

HOFA DDP Player

HOFA DDP Player V2

File Settings Help

DDP Image: C:\ini - Gespenst - DDP Image

Track	Index	CD Time	Duration	UPC/EAN	ISRC	Track Title	Album Title	Track Artist	Album Artist	Album Genre
1	Start	00:00	03:23	4020796447335	DEL211300838	Muss	Gespenst		ini	Pop
	2 Pregap	03:23	00:02							
2	Start	03:25	03:32	4020796447335	DEL211300839	Seltsam	Gespenst		ini	Pop
	3 Pregap	06:57	00:02							
3	Start	06:59	03:25	4020796447335	DEL211300840	Fast	Gespenst		ini	Pop
	4 Pregap	10:25	00:02							
4	Start	10:27	04:18	4020796447335	DEL211300841	Gespenst	Gespenst		ini	Pop
	5 Pregap	14:46	00:02							
5	Start	14:48	03:54	4020796447335	DEL211300842	Zeit	Gespenst		ini	Pop
	6 Pregap	18:42	00:02							
6	Start	18:44	03:52	4020796447335	DEL211300843	B-Plan	Gespenst		ini	Pop
	7 Pregap	22:37	00:02							
7	Start	22:39	03:08	4020796447335	DEL211300844	Auseinandergehn	Gespenst		ini	Pop
	8 Pregap	25:48	00:02							
8	Start	25:50	03:37	4020796447335	DEL211300845	Lass	Gespenst		ini	Pop
	9 Pregap	29:27	00:02							
9	Start	29:29	03:44	4020796447335	DEL211300846	Betrug	Gespenst		ini	Pop
	10 Pregap	33:13	00:02							
10	Start	33:15	03:18	4020796447335	DEL211300847	Teilen	Gespenst		ini	Pop
	11 Pregap	36:34	00:02							
11	Start	36:36	03:25	4020796447335	DEL211300848	Genug	Gespenst		ini	Pop
	12 Pregap	40:02	00:02							
12	Start	40:04	03:14	4020796447335	DEL211300849	Zurück	Gespenst		ini	Pop
	13 Pregap	43:18	00:02							
13	Start	43:20	03:59	4020796447335	DEL211300850	Manchmal	Gespenst		ini	Pop
End		47:20	47:22							
13	Album	47:22	4020796447335				Gespenst		ini	Pop

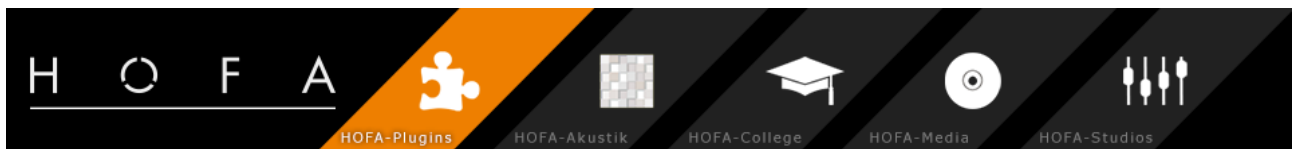
TRACK: 1 00:00
CD TIME: 00:00
REMAIN: 00:00

LSA: 0 LU: -54 -48 -42 -36 -30 -24 -18 -12 -6 -inf

Burn CD 0.0 dB

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User Manual
HOFA DDP Player
V2.0.0

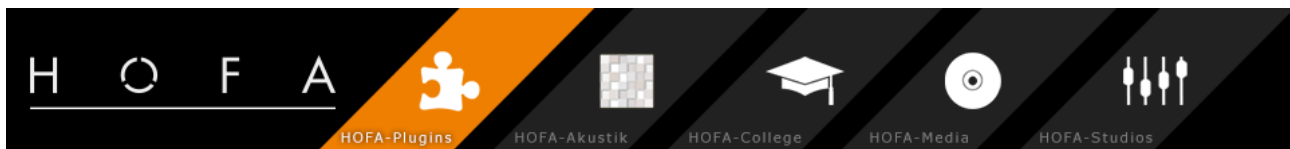


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Introduction

Most people will not be able to do a lot with a DDP image. For burning such an image to CD or even for listening to it you will need a specialized software that you will not find to be installed on most computers. Because of that, this DDP image has been delivered including the HOFA DDP Player. This player can run on any Windows PC or on Mac OS-X without further installation. Please note that the player will only work with the DDP image that it was created for.



