



Plex Guide

If you received this guide,
you have probably
been invited to a
Plex server and want to use it.

On the following pages are some
things that are important to understand
when using Plex!



Account

This guide assumes that you have
a Plex account.

If you do not have a Plex Account yet,
create one at <https://plex.tv>!

A Plex account is free.
There is the premium package "Plex-Pass",
however, this is more relevant for server owners and
not necessary for normal use.

The mobile apps for Android and IOS requires a one-time activation.
The price is around \$ 5 USD.
The applications for desktops on Windows, Mac and
Linux are free.

Downloads: <https://www.plex.tv/en/media-server-downloads/#plex-app>

Linux users should first search for „PlexMediaPlayer“ in their distribution's repository or in the AUR.



Joining

You should have received an invitation from the owner of the Plex server as an email or as a link.

Use the respective form of the invitation to join the server.

Link-Invitation

[https://plex.tv
/servers
/shared_servers
/accept
?invite_token=<TOKEN>](https://plex.tv/servers/shared_servers/accept?invite_token=<TOKEN>)

Email-Invitation

PLEX

A wonderful person has shared his Plex media with you!

Hi!

invited to share media in Plex. To accept the invitation and to see the media of your friend, click on the following link: [I accept the invitation.](#)

Have fun with the additional media and do not forget to thank your friend!



Settings

By default, the Plex client is not optimally set on both the desktop and other devices. In the following there will be a step-by-step guide to set the optimal settings for the desktop.

However, these should also apply to the mobile app, as to the PS4 or to other devices.

Settings

Settings

Red = Recommended
Blue = Optional

Online Media Sources

Online Media Sources

Category	Status	Action
WEB SHOWS	Disabled	Edit
NEWS	Disabled	Edit
PODCASTS	Disabled	Edit
MUSIC	Disabled	Edit

Disabled

Online media sources are streamed from the Internet (e.g. from YouTube) through the Plex Client.

These have nothing to do with the library or the Plex Server in general!

Settings



PLEX

Plex for Windows — General

Version 1.10.0.1208-daa6b641

General

Language English

Remember selected tab

Play Theme Music

On same network as server

On same network as the server

General

Status

Dashboard

Alerts

Sync

Conversions

SETTINGS

General

Remote Access

Agents

Library

Plugins

Network

Transcoder

Languages

DLNA

Scheduled Tasks

Extras

MANAGE

Libraries

Optimized Versions

Live TV & DVR

Troubleshooting

Console

Plugins

HIDE ADVANCED

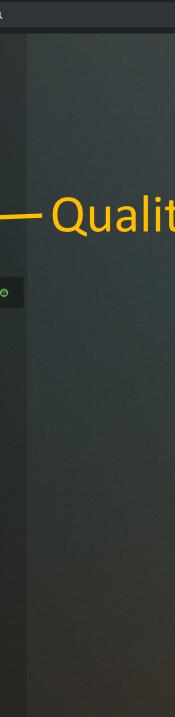
SAVE CHANGES

Play Theme Music

On same network as the server

General

Show advanced



PLEX

Plex for Windows — Quality

Internet Streaming

Video quality Maximum

Play smaller videos at original quality

Maximum

Home Streaming

Use recommended settings

Video quality Maximum

Do not use recommended settings

Maximum

General

Status

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Alerts

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HIDE ADVANCED

SAVE CHANGES

Quality

Maximum

Play smaller videos at original quality

Maximum

Do not use recommended settings

Maximum

Settings



PLEX X

KITTS120

PLEX FOR WINDOWS

- Account
- Online Media Sources
- Authorized Devices
- Webhooks
- Users & Sharing

GENERAL

- General
- Quality
- Debug** (highlighted)
- Player

STATUS

- Dashboard
- Alerts
- Sync
- Conversions

SETTINGS

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MANAGE

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Plex for Windows — Debug

Debug Level: Disabled HIDE ADVANCED

You can view the debug logs [here](#).

Direct Play Direct Play

Allows the player to play compatible media without any conversion.

