



HANDBUCH

fhd player 

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1 INFORMATION ABOUT THE FHD PLAYER

1.1 PRODUCT SPECIFICATION:

Article number: SCV-FHD

The FHD Player is a syncable media player for playback of all established video and audio files. It supports full HD resolution, seamless loop operation and network integration. Additionally, it also offers various options of external control (e.g. via RS232/UDP) and data management via playlists.

1.2 MANUFACTURER

AV Stumpfl GmbH
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4702 Wallern
Austria

Phone: +43 (0) 7249 / 42 811

Fax: +43 (0) 7249 / 42 811 - 4

AVstumpfl@stumpfl.com

www.AVstumpfl.com/FHDplayer

1.3 SUPPORT INFORMATION

The manual contains detailed information on how to use the FHD Player. In addition to this you will also find answers to frequently asked questions on the manufacturer's website.

Please contact the manufacturer if you have any questions or suggestions with regard to product or manual.


The manufacturer's support team can be contacted free of charge from Monday to Thursday from 08:00 to 12:00 and from 13:00 to 16:30 and on Friday from 08:00 - 13:00.

The fee-based emergency hotline is available every day between 8.00 and 22.00 at +43 (0) 7249 42 811 - 900. Please note that EUR 30,- net will be charged for every 15-minute period of this service. We hope you understand that it may not always possible to answer your call immediately. In order to be able to return your call as fast as possible and provide best-possible support we are asking you to leave your name, company name, phone number and dongle and/or customer number on the answering machine and you will be called back within an hour.

Manufacturer's address and contact details

Support information: user manual, further information on the website, emergency hotline

1.4 TECHNICAL DATA

Video formats:	MPEG 1, MPEG 2, MPEG4, VOB, AVI, JPEG, VCD, DVD, MKV, WMV, DivX, MOV, H264, Program Stream, Elementary Stream, Transport Stream
Audio formats:	WAV, WMA, MP3, OGG, AAC, AC3
Bit rate:	max. 35 Mbits/s
Frame rate:	max. 30 fps
Resolution:	max. 1920 x 1080 (Full HD), max. 4096 P for JPEG
Data carrier:	SD card, USB stick, USB hard disk
SD card file system:	NTFS, FAT32
Power supply:	8V to 35V DC wide-range input, 12W for SD card, DC polarity 
Dimensions:	205 mm/122 mm/32 mm (Length/Width/Height)
Weight:	680 g, metal housing

1.5 SCOPE OF DELIVERY

- ✓ FHD Player
- ✓ Mains adapter 12V / 1.25 A
- ✓ 8GB SDHC Card
- ✓ Short instructions

1.6 FILES ON THE SD CARD UPON DELIVERY

- ✓ Sample media files (01.mp4/02.mp4/03.mp4)
- ✓ Initialization file (FHDPlayerSetting.ini)
- ✓ Sample playlist (PLAYLIST.txt)
- ✓ Manual (Manual.pdf)

1.7 AMBIENT CONDITIONS

Description	in operation	out of operation
Temperature	-10 to +40 °C	-20 to +60 °C
Humidity	10 to 80 % RH max. 27 °C wet bulb	max. 90 % RH max. 35 °C wet bulb
Elevation	max. 3 000 m	max. 12 000 m
Vibration	0.08 G (Z-axis) 0.06 G (X/Y-axis) 5 to 500 Hz	0.30 G (z-axis) 0.15 G (X/Y-axis) 5 to 500 Hz

Technical data:
file formats,
media production
specifications

Ambient conditions

1.8 SAFETY INFORMATION

- ① Read the entire manual in order to ensure safe and proper usage.
- ① All warranty claims become void once you open or damage the device.
- ① During transport and storage temperatures may differ considerably. Do not put your device into operation until the difference in temperature has been levelled out so as to avoid defects due to condensation.
- ① Please ensure that the voltage supply meets the specification. Use only the supplied mains adapter. Incorrect voltage supply does not allow any operation. Incorrect voltage supply may damage the FHD Player.
- ① Avoid overheating the FHD Player. Direct sunshine, heat sources in the immediate vicinity of the FHD player, a location without ventilation or several FHD Players mounted on top of each other may cause damage.
- ① Avoid soiling of the device and its ports. Soiling may cause limited functionality of the FHD Player.
- ① Avoid high humidity in the vicinity of the FHD Player. Humidity may damage the device and cause port corrosion.
- ① Protect the FHD Player from liquids and splash water in order to prevent damage.
- ① Never connect a Show Control device to the LAN port of the FHD Player. This may damage the FHD Player.
- ① Check the plug direction and do not apply force in connecting the devices or cables to the FHD Player. The port pins may be damaged beyond repair.
- ① If peripheral devices are not recognized or functions are not available check whether the FHD Player firmware is up to date.
- ① Please note the difference in the USB ports. USB peripheral supports peripheral devices, USB data supports USB data carriers.
- ① The FHD Player is only ready for operation after booting has been completed. (LED lights up red → Device is booting; LED lights up in green → device is ready for operation)
- ① The FHD Player will only play supported file formats. Media files with a size of up to 30 GB have been tested.
- ① After enabling the write protection of the SD card changes can no longer be saved or files be deleted.