Usage

When starting the player application ("HOFA DDP Player Windows PC.exe" on Windows PC or "HOFA DDP Player Mac OS-X.app" on Mac OS-X) the DDP image is automatically validated and loaded. An invalid image where files are missing or that contains wrong MD5 checksums can not be loaded.

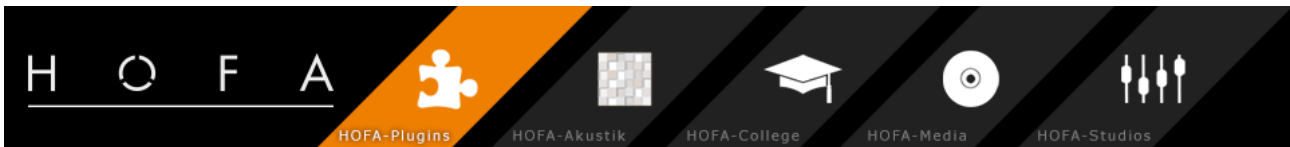
A DDP image always consists of multiple files that belong together. Because of that you should always transfer the content of the whole folder that contains the image when you want to give it to someone.

Notice about macOS 10.12 (Sierra) or higher:

Apple has introduced a new security mechanism with macOS Sierra which adds some restrictions for Apps that were downloaded from the internet inside a zip file. Because of that in certain cases the DDP Player may not be able to open the corresponding DDP image automatically.

In this case the DDP Player will show the following instruction: *Please drop the file "HOFA_DDP_PLAYER_INFO" here to open your DDP image.*

So all you have to do is to drag the file "HOFA_DDP_PLAYER_INFO" which is also located in the "Player" subfolder onto the DDP Player. Alternatively you can also open it from the DDP Player's File menu.



The track list

After opening you will see the track list with all additional information contained in the DDP image.

DDP Image: C:\ini - Gespenst - DDP Image

Track	Index	CD Time	Duration	UPC/EAN	ISRC	Track Title	Album Title	Track Artist	Album Artist	Album Genre
1	Start	00:00	03:23	4020796447335	DEL211300838	Muss	Gespenst	ini	Pop	
2	Pregap	03:23	00:02							
2	Start	03:25	03:32	4020796447335	DEL211300839	Seltsam	Gespenst	ini	Pop	
3	Pregap	06:57	00:02							
3	Start	06:59	03:25	4020796447335	DEL211300840	Fast	Gespenst	ini	Pop	
4	Pregap	10:25	00:02							
4	Start	10:27	04:18	4020796447335	DEL211300841	Gespenst	Gespenst	ini	Pop	
5	Pregap	14:46	00:02							
5	Start	14:48	03:54	4020796447335	DEL211300842	Zeit	Gespenst	ini	Pop	
6	Pregap	18:42	00:02							
6	Start	18:44	03:52	4020796447335	DEL211300843	B-Plan	Gespenst	ini	Pop	
7	Pregap	22:37	00:02							
7	Start	22:39	03:08	4020796447335	DEL211300844	Auseinandergehn	Gespenst	ini	Pop	
8	Pregap	25:48	00:02							
8	Start	25:50	03:37	4020796447335	DEL211300845	Lass	Gespenst	ini	Pop	
9	Pregap	29:27	00:02							
9	Start	29:29	03:44	4020796447335	DEL211300846	Betrug	Gespenst	ini	Pop	
10	Pregap	33:13	00:02							
10	Start	33:15	03:18	4020796447335	DEL211300847	Teilen	Gespenst	ini	Pop	
11	Pregap	36:34	00:02							
11	Start	36:36	03:25	4020796447335	DEL211300848	Genug	Gespenst	ini	Pop	
12	Pregap	40:02	00:02							
12	Start	40:04	03:14	4020796447335	DEL211300849	Zurück	Gespenst	ini	Pop	
13	Pregap	43:18	00:02							
13	Start	43:20	03:59	4020796447335	DEL211300850	Manchmal	Gespenst	ini	Pop	
End		47:20	47:22							
13	Album	47:22	4020796447335			Gespenst	ini	Pop		


