can use Bluetooth accessories, such as a wireless keyboard, mouse or game controller with your SHIELD TV.

To add a Bluetooth accessory:

1. On the SHIELD TV Home screen, select **Settings** .
2. Under **Remote & accessories**, select **Add accessory** . You SHIELD will search for Bluetooth accessories within range.
3. Put your accessory in connecting mode.
4. You'll see your accessory listed on the TV screen. Select your accessory.
5. Your SHIELD TV will connect with your accessory.

Trouble Adding Bluetooth Accessory

Try these troubleshooting steps if your Bluetooth accessory won't connect.

Change Wi-Fi Network

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You will connect to the Internet as part of your SHIELD TV setup. You can always change the Wi-Fi network your SHIELD TV is using.

To change your Wi-Fi network:

1. On the SHIELD TV Home screen, select **Network Settings** .
2. Select **Wi-Fi**.
3. You'll see a list of available networks.
4. Select a network and follow the on-screen instructions to connect.
    - If you don't see your network listed, scroll to the bottom of the screen and select **Add new network**. Follow the on-screen instructions to connect.

What is my MAC Address?

To view your MAC address after setup, go to **Settings** > **Device** > **About** > **Status** > **MAC address**.

Trouble Connecting to Wi-Fi

Try these troubleshooting steps if your device won't connect to Wi-Fi.

4K HDR Display Setup

Your SHIELD TV supports 4K Ultra HD (3840 x 2160p) resolution content when available from the applications of your choice.

To ensure that your SHIELD TV is optimized for 4K video output, keep your device updated with the latest system software.

Watching 4K content from SHIELD TV requires a 4K display with HDMI 2.0 and HDCP 2.2 support. Make sure SHIELD TV is connected to an HDMI input that supports HDCP 2.2. Consult your 4K display's user guide to find the correct HDMI port to plug SHIELD TV into for watching 4K content.



NOTE Most 4K streaming content requires HDCP 2.2 compatible ports. See your 4K display's user guide for further details.

SHIELD TV also supports content rendered with 4:4:4, and 4:2:0 chroma subsampling frequency ratios.

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Many receivers come with HDMI-ARC, HDMI-MHL, and HDMI-UHD ports.

Consider using the HDMI-UHD port for 4K support. Some TVs by default have UHD input disabled in TV settings, so please make sure that UHD is enabled in the settings for your TV for this input.

How to Enable HDR on Your TV

Most HDR TVs do not have HDR output enabled by default for HDMI. To enable HDR output from SHIELD, refer to your TV owner's manual. Here are the settings for some of the common TVs:

- **Samsung HDR TVs**: Menu > Picture > Picture Options > HDMI UHD Color > On > Restart
- **LG HDR TVs**: Home > HDMI > Settings > Advanced > Picture > HDMI ULTRA DEEP COLOR > On > Restart
- **Sony HDR TVs**: Home > Settings > External inputs > HDMI signal format > HDMI [select the SHIELD input] > Enhanced mode (TV will reboot)

Watching Netflix 4K or HDR

To watch Netflix shows in 4K or HDR, you may need to upgrade your Netflix service account to the "4 screen plan." Consult Netlfix's article on their latest requirements to stream 4K or HDR content. http://help.netflix.com/en/node/42384

AVR / Surround Audio Setup

For Dolby & DTS 5.1, SHIELD TV supports Dolby Digital (AC3), Dolby Digital Plus (E-AC3), Dolby ATMOS, Dolby TrueHD, DTS:X, and DTS Core Audio Streams in pass-through mode. So, in order to use Surround Sound, use an AV receiver or HDMI TV that's capable of decoding these audio streams.

NOTE If your receiver or HDMI TV does not have the capability to decode the streams, then there may not be any audio.

NOTE Make sure your receiver has been updated with the latest firmware. In some cases, this can resolve compatibility or audio/video issues.

(I)

1. Connect your SHIELD TV to a receiver with an HDMI cable.
2. Plug another HDMI cable from your receiver's HDMI OUT port to the TV.

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NOTE If you have a 4K or HDR TV, you must attach HDMI 2.0 compatible cables between both the SHIELD and the AVR and between the AVR and the display. Your AVR must also be compatible with HDMI 2.0 (HDCP 2.2) signal.

(II)

1. Connect your SHIELD TV to a TV with an HDMI cable.
2. Plug an SPDIF (optical) cable from the TV to the receiver.

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Netflix 5.1 Surround Sound

Netflix 5.1 requires EAC3 pass-through (which SHIELD supports). However, many TVs don't support EAC3 pass-through (only AC3).

You will get Netflix 5.1 if your TV or receiver supports EAC3.

Here are the valid HDMI routing options for Netflix 5.1 surround sound:

1. **SHIELD** > **Receiver** > **TV**
    - In this configuration, the TV does not have to support EAC3 pass-through. However, your receiver needs to support EAC3 decode. Most do.
2. **SHIELD** > **TV**
    - In this configuration, the TV will need to support EAC3 pass-through or EAC3 decode via its HDMI input port.

Block Apps from Appearing in Recommendations

You can stop specific apps from appearing in the recommendations row at the top of the SHIELD TV Home screen. You can do this by turning off notifications from that app, or uninstalling the app.

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Turn Recommendations On or Off

If you don't want an app appearing in the top row of the SHIELD TV Home screen, you can turn off notifications for the app. Here's how:

1. On the SHIELD TV Home screen, select **Settings** .
2. Under "Preferences," select **Home screen** > **Recommendations** row.
3. Select the apps you would like to receive recommendations for.

If you decide to unblock an app that was previously blocked, it may take a few minutes for the app to reappear on your Home screen.

Uninstall an App

To uninstall an app:

1. On the SHIELD TV Home screen, highlight the app you would like to uninstall and hold the select or button.
2. Press down on the D-pad and your app tile will hover over the "Uninstall" icon.
3. Press select again to uninstall the app.

Enable SHIELD to Turn on and off your TV

If your TV supports HDMI-CEC **one touch play**, it can be enabled in SHIELD TV **Display & Sound** > **Power control** > **CEC TV On** settings to turn on your TV and switch to the input that SHIELD TV is on whenever your SHIELD wakes up or you press a button on your SHIELD Controller or Remote.

Your TV can also be configured to sleep when your SHIELD is turned off by enabling the **Display & Sound** > **Power control > CEC TV Off** switch.

NOTE Most TVs have HDMI-CEC "turn TV off" disabled in the TV settings menu. HDMI-CEC (One Touch Play and TV off) must be enabled in your TV's settings. Search for your TV manufacturer's name and HDMI-CEC to find out what they call it and how to enable it.