WARNING Danger of electric shock!

Touching defective cables or any other open electrical components may cause electric shock. The degree of injuries ranges from slight burns to lethal cardiac dysrhythmia.

- ➔ Do not use defective cables or devices.
- ➔ Do not touch any open electrical components.

1.9 MAINTENANCE TIPS

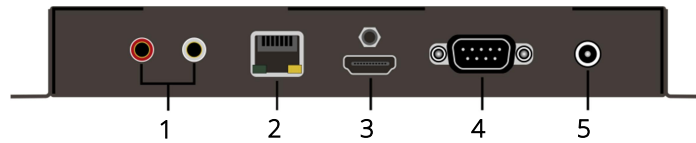
- ① Do not use any abrasive or corrosive cleaning products
- ① Avoid wet cloths.


WARNING:
Danger
of electric shock!

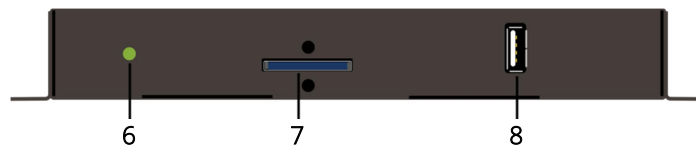
Maintenance tips

1.10 PORTS AND COMPONENTS

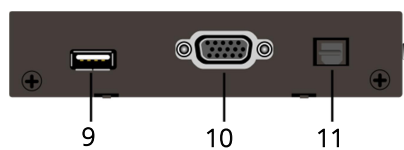
Ports and components



- | | | |
|---|-------|--|
| 1 | AUDIO | Port for analog audio transmission |
| 2 | LAN | Port for network cable (data transfer rate 100 Base-T) |
| 3 | HDMI | Port for output devices for digital image and audio transmission (e.g. monitor, TV, projector) |
| 4 | RS232 | Serial communication interface for control purposes |
| 5 | POWER | Plug for power supply, DC polarity  |



- | | | |
|---|----------|---|
| 6 | STATUS | Status display (red = booting, green = ready) |
| 7 | SD Card | SD card slot |
| 8 | USB data | USB port for USB data carrier |



- | | | |
|----|----------------|-------------------------------------|
| 9 | USB peripheral | USB port for peripheral devices |
| 10 | VGA | Port for analog image transmission |
| 11 | SPDIF optical | Port for digital audio transmission |

1.11 SD CARD INITIALIZATION FILE

The supplied SD card contains the initialization file *FHDPlayerSetting.ini*. This file contains the current configuration of the FHD Player and all adjustable options. This file can be edited using any text editor.

Once the SD card has been plugged into the slot (7) FHD Player automatically accepts the configuration changes.

By changing the configuration via the web interface a new initialization file is saved to the SD card after clicking *APPLY SETTINGS*. The original initialization file on the SD card is automatically renamed to *FHDPlayerSetting.old*.

Instead of the SD card you can also use a USB data carrier to do the job. Please note that data transfer via the SD card is usually faster than via a USB data carrier. FHD Player will only recognize the USB data carrier if the SD card has been removed.

2 QUICK START

- Remove the FHD Player from its packaging.
- Remove the cover of the SD card slot (7).
- Connect the FHD Player to the mains supply using the supplied mains adapter.
- Using the HDMI connection connect an output device (3) to the FHD Player.
- Save the required media file to the SD card.
- Plug the SD card into the corresponding slot (7) of the FHD Player.
 - ➔ **The media file will now be played automatically.**

The FHD Player is designed for 24/7 operation. If you want to stop playback you just interrupt the power supply or remove the SC card.

Description of the initialization file

Quick Start
Getting the FHD Player started

3 NETWORK CONNECTION

3.1 LAN CONNECTION

For the following functions the FHD Player must be integrated into your network:

- ✓ Web Interface
- ✓ Synchronous Mode
- ✓ UDP Control
- ✓ AVIO Control
- ✓ FTP Server
- ✓ FTP Auto Download
- ✓ NTP Time Synchronization

The factory setting for the FHD Player network setting are as follows: IP address 10.20.30.1, Subnet 255.0.0.0, Gateway 10.0.0.253.

When there is no data carrier plugged in, the FHD Player displays its current configuration upon starting the output device.