TRACK REMAIN 1 00:00
CD TIME 00:00
LRA: 0 LU

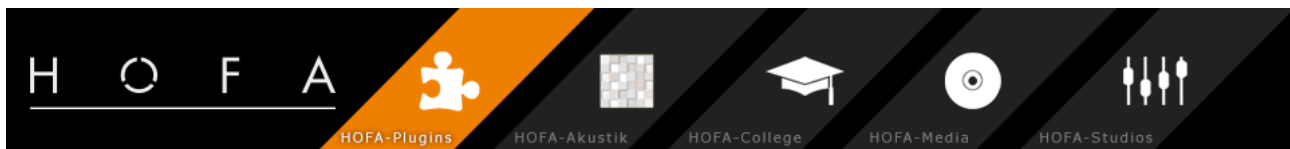
0.0 dB

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The track list is a table containing all CD markers for track start, pregap and subindex. Additionally you can see the total number of tracks and the total playing time of the CD in the bottom line.

The track list contains the following columns:

- Current position: The orange arrow on the left will show you the current position for playback.
- Save track as audio file: With the save buttons  you can save single tracks as audio files. Using this button in the bottom line, all tracks will be saved.



This column is only visible if the save option has been enabled for this player. If this function is not present, please contact your mastering studio or the provider of the DDP image.

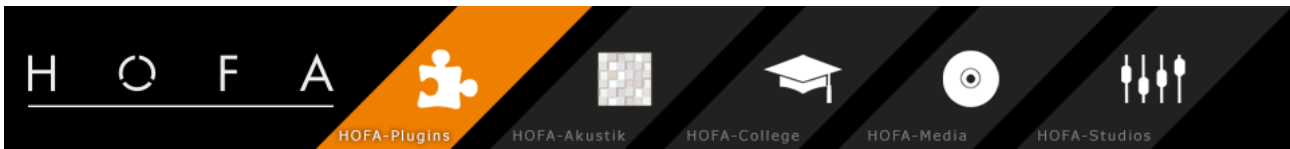
- Track: The track number.
- Index: The type of the marker (Start, Pregap, Index 2, 3...). The numeration of subindices will start at 2 because a CD player will display the normal track start as subindex 1.
- CD-Time: The time position of the marker on the CD.
- Duration: The duration of a track or a pregap.

The next columns are only visible if the DDP image contains the appropriate information. The entries will only be displayed in the lines of a track start marker (for that track) and in the last line (for the whole CD).

- UPC/EAN: The UPC or EAN is identical in all rows, as it is always valid for the whole CD.
- ISRC: The ISRC for this track.
- Track/Album Title: The CD-Text entry "Title" for this track or for the whole CD.
- Track/Album Artist: The CD-Text entry "Artist" ("Performer") for this track or for the whole CD.
- Track/Album Songwriter: The CD-Text entry "Songwriter" for this track or for the whole CD.
- Track/Album Composer: The CD-Text entry "Composer" for this track or for the whole CD.
- Track/Album Arranger: The CD-Text entry "Arranger" for this track or for the whole CD.
- Track/Album Message: The CD-Text entry "Message" for this track or for the whole CD.
- Genre: The CD-Text entry "Genre" is identical in all rows, as it is always valid for the whole CD.

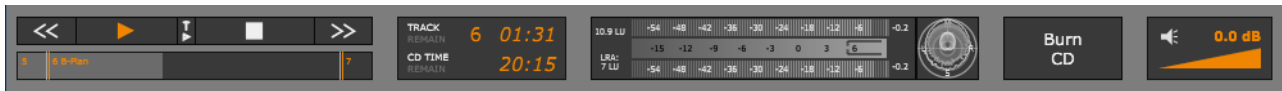
The displayed order of the columns can be adjusted by moving them with the mouse.

By clicking on a marker line the current playback position will be set to this marker. A double click will start playback.



The control panel

The control panel is used for controlling playback and for starting the CD burning process (if enabled, see also chapter "Burn CD").