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AV Sync

Use of an AV Receiver with HDMI for video may result in audio lagging behind video. First try using the receiver AV sync settings to calibrate. If this does not work, use the AV sync slider utility in **Settings** > **Display & sound** > **Advanced settings** > **Audio video sync** to calibrate for any audio delay. The AV sync slider allows you to advance audio by 1 second (in small increments of 10ms) to synchronize the audio and video.

Note that this tool is effective only when SHIELD is connected to your AV Receiver over HDMI (i.e. audio/video over HDMI); it is not meant to be used when a headset is plugged into SHIELD Controller/SHIELD Remote or USB audio device or Bluetooth audio device.

If video lags behind audio (i.e. audio is ahead of video) then use your AV receiver's settings to delay audio.

Adjust for Overscan

For TVs that don't provide their own overscan settings, use this setting to adjust the picture size to fit the screen.

Go to **Settings** > **Display & Sound** > **Advanced Settings** > **Adjust for overscan** to resize the picture on your TV or display. Use the UP and DOWN d-pad buttons on your remote or controller to maximize the picture on your TV. Make sure the green triangles are completely visible to avoid overscan.

About SHIELD Screen

Details about serial, software and firmware version numbers can be found in your SHIELD TV **About** screen.

To access this information, from the SHIELD TV screen, go to **Settings**, and under "Device," select **About**.

It is also possible to manually apply system updates by selecting "System upgrade."

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How to Change the Account on your SHIELD

You'll sign in to your Google account as part of your SHIELD TV setup. You need a Google account to get the most out of SHIELD TV. You can only have one Google account signed in on your SHIELD TV at a time.

The Google account on your device is used for: Google Play Store, Google Play Movies & TV, Google Play Games, and YouTube.

Remove the Current Google Account

To remove the current account:

1. On the SHIELD TV Home screen, select **Settings** .
2. Under "Accounts," select your Google account email address.
3. Select **Remove account**  .
4. Select **OK**. Your account will be removed.

Add New Google Account

Now that the original account is removed, you can add the new account.

1. On the SHIELD TV Home screen, select **Settings** .
2. Under "Personal," select **Add account**.
3. Enter your email address and password. Your account is now added.

Set Up and Use Restricted Profiles

You can also add an account that restricts access to certain applications.

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To add a restricted profile, follow these steps:

1. On the SHIELD TV Home screen, select **Settings** .
2. Under "Personal," select **Security & restrictions** .
3. Select **Restricted Profile** > **Create restricted user**.
4. Create a 4-digit PIN of your choice when prompted.
5. You will then see a list of **Allowed apps** which you can allow or revoke access to.
6. Select the application and set the restriction to either "Allowed" or "Not allowed." Downloaded applications are set to "Not allowed" by default.
7. Press to return to the **Restricted Profile** screen.
8. To activate the restricted profile on your SHIELD TV, select "Enter restricted profile."
9. To exit your restricted profile, from the SHIELD TV Home screen, select **Restricted Profile** > "Exit restricted profile." You will be prompted for your PIN.

Reset SHIELD

Reset to Factory Settings

NOTE By performing a factory data reset, all data will be wiped from your SHIELD. Data associated with your Google account can be recovered. Any device settings will also be removed. Factory data reset could take from 50-70 minutes to complete.

NOTE For the SHIELD Pro model, full reset will take up to 2 hours. All personal data will be erased from the 500 GB hard drive. You will also have the options to perform a fast reset.

Reset Through Settings

To reset your SHIELD TV to factory settings, follow these steps:

1. From the Home screen, scroll down and select **Settings** .
2. Under "Device," find and select **Storage & reset** .
3. Select **Factory data reset**.
4. Then select **Factory data reset** again.
5. Then select **Erase everything** to confirm and reset your device.

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Reinstall Apps and Games After Resetting your SHIELD

After you reset your SHIELD TV to factory settings, you need to reinstall any apps or games.

1. Go to the Google Play Store app .
2. Find the app or game, and select it.
    - In the window that opens, select **Install**.

How to Use Headphones and Headsets with Your Controller

Your SHIELD Controller supports headphones and headsets.

Plug the headphones (3-pin) or headset (4-pin) into the 3.5-mm jack on the bottom of the controller. When headphones are used, the internal microphone on the controller is available for voice search and chat. When a headset is used, the headset microphone is used for voice search and chat.

The headset jack provides independent volume control from your Android device and maintains your previous headset volume level the next time you use your headset.

How to Use Headphones with Your Remote

Your remote supports headphones and headsets.

Plug the headphones (3-pin) or headset (4-pin) into the 3.5-mm jack on the back of the remote. When headphones are used, the internal microphone on the remote is available for voice search and chat. When a headset is used, the headset microphone is used for voice search and chat.

USB Audio Setup

For high-resolution audio, your SHIELD TV supports USB-powered devices such as a DAC. SHIELD TV will play audio sampled at the highest sample rate of 192 kHz and a bit depth of 24-bits as long as it is supported by the USB DAC.

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USB Cable

1. Connect the DAC to SHIELD TV with the USB cable supplied with the DAC.
2. Connect the analog audio output ports on your DAC to an AV receiver or speaker system.

Optical Cable

1. Connect the optical output port on your TV to the optical input port on your DAC.
2. Connect the analog audio output ports on your DAC to an AV receiver or speaker system.
3. Connect the USB input port to an external AC power supply.

How to Use a Micro SD Card

SD Cards are small memory cards that you can read, write, and delete data on. They are available in three sizes: standard SD, mini SD, and micro SD (or *microSD*). SHIELD has a slot on the back of the device for a *microSD* card. The card can be loaded with music, pictures, and videos as well as game and app files to free-up space on the SHIELD's internal storage drive.

Make sure to use a *microSD* card with a Class 10 speed rating or higher. Slower SD cards will result in lower performance in apps and games.

To access the *micro*SD card on your SHIELD, go to **Settings** > **Device** > **Storage & reset** and scroll down to **SD CARD**.

To learn how to increase your internal storage for apps and games with an SD card, see How to Increase Your Storage

How to Use USB Storage Devices

You can attach external hard drives using the two USB 3.0 ports, which are compatible with all external hard drives and USB flash drives. Note that unless drives are adopted as internal storage, they can't be used for app or game storage. Simply plug the USB storage device of your choice into the port for automatic functionality. No additional formatting or setup is required. Your SHIELD TV's USB 3.0 interface is compatible with the FAT32, exFAT, and HFS+ file systems. SHIELD TV does not support the NTFS file system.