Direct Stream Direct Stream

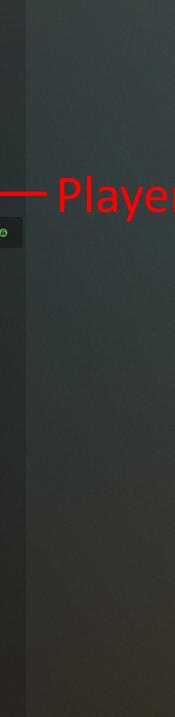
Allows the server to copy compatible audio and video streams without converting them.

SAVE CHANGES **RESTORE DEFAULTS**

All Plex for Windows settings and customization will be reset and restored to their default state. NOTE: If `settings sync` is also turned on, settings on other Plex for Windows instances may also be reset. Use with caution.

Player 0

Red arrows point to the "Debug" button in the left sidebar and the "Direct Play" and "Direct Stream" checkboxes in the main content area.



PLEX X

KITTS120

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Plex for Windows — Player

Audio & Subtitles

Multi-Channel Audio Boost: None HIDE ADVANCED

Exclusive Audio

Bypasses the system audio mixer, ensuring that only the media's audio is sent unchanged to the output device. This prevents sounds from other applications on the selected device.

Audio Device: Auto select device

Subtitle Size: Normal

Video

Use Hardware Decoding Use hardware decoding

Hardware decoding may improve video playback performance. Disable this setting if you encounter unexpected playback problems.

Extras

Cinema Trailers to Play Before Movies: 1 1

If the server owner uses a "Pre-Roll", this has to be set to at least 1.
Otherwise, this can be set to "none" if no movie trailers should be shown before a movie.

SAVE CHANGES

Red arrows point to the "Player" button in the left sidebar and the "Use Hardware Decoding" checkbox in the main content area. A blue arrow points to the "Cinema Trailers to Play Before Movies" dropdown menu.



Background knowledge

Because the optimal settings are set
you could start watching stuff!

Before that, however, 2 things have to
be addressed:

Video Containers
&
The difference between
Direct Play, Direct Stream and Transcoding



Video Containers

A video container is what is colloquially called "the video".

A video container compresses video, audio, subtitles and other data into one file.

Common video container formats are e.g. MP4, MKV and AVI.



Video Containers

To put it simply,
you can imagine a video container
as follows:

MP4 Container (e.g. Movie.mp4)

Video Track 1 - "Normal Movie"

Codec: H.264

Length: 01:50:02

Video Track 2 - "Director's Cut"

Codec: H.264

Length: 01:59:07

Video Track 3 - "4K version"

Codec: H.265

Different codec for 4K!

Length: 01:50:02

Audio Track 1 - "Normal Movie"

Codec: AAC

Length: 01:50:02

Audio Track 2 - "Director's Cut"

Codec: AAC

Length: 01:59:07

Subtitle 1 - "English"
Format: SRT

Subtitle 2 - "Englisch Director's Cut"
Format: SRT

Subtitle 3 - "German"
Format: SRT

Subtitle 4 - „German Director's Cut“
Format: SRT



Video Container

Again for understanding:

The video container is like a package
that can combine several
video tracks, audio tracks, subtitles
and other data in one.

This package is the final file,
e.g. Movie.mp4



Why DP, DS & Transcoding

With this background knowledge of video containers you can imagine that “simply playing” videos as we are used to these days actually requires a complex system.

This is where Direct Play, Direct Stream and Transcoding come into play!



Direct Play

Direct play takes place when the end device is fully compatible with the video to be played.

This means that the end device understands both the video container and the codecs of the video and audio tracks as well as the format of the subtitles.

The Plex Server now has to do nothing more than send the raw data of the video directly to the end device.



Direct Play

Server



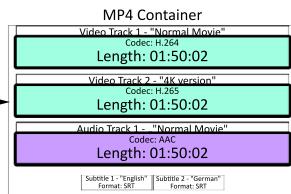
Device



Play „Avengers: Endgame“



Avengers: Endgame.mp4



Are all formats supported?