The playback controls are just like on any CD player. The << and >> keys have double functions. A short press will skip to the previous or next track start. Holding them a longer time will fast forward or rewind.

The "T-Playback" button in the middle controls the track transition playback feature. When track transition playback is enabled, the player will only play back the transitions between tracks from 10 seconds before the end of a track until 10 seconds after the start of the next track. This allows a quick and easy check if all track markers and pauses are placed as intended.

Below the playback control buttons you can move the playback position inside the current track. The end of the previous and the beginning of the next track are also visible.

The time display shows the current playback position of the track and the whole CD. Click on the display to toggle between current time and remaining time.

For an objective judgement of level, loudness and stereo width HOFA DDP Player comes with a peak meter, an EBU-mode loudness meter and a goniometer.

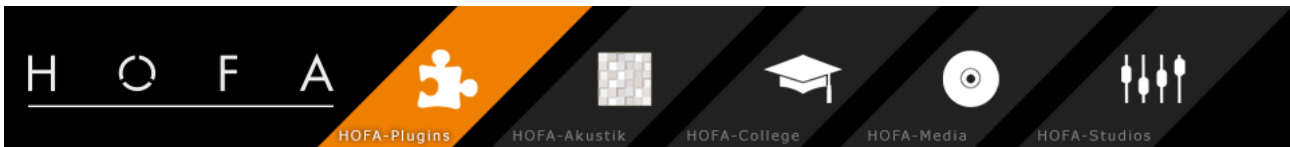
The peak meter always shows a range of -60 dBFS up to 0 dBFS. The maximum levels for left and right are shown at the right edge. The EBU-mode loudness meter lies between the l/r peak meters. Loudness is only shown as one value (and not for left/right) according to EBU-mode specifications. Furthermore loudness range is shown as square brackets inside the loudness meter. More about EBU-mode and loudness range in section [EBU R 128](#).

To the right of the meter you can find the goniometer.



The goniometer shows three curves. Peak (grey region), Peak Hold (white line) and Energy (white line with gradient). Peak shows the current distribution, Peak Hold is the maximum and Energy the averaged distribution.

The display shows a logarithmic scale of 40 dB. The scale adjusts to the level



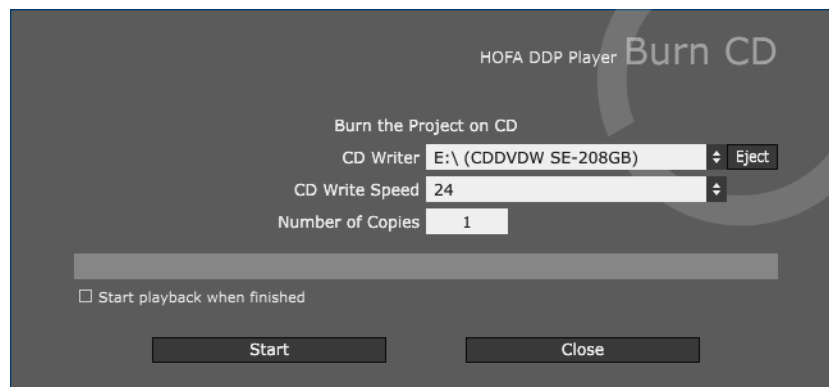
in order to show low levels as well as high levels.

The volume control at the right is only used for playback. The volume of the DDP image or the CD will not be modified here.

Burn CD

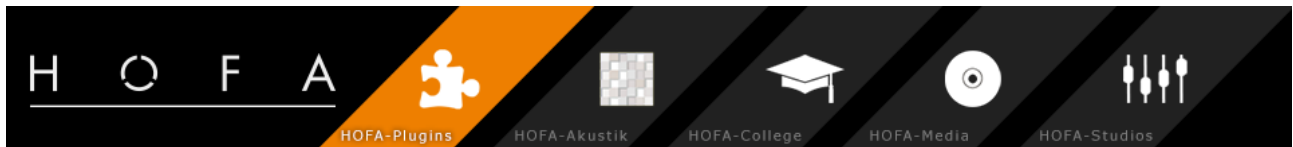
If the player was created with the CD burning function enabled, you can press the "Burn CD" button to write the DDP image to a CD-A. If this function is not present, please contact your mastering studio or the the provider of the DDP image.