To access the USB storage drive on your SHIELD TV, go to Settings > Device > Storage & reset and scroll down to USB Storage

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Preparing the usb storage

- **FAT32 (32 GB or less)** - SHIELD TV supports the FAT32 data format. Most drives that are 32 GB or less are already formatted as FAT32. If the storage drive is not formatted, format it to FAT32, using your PC or Mac computer. The limitation of using drives of this capacity is that your SHIELD TV will be unable to process files that are more than 4 GB in size.
- **exFAT (64 GB or more)** - SHIELD TV supports the exFAT data format. Storage drives that are 64 GB and above come pre-formatted as exFAT. This newer data format is able to process files that are more than 4 GB in size.

How to Add Network Storage

Your SHIELD TV device can add Network Addressable Storage (NAS) devices. This can be useful if you have a large amount of personal media shared on a network you would like to access on your SHIELD TV (e.g., PLEX Media Server)

To add a NAS,

1. Under **Settings**  > **Device** > **Storage & reset**, select "**Network storage**."
2. Any network discoverable drives will be located under "Available Network Storage."
3. If your NAS is hidden or does not broadcast, you can select "manually add a network storage."

4. Audio Routing Policy

5. If you have multiple audio output or audio input devices connected to SHIELD TV at the same time, the following table summarizes the priority that each audio device type is assigned.
6.

Priority	Voice Search Device	Standard Input Device	Output Device
1	SHIELD Remote with headphone jack	Wired headset	Wired headset
2	BT-SCO headset	BT-SCO headset	BT-SCO headset
3	Wired headset	SHIELD Controller with headset	SHIELD Controller headset
4	SHIELD Controller with or without headset	USB headset	USB headset
5	USB headset/webcam	SHIELD Controller without headset	USB headphone

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6	Built-in mic	USB webcam	Wired headphone
7		Built-in mic	BT headphone / SHIELD Remote headset
8			HDMI
9			Built-in speaker

Webcam Setup for Chat

You can plug a USB HD webcam into one of your SHIELD USB 3.0 ports for video chatting and broadcasting in applications like Twitch. SHIELD supports USB webcams that are UVC-compliant and support Android. The latest Logitech webcams meet these requirements. For the best experience, a Logitech C920 or better is recommended.

Video Projector Setup

Your SHIELD can also output to a video projector with the following steps:

1. Power on the video projector.
2. Connect SHIELD to the HDMI or VGA input port (via HDMI-to-VGA dongle) on the video projector.
3. For video projectors that automatically detect input sources, you should see video on the projector screen within seconds. If your video projector does not automatically detect your SHIELD as a video input source, refer to the video projector's native controls interface to switch input source to the video input port that your SHIELD is plugged into.

Desktop Display and USB Input Setup

To use an HD desktop display with wired USB keyboard and mouse with SHIELD:

1. Connect your SHIELD to an HDMI input port on your desktop display.
2. Connect your wired USB keyboard and mouse to the USB input ports on your SHIELD.

Adjusting Resolution and Refresh Rate

NVIDIA recommends users to keep the default setting for the best overall experience.

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Go to **Settings** > **Display & Resolution** > **Resolution** to change the resolution or refresh rate of your display.

NOTE If you choose a refresh rate other than 60Hz, you will experience slow performance in applications that support 60Hz (Android TV home page, games, and 60Hz videos).

Adjusting Visual Dynamic Range

By default, this is set to Auto. If you would like to modify the dynamic range of your SHIELD video output, you can set this by going to **Settings** > **Display and sound** > **Dynamic range**.

NOTE Setting may only be modified if Video color space is set to RGB.

Color Space and HDR

SHIELD TV will select the recommended color space automatically. If you prefer a different setting that your TV supports, you may select this by going to **Settings** > **Display and sound** > **Color space**

If you have an HDR10 compatible TV or display and would like to view HDR content, this must be set to "YCbCr 4:2:0 10-bit Rec. 2020"

NOTE If you connect your SHIELD to your HDR TV through an AV receiver, verify that it supports HDMI 2.0 with HDCP 2.2 and make sure it has the latest firmware applied to ensure quality and compatibility.

Logitech Harmony Remote Setup

You can also use a Logitech Harmony to control basic functions for your SHIELD, which include basic menu navigation and media player functions.

To set up a Logitech Harmony remote on SHIELD:

1. Install the setup software for the specific model of your remote and follow the setup instructions.
2. During setup, when prompted, select **Add a device**.
3. For the **Make** and **Model** of your SHIELD, specify "NVIDIA" and "SHIELD," respectively.
4. Complete the remainder of the Logitech setup software instructions. Your SHIELD will appear as "NVIDIA STB" in your **Entertainment** device list.

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5. When finished with setup, you can control your SHIELD with the remote

How to Transfer Content to SHIELD

From a PC, you can access internal and USB attached storage on your SHIELD TV.

Direct USB

To transfer content to your SHIELD:

1. Connect your SHIELD to a computer using the supplied micro USB cable plugged into the micro USB port on your SHIELD.
2. Use a file explorer on your PC to identify your SHIELD device and click on your SHIELD device name.



NOTE For convenience, ensure that the type of content you copy from your computer to your SHIELD matches the folder name. For example, copy movie files to the "Movies" folder and music files to the "Music" folder.

Over Local Network

Your SHIELD TV can become discoverable as a network addressable device.

1. Under **Settings** > **Device** > **Storage & reset**, select "Over Local Network."
2. The following page will have the information needed to log into your SHIELD TV to transfer files in and out of your storage.

Control Volume from TV, AV Receiver or Soundbar

By default, volume control will adjust the output volume from your SHIELD TV. If you control your volume on another device (e.g., TV, AV receiver, soundbar), you can configure your SHIELD Remote or Controller to directly control those devices.

If your audio device supports HDMI-CEC volume control, we recommend turning on CEC control in **Settings** > **Display & Sound** > **Volume control**. If your audio device cannot be controlled by CEC, you may still use the Remote's IR emitter using the **Configure IR** setting.

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NOTE Once this is configured, your SHIELD Remote and SHIELD Controller volume will adjust your TV, AVR or soundbar directly.

Settings

User profile

Log into your NVIDIA account to get access to GeForce NOW or GameStream. If you are currently logged in, you will display your NVIDIA account name.

Billing

Add payment information here. Billing information is used to renew your GeForce NOW monthly subscriptions, as well as purchasing new games on the GeForce NOW service.

Parental controls

Enable age-appropriate filtering for games displayed in NVIDIA games.

GeForce NOW

Edit GeForce NOW server and streaming configuration settings.

GameStream PC

Edit server and streaming quality configuration settings.

Google Cast

Your SHIELD can also utilize Google Cast technology for casting your entertainment media from your phone, tablet, laptop, or SHIELD portable straight to the big screen. Both iOS and Android devices support Google Cast.