3.1.1 Connecting an FHD Player in the same network

- Via the LAN connection (2) and a network cable connect the FHD Player to your network.
 - ➔ Connection with the network has now been established.

3.1.2 Connecting several FHD Players in the same network

- In the initialization file on the corresponding data carrier assign an individual IP address to every FHD Player.
- Plug the data carrier with the changed initialization file into the FHD Player.
- Via the LAN connection (2) and a network cable connect the FHD Player to your network.
 - ➔ Connection with the network has now been established.

4 FHD PLAYER CONFIGURATION

The FHD Player can be configured via the initialization file and the web interface. By changing the configuration via the web interface a new initialization file is saved to the data carrier used after clicking *Apply Settings*. The original initialization file is automatically renamed to *FHDPlayerSetting.old*.

If you click *Save FHDPLAYERSETTING.INI* you can save the current configuration settings to your computer.

- ① Automatic saving of an initialization file is only possible if the SD card is not write-protected.

4.1 CONFIGURATION VIA THE WEB INTERFACE

- ① Configuration of the FHD Player via the web interface requires a network connection.

Compared to the illustrations below the web interface may be displayed in a slightly different way on the various other web browsers.

- Enter the FHD Player's IP address into the address line of the required web browser.

➔ The main page of the web interface is now displayed in the web browser.

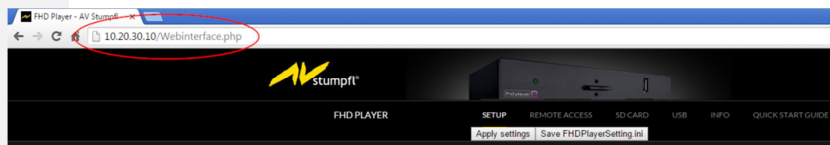


Fig. 1: Main page of the web interface and IP address in the web browser's address line

Item *INFO* provides information about your FHD Player and allows you to assign a customized name to it.



Fig. 2: Web Interface – *INFO*

FHD Player
configuration

Configuration
via the
web interface

Web Interface Setup

Fig. 3: Web interface – Setup illustrates the possible setup:

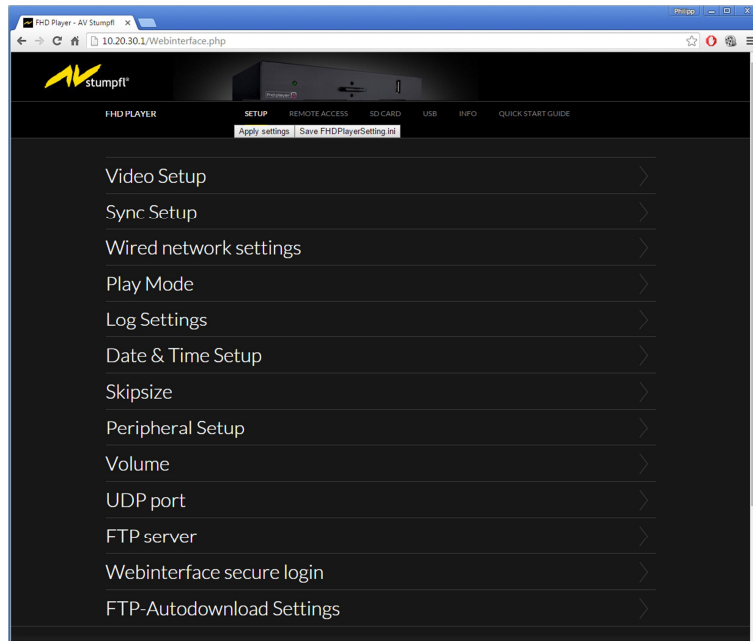


Fig. 3: Web interface – Setup

① A description of the various options can be found in *Chapter 4.2 Configuration via the initialization file* or directly in the web interface.

4.2 CONFIGURATION VIA THE INITIALIZATION FILE

The supplied SD card contains the initialization file *FHDPlayerSetting.ini*. This file contains the current configuration of the FHD Player and all adjustable options. This file can be edited using any text editor.

Once the SD card has been plugged into the slot (7) FHD Player automatically accepts the configuration changes.

Instead of the SD card you can also use a USB data carrier to do the job. Please note that data transfer via the SD card is usually faster than via a USB data carrier. The FHD Player will only recognize the USB data carrier if the SC card has been removed.

4.2.1 FHD Player network settings

[IP]

10.20.30.1 Upon delivery the FHD Player's IP address is pre-configured as 10.20.30.1. You can assign a suitable IP address manually.

DHCP Via DHCP you can have a suitable IP address assigned automatically. Please note that the IP address is not permanently assigned this way and unprecedented interruptions may occur.

[Subnet]

255.0.0.0 Upon delivery the FHD Player is pre-configured as Subnet 255.0.0.0. Please note that IP address and Subnet **must be the same**.