To start burning the CD there is the following dialog window:



In the select box "CD writer" you can select the device that should be used for burning the CD. The CD write speed is not selectable until an empty CD has been put into that device. Click "Start" to begin the burning process. The CD will be ejected afterwards. If you need multiple copies of the CD, just enter the desired number. Then you just need to put a new blank CD to your writer after a CD is ready.

If the "Start playback when finished" option is activated, playback will start after the last CD has been written. Please note that this will play back the project from your hard disk and not from the CD, as the CD is ejected.

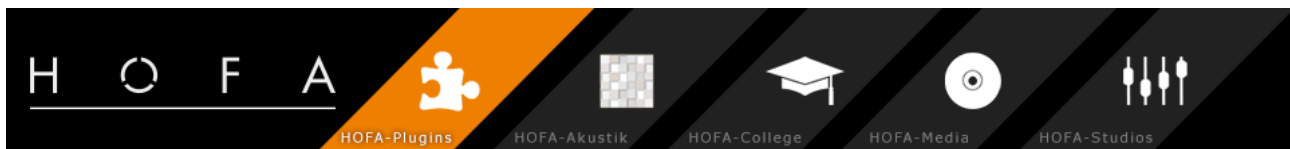


Note for Windows XP and Vista users:

To burn CDs with HOFA DDP Player on Windows XP or Vista, you may need a Microsoft update which is not installed automatically by Windows. This "Windows Feature Pack for Storage" can be downloaded here:


<https://www.microsoft.com/de-de/download/details.aspx?id=19622>

Generally we do not recommend using Windows XP or Vista anymore as the support by Microsoft has been terminated a long time ago.



File menu

If the save option has been enabled for this player, you can save single tracks as audio files in Wav, Aiff, FLAC, Ogg-Vorbis or MP3 format.

This can be done either as single files per track or as one long file for the whole CD. If you just want to save single tracks you can use the save buttons  in the tracklist. Before saving, a dialog will be opened that allows choosing which CD-Text information should be used to create the file names. Furthermore you can select whether the files should include the pregap of the track or the pregap of the following track. This can be useful e. g. for a live album where the applause after a song is the pregap of the next track. If this function is not present, please contact your mastering studio or the the provider of the DDP image.

If your DDP image was not yet delivered with an appropriate tracklist (PQ-Sheet), you can create one here as a PDF file.

The menu entry "Export ISO file from multisession CD" is only activated if your DDP image is a multisession image that contains a CD-ROM data part. In this case the CD-ROM part can be saved to an ISO file that can then be mounted to your OS as a virtual disk.

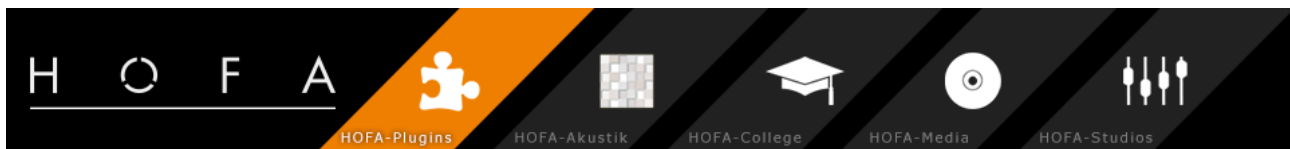
Settings menu

In the Settings menu you can find the following basic settings used by the application:

- Audio output device: Select the device that should be used for playback.
- Language: English or German.

Help menu

From the Help menu you can switch on and off the display of tooltips and open this manual.