PLEX

Yes, all supported!



Data being sent





Direct Stream

Direct stream takes place if the end device is compatible with the video and audio codecs and the subtitles, but the video container cannot be processed by the end device.

The Plex Server can solve this cleverly, by copying the video and audio tracks and subtitles from the original video container in real time into a new, temporary and compatible video container.



Direct Stream

Server



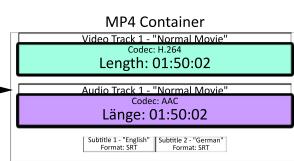
Device



Play "Avengers: Endgame"



Avengers: Endgame.mp4



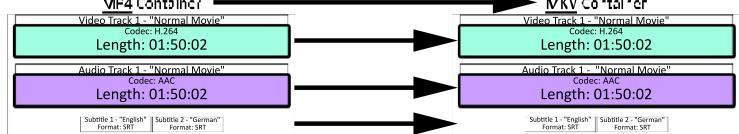
Are all formats supported?

PLEX

I understand the H.264, AAC und SRT formats,
but what is MP4? Please use a
MKV video container!



Data is being packed into a new container



Data being sent





Transcoding

Transcoding takes place if the end device is not compatible with the video or audio codecs or the subtitles.

The Plex Server can solve this by re-rendering the video in real time with supported codecs.

This consumes a lot of power, leads to loss of quality and can cause higher power consumption on the server side.

Depending on the computing power of the server, it can even be completely overloaded, which means that the video can no longer be played smoothly.



Transcoding

Server

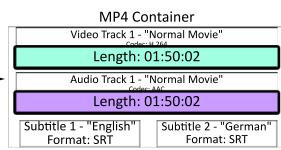


Play "Avengers: Endgame"

Device



Avengers: Endgame.mp4



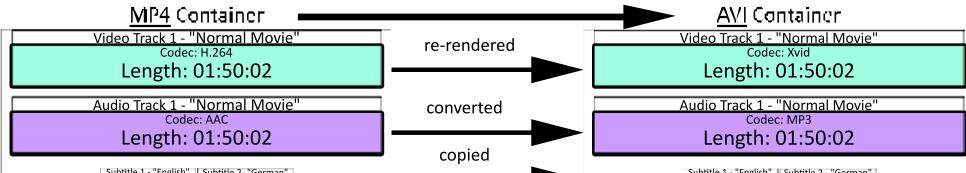
Are all formats supported?

PLEX

I can only understand AVI video container,
Xvid video codec, MP3 audio codec
and SRT subtitles.



Video is being completely re-created in real time



Data being sent

MP4
H.264
AAC

AVI
Xvid
MP3



Conclusion

Pro

Direct Play & Direct Stream

Con

No / little server load

Less power consumption
on the server,
than with transcoding

Original quality

If necessary,
the video container
gets converted by the server

High data usage (Internet)

Device must
be compatible with
codecs

Pro

Transcoding

Con

Server needs to re-render
video in real time

Less effort for
the device

Less data usage (Internet)

More compatibility

High effort and
power consumption
on the server

Loss of quality



Detect Transcoding

Now one may ask the question
of how to recognize whether
you are using
Direct Play/-Stream or Transcoding
when playing media.

The following screenshots show
a playback with
Direct Play/-Stream and one with
Transcoding.



Detect Transcoding

Original quality = Direct Play/-Stream

PLAYBACK SETTINGS

QUALITY: Original (44.8 Mbps, 2160p 4K) ✓

AUDIO STREAM: Deutsch (EAC3 5.1)

AUDIO DEVICE: Auto select device

SUBTITLES: None

AUTO PLAY:

Video Player Settings

Control icons: play, pause, stop, volume, brightness, and others.

Direct Play/-Stream

Transcode

PLAYBACK SETTINGS

QUALITY: Play Original Quality 44.8 Mbps, 2160p 4K ✓

AUDIO STREAM: Deutsch (EAC3 5.1)

AUDIO DEVICE: Auto select device

SUBTITLES: None

AUTO PLAY:

Control icons: play, pause, stop, volume, brightness, and others.