[Gateway]

10.0.0.253 The IP address for a possible network node is pre-configured as 10.0.0.253. Change this parameter to match the IP address for your network.

[DNS]

10.0.100.1 10.0.100.1 is the pre-configured address of the Domain Name Server. Change this parameter to match the IP address for your network.

Configuration
via the
initialization file

Kommentar [S1]: Bitte kontrollieren, ob übereingestimmt wirklich auch „identisch“ ist.

4.2.2 Playing mode

If there is no playlist on the memory card the player can play media files in various orders.

- ① If the data carrier used does not contain a playlist, the media files are played in an alphanumeric order.

[PLAYMode]

- Repeat All: All the media files on the data carrier are played in a seamless loop. The media files are played in an alphanumeric order.
- Repeat Default: The first media file on the data carrier is played in a seamless loop until some other media file is selected via an external control unit (e.g. 2-button control unit). Following this the first media file starts playing in a seamless loop again.
- Repeat Selected: A media file selected via an external control unit is played in a seamless loop until a new media file is selected. The media file is played in a seamless loop until some other media file is selected. The Player starts with the alphanumerically first media file.

4.2.3 Sync Mode

You can play back a multidisplay presentation by synchronizing several FHD Players.

- ① For Synchronous Mode the media files of all FHD Players must have the same playing time and frame rate.

The media files must contain audio tracks.

The playlists of all FHD Players must be harmonized with each other or be deleted.

The FHD Players must be integrated into the network.

For every synchronous group only one master must be defined.

[SYNControl]

On Synchronous Mode is on.

Off Synchronous Mode is off

[SYNType]

Master The FHD Player defined as Master serves as the leading unit.

Slave All slaves automatically follow the master signal.

[Group]

Group01 The FHD Player was assigned to Group 01. Up to 10 groups can be integrated in a network.

4.2.4 Operating Protocol

The FHD Player is able to automatically prepare the current operating protocol .

[LogCtrl]

On The protocol function is on.

Off The protocol function is off.

[LogLocation]

SD The protocol is saved to the SD card.

USB The protocol is saved to the USB data carrier.

[LogFolder]

Log Name of the folder user for saving the protocol.

[LogSize]

1024 The maximum size of the protocol file is 1024 KB. Once the maximum size has been reached, a new protocol is started. Up to 10 protocols are saved.

4.2.5 NTP Server Time Synchronization

Automatic time synchronization with a public NTP Server or an NTP Server in your network can be enabled.

[NTP]

On Time synchronization is enabled.

Off Time synchronization is disabled.

Enabling the
operating protocol

Enabling automatic
time synchronization

[NTP_Server]

0.at.pool.ntp.org The pre-configured web address is the address of a public web NTP server. It is also possible to assign the IP address of your own NTP server. Please note that an Internet connection is required for the web NTP Server.

[Timezone]

CET The pre-configured time zone is Central European Time. Other possible time zones:

4.2.6 Skip time for skipping forward and backward

[Skipsize]

5 The standard forward and backward skip size is 5 seconds. This refers to the RS232/UDP/AVIO commands SKIPFORWARD and SKIPBACKWARD. The skip size can be changed by entering any number of seconds.

4.2.7 Remote Control

FHD Player
remote control systems

The FHD can be controlled via a number of different remote control systems via the RS232 interface (4) or the USB peripheral port(9). Depending on the corresponding remote control system you assign the suitable parameter.

[RemoteType]

Remote control via
RS232 interface

Terminal	RS232 control (Text entry via the individual control program)
16Button	Control via 16 input cable
2Button	Control via 2 input cable
LTC	Control via SMPTE Timecode
AVIO	The RS232 interface is available for AVIO

[USB_Type]

Remote control via
USB peripheral device

Jade Presenter	Control of the player
Presenter	Control via wireless presenter
Touch	Control of the FHD Players via a USB Touchscreen Controller.

TouchCalibrate Mode for assignment of coordinates for the USB Touchscreen Controller

[Baud]

9600 Upon delivery, the FHD Player is pre-configured for a Baud rate of 9600. The baud rate of FHD Player and RS232 interface used must be the same.

The baud rate is the symbol transfer rate for RS232 interfaces. The remote control systems described require a baud rate of 9600. Change the baud rate only if it needs to be adjusted to your computer for the remote control system Terminal.

[UDP Port]

4950 The FHD Player is pre-configured for the UDP port 4950. Enter any other free port if the above port has already been used in your network.

A port is an address required for the transfer of network protocols.

4.2.8 Output devices

The FHD Player can be connected to different output devices (e.g. monitor, TV, projector).

- ① Make sure that resolution and aspect ratio of FHD Player, selected output device and media file correspond with each other.

[Auto EDID]

On The FHD Player attempts to detect resolution and aspect ratio automatically.