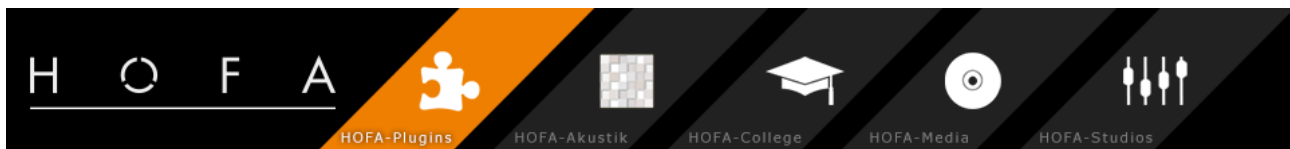


Keyboard shortcuts

Some functions can also be controlled from the computer keyboard:

Taste	Funktion
Ctrl / Cmd* + q	Quit application
Enter	Start playback
0 in number pad	Stop playback
Space	Start / Stop playback
1..9	Jump to start of track 1..9
Arrow left / right	Fast forward / rewind
Arrow up / down	Jump to previous / next marker in list

* Ctrl on Windows PC / Cmd on macOS



Interesting facts

Red Book Audio-CD

The CD-A is specified in the so-called red book.

A CD-A can contain max. 79 minutes and 48 seconds of audio* which can be separated into up to 99 tracks. The minimum length of a track is 4 seconds. In most cases there are silent pauses between the tracks. It is also possible to have a track change without a pause. The pause between two tracks is called pregap. It can contain absolute silence but it can also be filled with audio. A CD player normally displays a negative time during the pregap which runs down to zero.

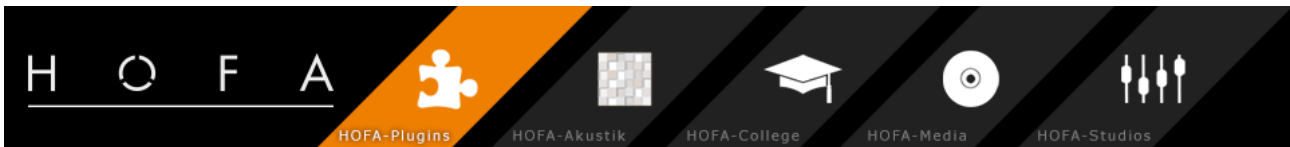
Furthermore there are subindex markers which can be used to mark a certain position inside the track. These markers are not supported by all CD players. In most cases they can only be displayed but it is not possible to jump to a subindex directly.

Audio data is always stored with a sample rate of 44,1 kHz with 16 bit. On the CD they are grouped in blocks of 588 samples, so called frames. One frame is equal to a playing time of 1/75 second.

The markers for track start, track end and subindex are always related to a frame. So the minimum distance between two markers is 1 frame = 1/75 second.

With HOFA DDP Player it is also possible to create CDs up to 99 minutes. To write these, special high capacity blank CDs are necessary and your CD writer has to support this feature. Please ask your pressing plant which maximum length they allow. Generally it can not be guaranteed that CDs with these lengths can be played back with every CD player.

* In fact the red book does not define a maximum playing time but a track distance with tolerances. The first CDs had a maximum playing time of 74 minutes. Meanwhile the production tolerances could be reduced, so that longer times became possible. Most CD pressing plants allow a playing time of up to 79:48. CDs of 90 or even 99 minutes are beyond the restrictions of the red book standard.



DDP

DDP* (Disc Description Protocol) is a format that describes the content of a CD. It is frequently used to transfer the content of an Audio CD e. g. from the mastering studio to the CD pressing plant. By using a DDP image you can avoid the use of CD-Rs and the CD writer as a possible source of errors. Furthermore you can transfer the final CD via the internet.

The DDP image is not a single file, but a folder. All files inside this folder belong to the DDP image and always have to be used in this combination.

A typical DDP image folder consists of the following files:

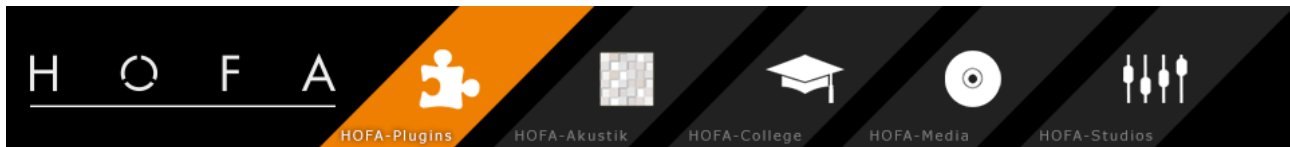
DDPID	Contains information about the format of the DDP image
DDPMS	Contains information on which files belong to this DDP image
PQDESCR**	Contains information about the tracks, UPC/EAN and ISRC
IMAGE.DAT**	Contains audio data, so this file can be pretty large, may be split up into multiple files
CDTEXT.BIN**	Optional, contains all CD-Text information

Furthermore there is often a checksum file. Using checksums you can assure that the single files of the image have not been modified e. g. by a transfer error.