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Google Cast effectively turns your phone or other portable device into a personalized remote control to browse, play, pause, rewind, control volume and even create playlists. App switching is also possible while watching your media on the TV.

Cast to SHIELD

1. Ensure that both your casting source (smartphone, tablet, laptop, etc.) and the SHIELD are connected to the same network.
2. On your source device, open a Google Cast-enabled application such as YouTube.
3. Touch or click the Cast icon .
4. Choose the Android TV you'd like to cast to. In this case, select 'SHIELD.'
5. Press Play on your phone or tablet. The content should start playing on you Android TV, and the Cast icon on your device will be filled in .

Apps That Work With Casting

- YouTube
- Netflix
- Google Play Movies & TV
- Google Play Music
- Google+ Photos
- Other apps

Supported apps vary by country. For more information about available apps in your country, visit g.co/castapps.

Mirror Casting to SHIELD

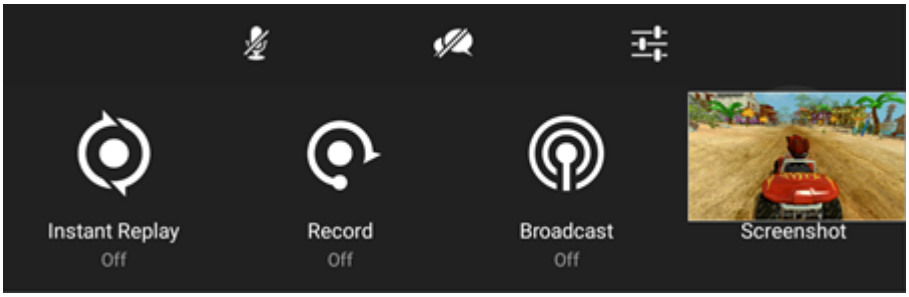
SHIELD also supports mirror casting from select Android devices. To learn which devices are supported and for instructions on how to mirror your screen to SHIELD, visit https://support.google.com/googlecast/?hl=en#topic=6102922.

SHARE

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Sharing your gameplay is easy with NVIDIA Share and Twitch broadcasting. With NVIDIA Share, you can save and record video and screenshots you can share with your friends. Share can even record several minutes of gameplay in the background so you won't miss any exciting gaming moments. NVIDIA Share also lets you live stream your gameplay to Twitch.

NVIDIA Share Menu



1. Launch the game you want to share.
2. On your SHIELD Controller, press and hold the Home button. Your game will pause and bring up the share menu:

3. Select the **Instant Replay** option to enable recording of the last 5 minutes of your game play.
4. Press the Back button again to return to game play. Your game is now being recorded.
5. Once you are ready to share your game play, press and hold the Home button to re-enter the share menu. Selecting the **Auto Record** option this time will open options to either **Save**, **Save and share** or **Stop** your recording.
6. You can also use the **Record** option if you want to record more than just the last five minutes of game play.
7. To take a screenshot of the action at any time, select the **Screenshot** option to save a screenshot to your device.

All videos and screenshots are saved by default in the "Photos and Videos" app.

Broadcast to Twitch

1. Launch the game you want to broadcast.
2. On your controller, press and hold the Home button. Your game will pause and bring up the share menu:

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3. Select the **Broadcast** option in the menu to begin streaming to Twitch. If you haven't already logged in with your Twitch account details, you will be prompted here.

Share Menu Settings

On the top row of the Share menu, the Share settings  button allows you to change a number of settings to optimize your sharing experience.

- **Twitch settings** - Change settings that are specific to Twitch broadcasting.
- **Change Quality** - Adjusts the video quality of recorded content.
- **Instant Replay last** - Adjust replay duration to up to 20 minutes of gametime.
- **Status** - Toggle the displayed info on the HUD while recording, which includes microphone ON/OFF status, record icon, video resolution, frame rate and bit rate.
- **Auto record last** - The maximum length of the recorded game play allowed when auto-recording game play.
- **Mic volume** - Move the slider to adjust mic volume.
- **Adjust layout** - Customize UI that is displayed on screen when broadcasting.

GeForce NOW

From the "SHIELD Hub" row of the Home screen, launch 

to access **GeForce NOW** for immediate access to more than 50 popular PC games from NVIDIA cloud gaming supercomputers to your SHIELD at up to 1080p video resolution and 60 frames per second. You can even purchase newly released games from the store.

NOTE To stream games at 720p resolution and 30 frames per second, you need a broadband minimum download speed of 5 Mbps (10 Mbps recommended). To stream games at 1080p resolution and 60 frames per second, you need a broadband minimum download speed of 30 Mbps (50 Mbps recommended). Ethernet connectivity is recommended for the best experience.

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NOTE Navigate through **Geforce NOW** using the D-pad or left thumbstick on the game controller.

LOGIN

When you launch **NVIDIA GeForce NOW** for the first time, you will be prompted to log in. You have two options for logging in: (1) By creating an NVIDIA account or (2) Logging in with the Gmail account that is associated with your SHIELD.

NVIDIA GeForce NOW

Settings lets you edit GeForce NOW account information, test your broadband connection and specify preferred **Frame rate** and **Max resolution** in "Streaming quality."

Using On-Screen Controls

On-screen controls provide users with additional controls necessary to navigate some GeForce NOW games. To access the on-screen controls, long-press the Start button.

The on-screen controls will bring up a menu screen with three options: Keyboard, Quit, and three-dot menu.

If you need to input information into a dialog, use the "Keyboard" selection. If you want to quit the game, select "Quit game."

Most of the navigation options are straightforward. Clicking the three-dot menu > Help will display the full list of available functions.

Troubleshooting PC GameStreaming

If you are experiencing issues with streaming games from your PC to SHIELD TV, try these troubleshooting options:

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General Troubleshooting Issues

Not all games have been optimized for PC game streaming to SHIELD TV. Verify the game you are trying to play is on the list of supported games. It is also recommended that you launch the game at least once on your PC BEFORE launching on SHIELD TV. Doing this ensure that all of the prerequisites (VC Redirects, DirectX, et al) and the set-up of all DRM features (Games for Windows et al) are completed.

Make sure your PC meets the minimum requirements for streaming.

The requirements for PC Game streaming are very specific. Make sure your GeForce GTX PC meets these requirements and that you have proper drivers and software. See the list of system requirements or go to the **My Rig** tab in GeForce Experience to confirm that your PC meets the system requirements.

Check Windows and wireless router firewall settings.

Make sure that streaming is not being blocked by a firewall; either from the computer or wireless router. You can either temporarily disable the firewall or add an exception to allow the traffic. You can access Windows Firewall settings through the Control Panel on your PC. For information on other software firewalls or firewalls built into your router, refer to those products' manufacturers.

Check SHIELD Wi-Fi setting.