Off Auto EDID is not enabled.

[Output-Mode]

HDMI Transfer via the HDMI port (3) is enabled.

VGA Transfer via the VGA port (10) is enabled.

YPbPr Transfer via the VGA port in combination with a VGA-to-YPbPr connector (D-SUB 15HD to 3x Cinch) is enabled.

Assigning a baud rate

Assigning a UDP port

Configuring output devices

[Resolution]

HDMI_1080p60 The FHD Player is pre-configured for a HDMI_1080p60 resolution. Adjust the resolution to match that of the output device used.

[Aspect Ratio]

16x9 The FHD Player is pre-configured for an aspect ratio of 16x9. Adjust the aspect ratio to match that of the output device used.

4.2.9 Standard volume

[Volume]

0 0 is the value for the default volume of the media file. The FHD Player can be configured from -48 dB to 24 dB. If you change the value to -2 the default volume is reduced by 2 dB.

4.2.10 Web Interface Login

Access to the web interface can be protected via Login data.

[Webinterface-Login]

On Web interface login is enabled.

Off Web interface login is disabled.

[Webinterface-User]

AVS AVS is the pre-configured user name. Change the user name if necessary.

[Webinterface-Password]

AVStumpfl AVStumpfl is the pre-configured password. Change the password if necessary.

4.2.11 FTP Login

You require the FTP Login to login to the SD card via an FTP Client.

ⓘ It is only possible to access the SD card via FTP. Access to a USB data carrier is not possible.

Defining login data
for the
web interface

FTP access
to the SD card

[FTP-Custom-Login]

On FTP Login is enabled.

Off FTP Login is disabled.

[FTP-Custom-User]

AVS AVS is the pre-configured user name for access to the SD card. Change the user name if necessary.

[FTP-Custom-Password]

AVStumpfl AVStumpfl is the pre-configured password for access to the SC card. Change the password if necessary.

4.2.12 Automatic download from an FTP Server

The media files of the FHD Player can be updated via an automatic download from an FTP Server.

[FTP-Autodownload]

On Automatic download is enabled.

Off Automatic download is disabled.

[FTP-Autodownload-Mode]

passive The port is selected by the FTP Server and sent to an FTP Client.

active The port is selected by the FTP Client.

FTP Mode is the type of connection for the data transfer between FTP Client (FHD Player) and FTP Server.

[FTP-Autodownload-Server]

192.168.3.83 192.168.3.83 is the address of the FTP Server of AV Stumpfl GmbH. Change this parameter to correspond to the FTP Server's address that you want to use.

[FTP-Autodownload-Username]

AVS AVS is the pre-configured user name. Change the user name if necessary.

Automatic
download
of media files

[FTP-Autodownload-Password]

AVStumpfl AVStumpfl is the pre-configured password. Change the password if necessary.

[FTP-Autodownload-Serverfolder]

AVStumpfl AVStumpfl is the pre-configured folder the FHD Player is to search on the FTP Server.

[FTP-Autodownload-Date]

18.03.2015 18.03.2015 is the pre-configured start date for the automatic download.

[FTP-Autodownload-Time]

17:12:00 17:12:00 is the pre-configured start time for the automatic download.

[FTP-Autodownload-hourly]

On Automatic hourly download is enabled.

Off Automatic hourly download is disabled.

[FTP-Autodownload-daily]

On Daily automatic download is enabled.

Off Daily automatic download is disabled.

[FTP-Autodownload-weekly]

On Weekly automatic download is enabled.

Off Weekly automatic download is disabled.

[FTP-Autodownload-monthly]

On Monthly automatic download is enabled.

Off Monthly automatic download is disabled.

[FTP-Autodownload-Interval]

3600 3600 is the pre-configured interval for an automatic download in seconds. At a value of 3600 the automatic download is performed every hour.

[FTP-Autodownload-Overwrite]

On The original files on the data carrier are overwritten.

Defining date and time for the automatic download

Off The original files of the data carrier are kept.

[DelayedContentChange]

On Playback of a running media file is not interrupted by the automatic download.

Off Playback of a running media file is interrupted by the automatic download.

5 CONNECTION OF OUTPUT DEVICES

The FHD Player can be connected to your output devices via HDMI (3), VGA YPbPr (10) and AUDIO (1) ports.

5.1 HDMI

The HDMI port is used for digital image and audio transmission.

- Connect your output device to the HDMI port (3) of your FHD Player.
- In the web interface click *SETUP > Video Setup*.
- Select Video Output *HDMI*.
- Select the resolution suitable for your output device.
- Select the aspect ratio suitable for your output device.
- ① By enabling *Auto-EDID* the FHD Player will automatically attempt to detect resolution and aspect ratio of the output device.
- Click *APPLY SETTINGS*.
- ① However, the required configuration can also be set via the initialization file.
 - ➔ **The selected output has now been enabled and is ready for playback of media files.**

5.2 VGA YPBPR

The VGA port is used for analog image transmission.