HOFA DDP Player supports DDP-Images for CD-A in DDP 2.00 or DDP 1.xx format.

* DDP a registered trademark of DCA Inc.

** This name ist not defined. The file can also have a different name.



ISRC

The ISRC (International Standard Recording Code) is an identifier that is unique for a track on a CD. When the track is played on the radio, this code can be used for managing license fees. Normally this code is available on all commercial CDs.

The ISRC consists of two letters followed by a 10 digit number.

The single parts are:

- Country code (2 letters), e. g. DE for Germany (Deutschland)
- Registrant code (3 digits)
- Year (2 digits)
- Designation code (5 digits)

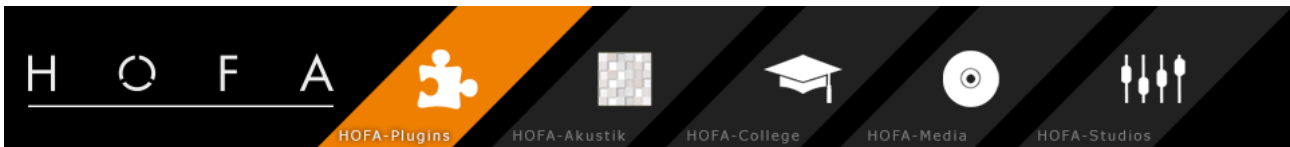
The ISRC is always provided by a registrant. It always belongs to a certain recording of a song. If a song is re-released, e. g. on a best-of compilation, it will keep its ISRC. For a remix you will need to get a new code.

For further information have a look at

http://www.ifpi.org/content/section_resources/isrc.html

UPC/EAN

The UPC (Universal Product Code) or the EAN (European Article Number) used in Europe are the numbers under the bar code that you can find on the package of any product. For automatic identification, this number can also be stored within the CD data. This code is also provided by a registrant. It is a number with 12 (UPC) or 13 (EAN) digits. A 12 digit UPC will be displayed as 13 digit number with a leading zero as this is mandatory for CDs and DDP images.



CD-Text

CD-Text is an extension to the red book standard which is supported by several CD players. When playing a CD in your computer, you should be aware that not every software player will show CD-Text information. Often the title information is downloaded from the internet and can differ from the information that is stored on the CD itself. **Windows Media Player* as well as Apple iTunes** do not show any CD-Text information!** But there are freely available extensions and other players that make this possible. For example:

For Windows:

- VLC Media Player
<https://www.videolan.org/vlc/>
- Winamp
<http://www.winamp.com/>
- Extension for Windows Media Player
<http://bmproductions.fixnum.org/moreprogs/wmpcdtext.htm>

For macOS:

- Extension for iTunes
<https://dougscripts.com/itunes/scripts/ss.php?sp=cdtexttocdinfo>
- drutil

If you like it cryptic, type *drutil cdtext* in the terminal window. This will list up all CD-Text information contained on the CD in plist format.

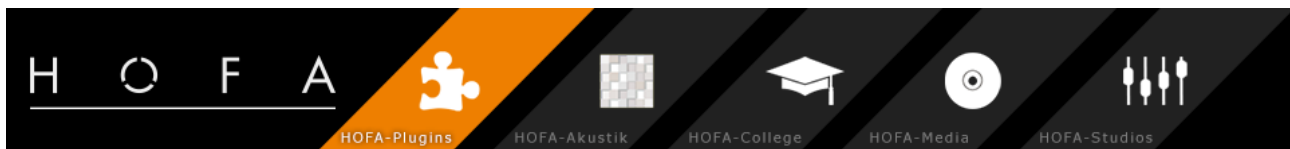
CD-Text can store the following information for the complete album and for each track:

- Title
- Artist/Performer
- Songwriter
- Composer
- Arranger
- Additional message

You can also specify a genre for the complete album.