Make sure that the Wi-Fi setting on your SHIELD TV is turned **ON** (go to **Settings** > **Wi-Fi**). Check to make sure SHIELD TV has successfully connected to the network. Try resetting the Wi-Fi option by turning it OFF and then back ON. Try resetting your wireless access point connection by disconnecting and re-connecting.

Check the internet connection.

Check whether or not you are able to access the Internet on SHIELD TV and the PC. Try resetting your wireless access point connection if you cannot connect.

Specific Troubleshooting Issues

If SHIELD TV displays **No available GeForce GTX PCs found**, when scanning for available PCs, try the following:

- Does the PC meet the minimum System Requirements?
- Are your firewall interfering or disabling the connection?
- Is your PC powered on? Are you logged in to your PC?

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If any of these checks did not fix the issue, try rebooting both SHIELD TV and your PC, and logging out and logging back into NVIDIA Games and GeForce Experience.

Troubleshooting SHIELD

Before using this troubleshooting guide, make sure that your SHIELD is updated with the latest system update, available automatically if your SHIELD is connected to the Internet.

If you are unable to resolve the issues you are having with the troubleshooting steps in this guide, you may find a resolution in the GeForce Experience Forums > **SHIELD** section.

If you are still unable to resolve the issues you are having, please contact NVIDIA support.

Connecting and Accessory Issues

My SHIELD remote won't connect with SHIELD.

If your SHIELD remote won't connect with your SHIELD, follow these instructions to connect SHIELD remote.

If SHIELD remote is charged and still does not connect, restart SHIELD and repeat the instructions.

If SHIELD remote still does not connect , follow these steps.

You can also learn how to setup and use the SHIELD remote for the first time.



1. On the SHIELD Home screen, select **SHIELD accessories** .
2. Select "Forget all accessories" > "OK."
3. Repeat the instructions to connect SHIELD remote and your other accessories.

If these steps don't fix the issues, please contact NVIDIA support.

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My SHIELD remote fails to apply a software update.

If your SHIELD remote fails to apply a software update, your SHIELD remote battery may need to be charged. Charge your SHIELD remote until the battery is sufficiently charged. To check to see if your SHIELD remote is sufficiently charged, from the SHIELD Home screen, select **SHIELD accessories**  and look for "SHIELD remote" in the list. If it has the message "Battery: Good" underneath it, then your SHIELD remote is sufficiently charged to receive a software update.

My SHIELD controller won't connect with SHIELD.

If your SHIELD controller won't connect with your SHIELD, follow these instructions to connect SHIELD controller.

If SHIELD controller is charged and still does not connect, restart SHIELD and repeat the instructions.

If SHIELD controller still does not connect, follow these steps:

You can also learn how to set up and use the SHIELD controller for SHIELD for the first time.

1. On the SHIELD Home screen, select **SHIELD accessories**  .
2. Select "Forget all accessories" > "OK."
3. Repeat the instructions to connect SHIELD controller and your other accessories..

If these steps don't fix the issues, please contact NVIDIA support.

My SHIELD controller fails to apply a software update.

If your controller fails to apply a software update, your controller battery may need to be charged. Charge your controller until the battery is sufficiently charged. To check to see if your controller is sufficiently charged, from the SHIELD Home screen, select **SHIELD accessories**

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 and look for "SHIELD controller" in the list. If it has the message "Battery: Good" underneath it, then your controller is sufficiently charged to receive a software update.

My Bluetooth accessory won't connect with SHIELD.

If your Bluetooth accessory won't connect with your SHIELD, try the troubleshooting steps below. Try to connect your Bluetooth accessory after each step.

1. Turn your Bluetooth device off, then turn it back on.
2. Restart your SHIELD.

NOTE Connecting file transfer Bluetooth devices such as smartphones, tablets and laptops to SHIELD is not supported.

My SHIELD controller does not power on after charging it.

If your controller is not turning on after charging it, follow these steps:

1. Hold the NVIDIA button for 20 seconds and release.
2. Tap the NVIDIA button.

Audio & Video Issues

I'm not hearing any sound.

If there's no sound when you're using your SHIELD, try the troubleshooting steps below. Try playing a video or song after each step to see if your sound is working.

- If you are using a monitor, check that your monitor has an audio output. Many monitors do not have audio output, and require headphones or speakers.
- Check that your TV's sound or AV receiver isn't muted.
- Check that Android volume isn't muted. Press the '+' volume button on your SHIELD controller.

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- If you're using SHIELD with a separate AV receiver, check that the TV is connected to the AV receiver properly. If you hear sound from the TV but not the receiver, there may be an issue with the connection.
- Some HDMI to DVI/VGA adapters may not support audio. If possible, connect your SHIELD to an HDMI port on your TV without using an adapter.
- Try using a different HDMI input on your TV for your SHIELD. Many TVs have several HDMI ports.
- If you are using headphones plugged into SHIELD controller or SHIELD remote, you will be unable to hear AC3 and Dolby audio formats.
- Update to the latest SHIELD system update and receiver firmware.
- If multiple audio output devices are connected to your SHIELD simultaneously, see the audio/mic routing policy.
- Restart your SHIELD.

My screen is blank.

If there's nothing on the screen when you try to use your SHIELD, try the troubleshooting steps below.

- Check that your SHIELD is plugged in all the way. Check the power cord and HDMI cable.
- Check that your TV is turned on. The green light will be illuminated if SHIELD is on.



- Check that your SHIELD isn't in sleep mode. Touch the NVIDIA button on your SHIELD.
- Check that your TV's source input matches the HDMI port where your SHIELD is plugged in. HDMI ports are usually labelled on the back or side of a TV. Keep changing your TV input source until you get to the HDMI input with SHIELD on it.
- Try using a different HDMI port. Connect your SHIELD to a new HDMI port, and change the source or input on your TV to match the new port.
- Try using a different HDMI cable. High Speed HDMI cables and HDMI cables shorter than 3m are recommended.
- Check that your TV has an HDCP-compatible HDMI port. Some content requires HDCP.
- Update to the latest SHIELD system update and TV firmware.
- Some HDMI to DVI adapters may not support video. If possible, connect your SHIELD to an HDMI port on your TV without using an adapter.
- Restart your SHIELD.

Video frame rate is very low.

Refer to Optimize Video Performance.

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MicroSD Card Issues

I own SHIELD Pro and already have 500 GB internal storage. Should I use this feature?

If you own SHIELD Pro, it is not recommended to set up an SD card as internal storage since it doesn't make sense to replace your 500 GB of storage with less storage from an SD card.

Can I upgrade to Android Marshmallow and continue to use the "Auto-move to SD card feature" available in Android Lollipop?