- Connect your output device to the VGA YPbPr port (10) of your FHD Player.
- In the web interface click *SETUP > Video Setup*.
- Select Video Output *VGA*.
- Select the resolution suitable for your output device.
- Select the aspect ratio suitable for your output device.

Connecting
monitor, TV,
projector, etc.
and selecting
suitable outputs

① By enabling *Auto-EDID* the FHD Player will automatically attempt to detect resolution and aspect ratio of the output device.

■ Click *APPLY SETTINGS*.

① However, the required configuration can also be set via the initialization file.

➔ The selected output has now been enabled and is ready for playback of media files.

5.3 AUDIO

The Cinch jacks (1) are used for analog audio transmission.

■ Connect your audio system to the AUDIO port (1) of your FHD Player.

➔ The audio is transferred automatically

5.4 SPDIF OPTICAL

The SPDIF optical port (11) is used for digital audio transmission.

■ Connect your audio system to the SPDIF optical port (11) of your FHD Player.

➔ The audio is transferred automatically

Audio transmission

6 MEDIA FILE ORGANISATION

6.1 WEB INTERFACE

The web interface allows you access to the SD card or USB data carrier to make changes there.

Organization and order of media files

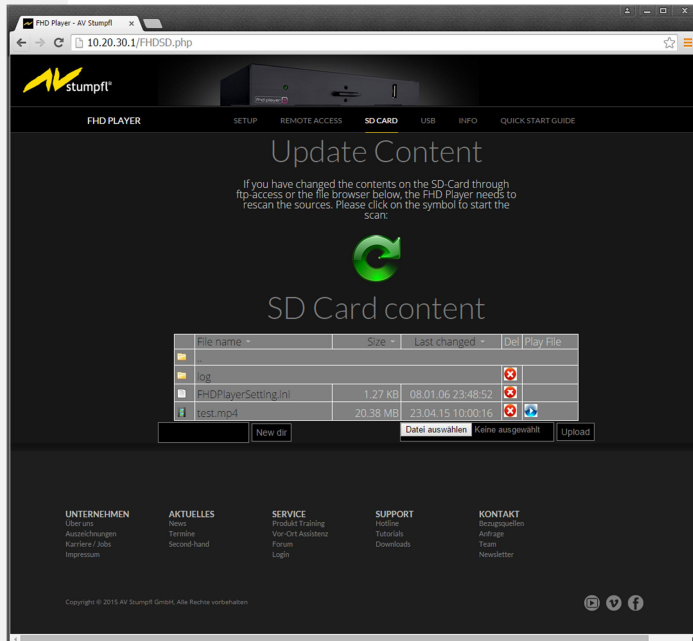


Fig. 4: Web Interface – SD CARD

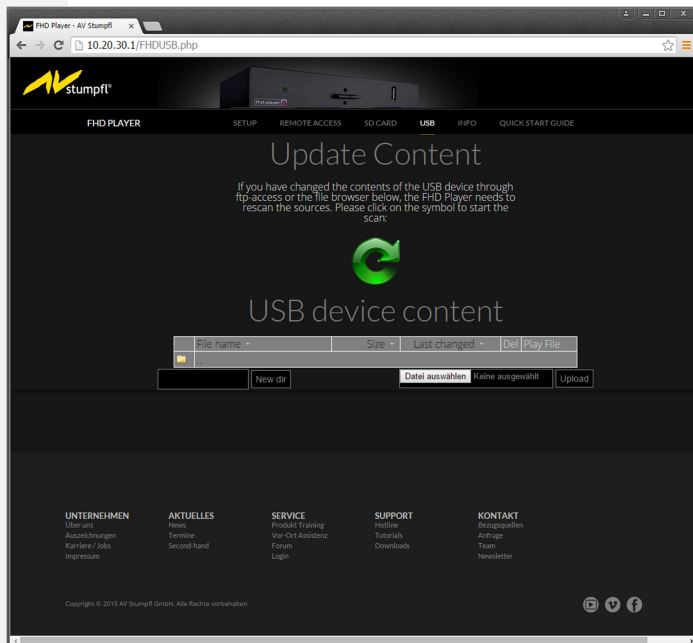


Fig. 5: Web Interface – USB

6.2 SD CARD

The media files on the SC Card are played in an alphanumeric order unless there is a playlist available.

6.3 USB DATA CARRIER

The media files on the USD data carrier are played in an alphanumeric order unless a playlist is available.

FHD Player will only recognize the USB data carrier if the SD card has been removed.

6.4 PLAYLIST

The media files on your data carrier can also be organized via a playlist. The playing order can be controlled via Date and Time.