Transcoding options (from top to bottom):

- Play Original Quality 44.8 Mbps, 2160p 4K ✓
- Convert to 1080p HD (High) 30 Mbps
- Convert to 1080p HD (Medium) 12 Mbps
- Convert to 1080p HD 10 Mbps
- Convert to 1080p HD 8 Mbps
- Convert to 720p HD (High) 4 Mbps
- Convert to 720p HD (Medium) 3 Mbps
- Convert to 720p HD 2 Mbps
- Convert to 480p 1.5 Mbps
- Convert to 320p 0.7 Mbps
- Convert to 240p 0.3 Mbps
- Convert to 160p 0.2 Mbps



Detect Transcoding

Convert = Transcode

Video Player Settings

PLAYBACK SETTINGS

QUALITY: Convert (Maximum) ✓

AUDIO STREAM: Deutsch (EAC3 5.1) ✓

SUBTITLES: None ✓

SUBTITLE POSITION: Normal ✓

AUTO PLAY:

VIDEO CONTROLS: Back, Forward, Stop, Play/Pause, Volume, Mute, Fullscreen, Closed Captions, Subtitles, etc.

AVENGERS: ENDGAME
2019
1:00:01 / 3:01:11

Washed out colors

Slight loss of quality

Device not compatible, only transcode options available

Convert Automatically

- Convert to 4K (Maximum) 44.8 Mbps ✓
- Convert to 1080p HD (High) 20 Mbps
- Convert to 1080p HD (Medium) 12 Mbps
- Convert to 1080p HD 10 Mbps
- Convert to 1080p HD 8 Mbps
- Convert to 720p HD (High) 4 Mbps
- Convert to 720p HD (Medium) 3 Mbps
- Convert to 720p HD 2 Mbps
- Convert to 480p 1.5 Mbps
- Convert to 320p 0.7 Mbps
- Convert to 240p 0.3 Mbps
- Convert to 160p 0.2 Mbps

PLAYBACK SETTINGS

QUALITY: Convert (Maximum) ✓

AUDIO STREAM: Deutsch (EAC3 5.1) ✓

SUBTITLES: None ✓

SUBTITLE POSITION: Normal ✓

AUTO PLAY:

VIDEO CONTROLS: Back, Forward, Stop, Play/Pause, Volume, Mute, Fullscreen, Closed Captions, Subtitles, etc.

AVENGERS: ENDGAME
2019
1:00:01 / 3:01:11



Server owner preferences

Finally, it should be mentioned that there are also Plex servers that are specially equipped for transcoding.

Therefore, you should ask the owner of the Plex server you are using whether you should use transcoding or not. Owners who have equipped their server with enough power for transcoding want to protect their Internet connection this way.



A few last words

A Plex Server is like a pool in a friend's garden.

It is not your pool, you are the guest. Your friend is really nice that he lets you use his pool at all.

It would be very rude and inappropriate for you to give a copy of the key for the garden door to a friend so they can use the pool without asking the owner.

Unlike the local swimming pool, the pool is very small.
If the pool is full, you probably have to wait.

If something is wrong with the pool,
you should kindly inform the owner.

If the pool is not warm enough for you, you keep that to yourself and then maybe go to the local swimming pool.

Sometimes the pool needs to be cleaned,
sometimes your friend wants to have the pool to himself..
So the pool could be closed
when you stop by.

Of course your friend can see when you use the pool.
He won't watch you with binoculars, but
it is still his garden.

Your friend may take the key to the garden door away from you at any time.



Credits

Fonts

Hurtmold (Personal Use) - Headlines
Fira Code - Special characters in headlines
Calibri - Remaining text

Thanks to

reddit u/modestginger for the pool analogy
&

Future users who will translate
this guide into other languages

Guide created by
Torben Schweren

Translated into English by
Torben Schweren