No. In Marshmallow, storage for new apps and games needs to be encrypted. You can continue to use your SD card 'as is', however, you will not be able to install or move additional apps and games to it. Users should find that the new feature makes it much easier to take advantage of an SD card for game storage and it also extends the feature to USB drives.

Can I unplug my storage device after formatting as internal storage?

This is not recommended since the storage device is formatted to not work with other devices. To safely unplug, first eject from **Settings** > **Storage & reset** > **Eject**. Failure to eject will cause applications to crash.

After formatting as internal storage, an app fails to launch. What can I do?

First reboot your SHIELD. If the app still fails to launch, go to the Google Play store to see if the app has an Android Marshmallow update. For example, *Asphalt 8* requires an app update for M. Open **Google Play Store** > **My Apps** and install any pending updates.

App or game performance is slow. What can I do?

Internal storage will provide the fastest performance for apps and games. If you choose to use a MicroSD card or USB drive as internal storage, make sure to use an SD card with a **Class 10** speed rating or higher or a USB 3.0 drive.

Where are the storage locations in a File Explorer?

The contents of the current user-defined internal storage can be found at **/storage/emulated/0/.**
The other storage location can be found in a subfolder named **InternalStorage, SDCard, USBStorage, SanDisk** or such depending on the type of storage.

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Does the encryption slow down the read/write speed of my SD card or USB drive?

Performance differences between internal storage and SD cards or USB drives should be very minimal as long as a MicroSD card with a **Class 10** speed rating or higher or a USB 3.0 drive is used.

Can I access the encrypted SD card or USB drive by connecting my SHIELD to my PC?

Yes. If you set up your SD card or USB drive as internal storage, the contents of the storage can be found at **/storage/emulated/0/.** The other storage can be found in a subfolder named **InternalStorage, SDCard, USBStorage, SanDisk** or such depending on the type of storage.

Can I change my storage location back to SHIELD's internal storage after using this feature?

If you have enough free space on SHIELD's internal storage, you can move data back to internal storage and start using that location again as the default place for app and game installations. Go to **Settings** > **Storage & reset** and select **Internal Storage**. Then select **Move data now**.

Google Play Issues

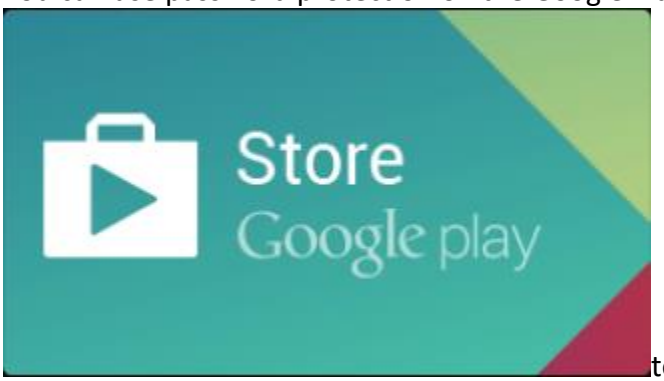
Refunds for Google Play content

Refund policies for content you bought on Android TV depend on the type of content.

Learn more about the detailed refund policy for each type of content offered on Google Play.

Prevent accidental or unwanted purchases on Android TV.

You can use password protection on the Google Play Store app



to help prevent accidental or unwanted purchases on your Android TV. Your password is the same as what you use to sign in to Gmail or Google Play on your computer.

Learn more about how to prevent accidental or unwanted purchases.

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Update your Google Play payment method.

You can change your payment method or add a new one before making purchases on Google Play. Here's how you can change your payment method using your Android TV.

Networking Issues

My SHIELD won't connect to Wi-Fi.

Here are some troubleshooting steps if your SHIELD won't connect to the Internet.

If your Wi-Fi network appears on the SHIELD

If you see your Wi-Fi network listed but can't connect, try the following:

- Ensure that your SHIELD is not connected to your network via Ethernet. An Ethernet connection automatically disables Wi-Fi networking.
- Make sure you're using the correct network password.
- Restart your SHIELD.
- Check if other devices can connect to the Wi-Fi network you're using. If not, there may be an issue with the router.
- If your router is having issues in general, update your router firmware.
- If you're using a Wi-Fi network at a business, hotel, or school, you may have trouble connecting. Networks at these locations don't always work with SHIELD. Contact the people in charge of the Wi-Fi network for assistance.

If your Wi-Fi network does not appear on the SHIELD

If you don't see your Wi-Fi network listed, your network name (SSID) may be hidden.

NOTE If you are setting up your SHIELD for the first time, when you get to the Wi-Fi network as part of on-screen setup, start at Step 4 below.

Here's how to add a hidden network:

1. From your SHIELD Home screen, select **Network Settings** .
2. Select **Wi-Fi**.
3. Find or select **Add new network**.
4. Enter the network name (SSID) and other security details, if needed.

My SHIELD won't connect to Ethernet.

Here are some troubleshooting steps if your SHIELD won't connect to the Internet.

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- On your SHIELD Home screen, check that the **Network Settings** Ethernet symbol displays:  .
- Check that your Ethernet cable is connected from your SHIELD to your router or Ethernet port.

GeForce NOW Issues

Network test detected a "Poor network" or "Network error."

This generally happens because of poor networking. Please make sure you meet the network requirements to run GeForce NOW.

For an amazing GeForce NOW experience, we recommend the following:

- Internet connection with at least a 10 Mbps download speed
- Home network with 60 ms or less ping time to a GeForce NOW server. Please visit this website to find out where our GeForce NOW servers are located: http://shield.nvidia.com/game-streaming-with-geforce-now
- NVIDIA GameSream™-ready 5 GHz Wi-Fi router

I have all the requirements to run GeForce NOW. However, sometimes the GeForce NOW network test allows me to play GeForce NOW, and sometimes it doesn't. Why is this?

GeForce NOW performs a network test each time you launch the app to determine your current network performance. There may be problems with your network at different times during the day. You should contact your Internet Service Provider (ISP) to see what you can do to improve it. Also, check to see whether you have an NVIDIA GameStream™-Ready 5 GHz Wi-Fi router: http://shield.nvidia.com/routers

I was idle and GeForce NOW disconnected me from my game. Can I log back onto GeForce NOW and rejoin my game where I left off?

Yes, your last game state will be saved. You can start another game session and load one of your saved games.

Why am I getting a message, "You have reached the session time limit and will be terminated in 5 minutes" when playing GeForce NOW?

GeForce NOW allows you to play a single game session up to 2 hours. After that you will be disconnected from GeForce NOW. If you receive this message we recommend you save your

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game immediately. You can then start another game session and load one of your saved games.

I'm experiencing a lot of audio cracking, audio cutoff, or video stuttering.