* Windows Media Player is a registered trademark of Microsoft Corporation in the U.S. and other countries.

** iTunes is a trademark of Apple Inc., registered in the U.S. and other countries.



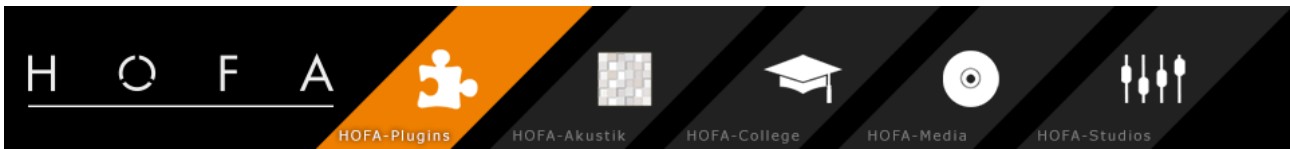
Special characters in CD-Text

The CD-Text standard as defined by Sony uses the [ISO 8859-1](#) character encoding which includes the most common characters used in western European languages. Unfortunately not all languages are covered completely. Especially some characters used in eastern European languages like Polish or Turkish are missing.

Generally you should be aware that titles stored in CD-Text will often be displayed on CD-Players or car stereos that have only very limited displays. Many of these devices will not show any special characters at all. So you could think about avoiding special characters all and replace for example a German "ä" by its equivalent "ae".

Alternatively the CD-Text standard also allows for Japanese which is stored using the so called Shift-JIS character encoding. This encoding does not include the European special characters, so a mixture of both is not possible. As mentioned before, not all CD-Players that support CD-Text will be able to display Japanese.

HOFA DDP Player will automatically recognize the encoding used in the DDP image and can also display CD-Text in Japanese.



EBU R 128

EBU R 128 is an EBU (European Broadcasting Union) standard defining guide values for loudness in broadcasting. The origin of this standard lies in the increasing loudness in broadcasting and the dynamic variations resulting from that (e. g. ads are often louder than regular program). To counteract this loudness normalization was introduced, aside with a referenced target level.

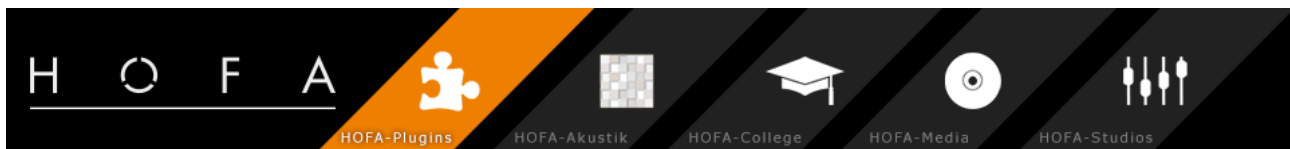
With EBU R 128 an open standard for loudness measurement was created. Also new units LU and LUFS (Loudness Unit / Full Scale) were introduced. One LU is basically the same as one dB but describes a loudness measured according to EBU R 128. While LU is a relative level LUFS is an absolute level, the relationship being $0 \text{ LU} = -23 \text{ LUFS}$.

To judge the program dynamic, EBU R 128 defines the loudness range (LRA). The loudness range quantifies the variations of loudness in time, e. g. the proportion between louder parts and quieter parts.

EBU R 128 claims a program loudness of -23 LUFS ($= 0 \text{ LU}$). On the other hand the loudness of most music is about -10 LUFS , ranging up to -5 LUFS . So one might ask why an EBU meter should be used for music.

The answer is simple: While a loudness reference of -23 LUFS isn't very suitable for music, having a standardized tool for loudness measurement certainly is. Due to the open standard, loudness is comparable between different measurement tools.

The loudness range can help judging the loudness across several music titles (premastering) or on long tracks. Especially on mastered music this value might not be very meaningful.



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iTunes is a trademark of Apple Inc., registered in the U.S. and other countries.

Windows Media Player is a registered trademark of Microsoft Corporation in the U.S. and other countries.