Please make sure you meet the network requirements to run GeForce NOW.

- Internet connection with at least a 10 Mbps download speed
- Home network with 60 ms or less ping time to a GeForce NOW server. Please visit this website to find out where our GeForce NOW servers are located: http://shield.nvidia.com/game-streaming-with-geforce-now
- NVIDIA GameStream™-ready 5 GHz Wi-Fi router

GeForce NOW network test detected a "Poor WiFi" or "Poor WiFi Signal."

This error message indicates some problems with your Wi-Fi router. Here are some suggested steps to improve it:

- Make sure you are connecting to your router at 5 GHz mode. Newer routers allow users to connect at 2.4 GHz and 5 GHz. The router's settings menu should allow you to set up a separate SSID for 5 GHz mode.
- Use an NVIDIA GameStream™-ready 5 GHz Wi-Fi router. These products have been tested to work with GeForce NOW.
- Move closer to your Wi-Fi router. The farther away you are from your router, the lower the signal, which will degrade your Wi-Fi performance.
- Try to get better line of sight to your router. Obstacles inside your home, such as walls and floors, can affect Wi-Fi performance.

If there is network interruption can I rejoin my game where I left off?

Yes. If you reconnect within five minutes to the GeForce NOW server, you will rejoin your game where you left off.

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Other Hardware Issues

How can I force my SHIELD to shut down?

To force the unit to turn off, touch and hold the NVIDIA button for about 10 seconds. To turn the unit back on, just touch the NVIDIA button .

SHIELD System Upgrade failed to install.

If a SHIELD system upgrade fails to install, it may be due to the download of the upgrade image being corrupted. One way to resolve this is to delete the local data for the update from the device, forcing it to download a fresh copy. To do so, use any file explorer app (such as ES File Explorer) to delete the OTA folder located in: Local\NVIDIA\App\OTA. After this folder is deleted, reboot the device, then retry the download and installation of the update.

SHIELD won't wake up.

If your TV screen is blank, your SHIELD may be on, but stuck in sleep mode. You'll see a light on the top of your SHIELD if your device is on.

To wake up your device, try the troubleshooting steps below. After each step, check if your SHIELD wakes up.

1. Touch the NVIDIA button on your SHIELD.
2. Restart your SHIELD by holding the NVIDIA button for 10 seconds, release, and then tap it again or by unplugging the power cord, waiting 10 seconds, and then plugging the power cord back in.

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My SHIELD ran out of space.

If you have a lot of apps or games on your SHIELD, you may run out of storage space. If you are out of space on your device, you'll get a notification the next time you try to install a game or app from the Play Store.

If you run out of space but you'd like to install new apps or games, you have to uninstall some of your other apps or games or else insert an SD card or attach an external hard drive.

Here's how to uninstall apps or games:

- On the SHIELD Home screen, select **Settings** .
- Under "Device," select **Apps**.
- Under "Downloaded," find and select an app.
- Select **Uninstall**.
- Select **OK** to confirm.

My SHIELD is sluggish and unresponsive.

In this case, your 3rd party apps may be causing this issue. We recommended booting up your SHIELD in Android Safe Mode.

To enable Android Safe Mode:

1. Disconnect the power cable.
2. Connect a USB keyboard to your SHIELD USB 3.0 port, or connect a SHIELD controller to your SHIELD USB port.
3. Connect the power cable.
4. Hold down the 'S' key on your keyboard until your TV display shows the Android TV home screen, or turn on your SHIELD controller (with NVIDIA button on controller) and hold down the volume down button on your SHIELD controller until the TV display shows the Android home screen.
5. You will see "Safe mode" on the bottom left part of the home screen.

How to Optimize Internet and Video Performance

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Optimize Internet Performance

For maximum performance, Ethernet is recommended. The Ethernet on SHIELD supports 10/100/1000 Mbps. Once Ethernet is connected, SHIELD will disable Wi-Fi and switch to Ethernet.

For networks which don't support DHCP, the IP-related settings can be configured in **Settings**  > **Network Settings** > "Ethernet."

For the best Wi-Fi experience, a 5 GHz dual-band 802.11 AC/N MIMO router is recommended. These routers are capable of operating in the 5 GHz band to prevent interference due to 802.11 wlan/non-wlan wireless radio sources that operate in the 2.4 GHz band.

When setting up your Wi-Fi, it is recommended to scan the wireless environment and choose a less "congested" channel for the AP on either band. Configure the AP in "Auto" mode and "Auto" channel width (This field has different names depending on the AP vendor. Some call it "up to speeds" or "supported speeds."

Optimize Video Performance

There are various factors that affect video performance.

Main terms

A/V sync

Use of an AV Receiver with HDMI for video and Toslink for audio may result audio lagging behind video. Use the AV sync slider utility in **Settings**  > **HDMI** > **Audio Video Sync** to calibrate for any audio lag. The AV sync slider allows you to advance audio by 1 second (in small increments of 10ms) to synchronize the audio and video.

Note that this tool is effective only when SHIELD is connected to your AV Receiver over HDMI (i.e. audio/video over HDMI); it is not meant to be used when a headset is plugged into SHIELD controller/SHIELD remote or USB audio device or Bluetooth audio device.

If video lags behind audio (i.e. audio is ahead of video) then use your AV receiver's settings to delay audio.

Stall

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If your network bandwidth is not enough (lesser than media bit-rate), you may experience frequent “buffering." This “buffering” may result in an animation such as a “spinning wheel”. This leads to a pattern of stoppping/resuming of video playback. This is called stall. For best results use Ethernet connectivity or for Wi-Fi use an 802.11ac Router/Access Point.

Stutter and Judder

When the TV refresh rate doesn’t match the video frame rate you may see “jumps” or “hops” in video at regular intervals typically when the scene has panning motions. This effect is called judder. This is not random stutter, but a skipping at regular intervals (milliseconds or seconds). For best results, use TVs with a refresh rate of 60Hz (120Hz or 240Hz).

Random pausing of video is called stutter. Please note this is random and not periodic in nature. Typically one sees a pause with audio resuming normally, followed by few frames getting skipped to catch up with audio.

To get the best video experience, modern TVs have an internal algorithm with the capability to understand the cadence of raw video frames provided from “decode” capable sources. The term for this varies, depending on the TV manufacturer (like “natural motion smoothening” etc.). In technical terms it is termed MEMC (Motion Estimation Motion Compensation).

Consider enabling or disabling MEMC setting to see if there is an improvement in performance.

1 Samsung

   a) MEMC is referred to as “Motion Plus” in Samsung TVs

   b) http://support-us.samsung.com/cyber/popup/iframe/pop_troubleshooting_fr.jsp?idx=167385&modelname=LN46C750R2F

2 LGE

   a) MEMC is referred to as “TruMotion” in LG TVs

3 Other brands: http://en.wikipedia.org/wiki/Motion_interpolation

Maximize Performance

To control the power and performance options for your SHIELD go to **Settings** > **System** > **Processor mode** and choose either "Max performance," which is recommended, or "Optimized," for a cooler and quieter experience.

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Health and Safety Information

Important Safety Information

NVIDIA products are designed to operate safely when installed and used according to the product instructions and general safety practices. The guidelines included in this document explain the potential risks associated with equipment operation and provide important safety practices designed to minimize these risks. By carefully following the information contained in this document you can protect yourself from hazards and create a safer environment.

This product is designed and tested to meet IEC-60950-1, the Standard for Safety of Information Technology Equipment. This also covers the national implementation of IEC-60950-1 based safety standards around the world e.g. UL-60950-1. These standards reduce the risk of injury from the following hazards:

- **Electric shock:** Hazardous voltage levels contained in parts of the product
- **Fire:** Overload, temperature, material flammability
- **Mechanical:** Sharp edges, moving parts, instability
- **Energy:** Circuits with high energy levels (240 volt-amps) or potential as burn hazards
- **Heath:** Accessible parts of the product at high temperatures
- **Chemical:** Chemical fumes and vapors
- **Radiation:** Noise, ionizing, laser, ultrasonic waves

Retain and follow all product safety and operating instructions. Always refer to the documentation supplied with your equipment. Observe all warnings on the product and in the operating instructions.


Read all safety information below and operating instructions before using the SHIELD to avoid injury.


WARNING: FAILURE TO FOLLOW THESE SAFETY INSTRUCTIONS COULD RESULT IN FIRE, ELECTRIC SHOCK OR OTHER INJURY OR DAMAGE.

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ELECTRICAL EQUIPMENT CAN BE HAZARDOUS IF MISUSED. OPERATION OF THIS PRODUCT, OR SIMILAR PRODUCTS, MUST ALWAYS BE SUPERVISED BY AN ADULT. DO NOT ALLOW CHILDREN ACCESS TO THE INTERIOR OF ANY ELECTRICAL PRODUCT AND DO NOT PERMIT THEM TO HANDLE ANY CABLES.

To reduce the risk of bodily injury, electric shock, fire, and damage to the equipment, observe the safety labels included on the equipment.

Symbols on Equipment



This symbol in conjunction with any of the following symbols indicates the presence of a potential hazard. The potential for injury exists if warnings are not observed. Consult your documentation for specific details.



This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel.



WARNING: To reduce the risk of injury from electric shock hazards, do not open this enclosure. Refer all maintenance, upgrades, and servicing to qualified personnel.



This symbol indicates the presence of electric shock hazards. The area contains no user or field serviceable parts. Do not open for any reason.

General Precautions

To reduce the risk of electric shock, personal injury, or damage to the equipment, observe the following precautions:

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- Follow all cautions and instructions marked on the equipment.
- Do not bend, drop, crush, puncture, incinerate, or push objects into openings of the device.
- Do not connect or disconnect any cables or perform maintenance or reconfiguration of this product during an electrical storm.
- Do not use the SHIELD in rain or near sink, or other wet locations. Take care not to spill any food or liquid into the device. In case the SHIELD device gets wet, unplug all cables and turn off before cleaning, and allow it to dry thoroughly before turning it on again.
- Do not expose the SHIELD to any gas which is not normally contained in the atmosphere. It may cause mis-operation or defects.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Place the product away from radiators, heat registers, stoves, amplifiers, or other appliances that produce heat.
- Never force a connector into a port. Check for obstructions on the port. If the connector and port don't join with reasonable ease, they probably don't match. Make sure that the connector matches the port and that you have positioned the connector correctly in relation to the port.
- Operate the AC adapter in a ventilated area.
- When you are using the NVIDIA SHIELD, it is normal for the system and/or AC power adapter to get warm.
- Do not use conductive tools that could bridge live parts.
- Do not make mechanical or electrical modifications to the equipment.
- Never attempt to reconnect the SHIELD yourself. This device does not contain any user-serviceable parts. Do not attempt to open, disassemble, or remove the battery. You run the risk of electric shock..
- Operate the SHIELD in a place where the temperature is always between 5 and 30°C (41 to 86°F).
- Store the SHIELD in a place where the temperature is always betwen 0 and 35°C (32 to 95°F) with relative humidity of 70% or lower. When taking the device from a low temperature condition, allow the device to reach room temperature before turning the power on.
- Use this product only with approved equipment and/or accessories
- If the product sustains damage requiring service, disconnect the product from the AC electrical outlet and refer servicing to an NVIDIA authorized service provider.



Proposition 65 WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (California law requires this warning be provided to California customers.

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A lire avant toute utilisation d'un jeu vidéo par vous-même ou par votre enfant.

I. - Précautions à prendre dans tous les cas pour l'utilisation d'un jeu vidéo.

Evitez de jouer si vous êtes fatigué ou si vous manquez de sommeil.

Assurez-vous que vous jouez dans une pièce bien éclairée en modérant la luminosité de votre écran.

Lorsque vous utilisez un jeu vidéo susceptible d'être connecté à un écran, jouez à bonne distance de cet écran de télévision et aussi loin que le permet le cordon de raccordement.

En cours d'utilisation, faites des pauses de dix à quinze minutes toutes les heures.

II. - Avertissement sur l'épilepsie.

Certaines personnes sont susceptibles de faire des crises d'épilepsie comportant, le cas échéant, des pertes de conscience à la vue, notamment, de certains types de stimulations lumineuses fortes: succession rapide d'images ou répétition de figures géométriques simples, d'éclairs ou d'explosions. Ces personnes s'exposent à des crises lorsqu'elles jouent à certains jeux vidéo comportant de telles stimulations, alors même qu'elles n'ont pas d'antécédent médical ou n'ont jamais été sujettes elles-mêmes à des crises d'épilepsie.

Si vous-même ou un membre de votre famille avez déjà présenté des symptômes liés à l'épilepsie (crise ou perte de conscience) en présence de stimulations lumineuses, consultez votre médecin avant toute utilisation.

Les parents se doivent également d'être particulièrement attentifs à leurs enfants lorsqu'ils jouent avec des jeux vidéo. Si vous-même ou votre enfant présentez un des symptômes suivants : vertige, trouble de la vision, contraction des yeux ou des muscles, trouble de l'orientation, mouvement involontaire ou convulsion, perte momentanée de conscience, il faut cesser immédiatement de jouer et consulter un médecin.

Power Rating

19 V DC, 2.1 A

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