- ① The ITEMS of a Playlist must always contain the three obligatory parameters as described and listed below. In addition to and after these obligatory parameters optional parameters can be added in any order. Every parameter (also the last one) must be terminated with *ENTER* (Carriage Return Line Feed). Every ITEM must be separated from the next ITEM by a blank line. Between the individual parameters no blank lines are allowed.

For file name use only capital letters and number before the dot in order to allow for fastest possible processing. A dot must only be used before the file suffix. The ITEM number in the start parameter [ITEM] must be in ascending order. The first ITEM number should always be 0 or 1. Gaps in the item numbers cause longer computing times.

Using playlists

- Prepare a playlist using a text editor.
- Save the playlist on your data carrier and plug it into the FHD Player.
 - ➔ The FHD Player will now play the media files in accordance with the playlist.

Obligatory Playlist Entries:

[ITEM 0]	Every entry in the playlist must be started with this start parameter. The start parameter must be numbered from 0 to 2047 in an ascending order. Please note the capital letters, the space between ITEM and number and the square brackets. Gaps in numbering cause longer computing times.
File=00.mp4	Enter the name of the media file you want to address. Make sure the name is entered correctly. The FHD Player differentiates between capital and small letters (case sensitive) and reads every space.
Displaytime=5	An entry of 5 results in a still image being displayed for 5 seconds before the next ITEM is called. For video and audio files enter 0. If you want a still image permanently displayed enter -1. Only whole numbers are allowed.

Optional Playlist Entries:

Succ=0	This parameter allows you to define the ITEM to follow. An entry of 0 means that ITEM 0 will be executed after the current ITEM has been finished. If no Succ is defined the next ITEM on the playlist follows automatically.
Interruptible=FALSE	<i>FALSE</i> means that this ITEM cannot be interrupted. The media file is always played to its end; further commands are ignored. <i>TRUE</i> means that this ITEM can be interrupted at any time by a new command (e.g. by starting a new media file). No entry corresponds to <i>TRUE</i> . Please remember to use capital letters.
Volume=0	This parameter allows a customized volume to be defined for every ITEM. Permissible values are -48 to 24. The number defines the change in dB. Please note that a higher volume may cause distortions. No entry corresponds to 0, which means that the default volume of the media file remains unchanged.
Start Date=	This parameter allows definition of a start date for individual ITEMS.
End Date=	This parameter allows definition of an end date for individual ITEMS.

Obligatory
playlist entries

Optional
playlist entries

**Example:
Playlist ITEM**

Example:

```
[ITEM 1]
File=Sampleimage.jpg
Displaytime=-1
Start Date=8.5.2015
End Date=15.5.2016
```

Sampleimage 01.jpeg is assigned to ITEM 1. This sample image is displayed permanently on all days from 8.5.2015 to 15.5.2016.

Start Time= This parameter allows definition of a start time for individual ITEMS.

End Time= This parameter allows definition of an end time for individual ITEMS.

```
Start Time=6:0:0
End Time=20:0:0
```

If you add these parameters to the example above ITEM 1 is displayed during the period from 06:00:00 to 20:00:00.

ⓘ Make sure that time and date of your FHD Player are set correctly.

Weekdays=

This parameter allows definition of the weekdays on which the corresponding ITEM is to be played. Possible entries are Mon, Tue, Wed, Thu, Fri, Sat, Sun.

Loop=

Parameter *Loop* is required to play media files seamlessly in a loop.
Loop=-1 causes permanent loop operation which can only be interrupted by pressing a key or via the web interface. Any media files following will not be played any more.
Loop=5 causes the corresponding media file to be played 5 times before the FHD Player continues executing the playlist. You can use any number to define the number of repetitions.

Background=

Parameter *Background* allows a customized background image to be played at the end of a video. If the image is saved on the SD card you need to enter */SD/* in front of the file name. If the image is stored on a USB data carrier, you need to enter */USB/* in front of the file name.

Example 2:

```
[ITEM 1]
File=01.mp4
Displaytime=0
Background=/SD/Sampleimage.jpg
```

**Loop Mode
via playlist**

6.5 DEFAULT ASSIGNMENT TO THE 16-INPUT OR 2-INPUT CABLE

By default, the 16 inputs are assigned to the first 16 media files. When there is no playlist the media files are sorted in an alphanumeric order. When there is a playlist the keys are assigned to the corresponding ITEMS. The default assignment of the 16-input cable is as follows:

Default assignment
for wires and keys

Keys	Wire color	Key code	Action
	„rt“ – red		Common wire
1	Blue - Yellow	Key1	Start playback ITEM 1
2	GreenScreen field	Key2	Start playback ITEM 2
3	„ge“ – yellow	Key3	Start playback ITEM 3
4	Design: white	Key4	Start playback ITEM 4
5	„sw“ – black	Key5	Start playback ITEM 5
6	„br“ – brown	Key6	Start playback ITEM 6
7	„li“ – violet	Key7	Start playback ITEM 7
8	„rs“ – pink	Key8	Start playback ITEM 8
9	„gr“ – gray	Key9	Start playback ITEM 9
10	„wsgrn“ – white/green	Key10	Start playback ITEM 10
11	„wsge“ – white/yellow	Key11	Start playback ITEM 11
12	„brgn“ – brown/green	Key12	Start playback ITEM 12
13	„grrs“ – gray/pink	Key13	Start playback ITEM 13
14	„brge“ – brown/yellow	Key14	Start playback ITEM 14
15	„brgr“ – brown/gray	Key15	Start playback ITEM 15
16	„rtbl“ – red/blue	Key16	Start playback ITEM 16

6.6 CUSTOMIZED ASSIGNMENT FOR THE 16-INPUT OR 2-INPUT KABEL

- In file *PLAYLIST.txt* disable the default assignment of keys for every ITEM by entering *KeyOff*.
- Make the desired assignment for every ITEM.

Attribute	Designation	Function	Example
.d	Distance		
.t	Trick mode		
.v	Volume		
.j	Jump		
.x	Random		

- ① KeyPlus is only used as an example. Enter the key you want to assign the command to.

```
KeyPlus=+3.d   Jump three ITEMS forward
KeyPlus=-1.d   Jump one ITEM back
KeyPlus=4      Jump to ITEM 4
KeyPlus=+1.t   Pauses the media file
KeyPlus=-1.t   Continues playback
KeyPlus=2.t    Changes between pause and playback
KeyPlus=+5.v   Increases the default volume by 5 dB
KeyPlus=-5.v   Reduces the default volume by 5 dB
KeyPlus=+10.j  Jump 10 seconds forward
KeyPlus=-10.j  Jump 10 seconds back
KeyPlus=1.x    Random jump within the playlist
```

- ① Using the key to increase the volume does not allow any value higher than 0 dB so as to avoid distortions and override problems. When a jump within a media file via *.j* is initiated a short message specifying the jump direction and distance is displayed at the bottom of the image.

Example:

```
[ITEM 1]
File=01.mp4
Displaytime=0
KeyOff
KeyPlus=2 (jump to ITEM 2)
KeyMinus=3 (jump to ITEM 3)

[ITEM 2]
File=02.mp4
Displaytime=0
KeyOff
KeyPlus=+2.d (jumps two ITEMS forward)
KeyMinus=-2.d (jumps two ITEMS back)
```

Command List
for customized assignment
of wires and keys

7 CONTROLLING THE FHD PLAYER

The FHD Player supports various external control systems that can be linked up via RS232 interface, USB peripheral connection or via network integration.

7.1 WEB INTERFACE

① If you want to control the FHD Player via the web interface it needs to be integrated into the network.

Compared to the illustrations below the web interface may look slightly different on the various other web browsers.

- Enter the FHD Player's IP address into the address line of the required web browser.

- Click item *REMOTE ACCESS*.

➔ You can now control the FHD Player via the web interface.

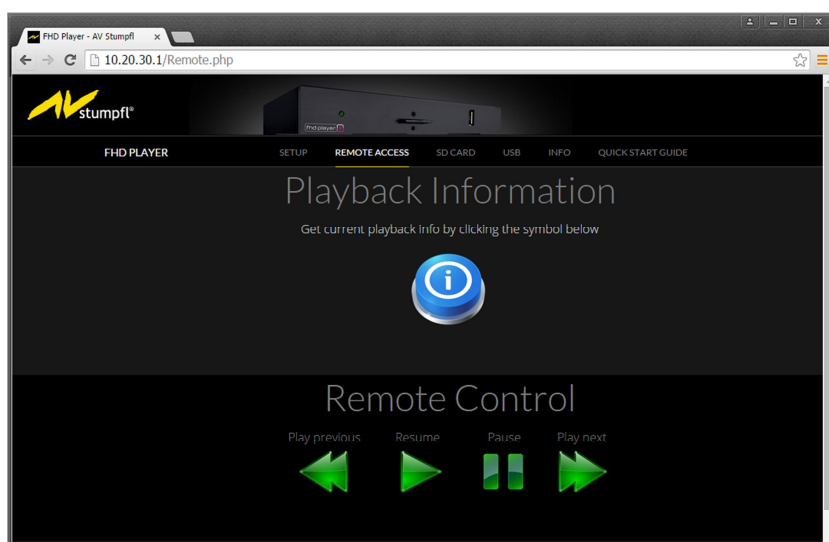


Abb. 6: Web Interface – Remote Control Part 1

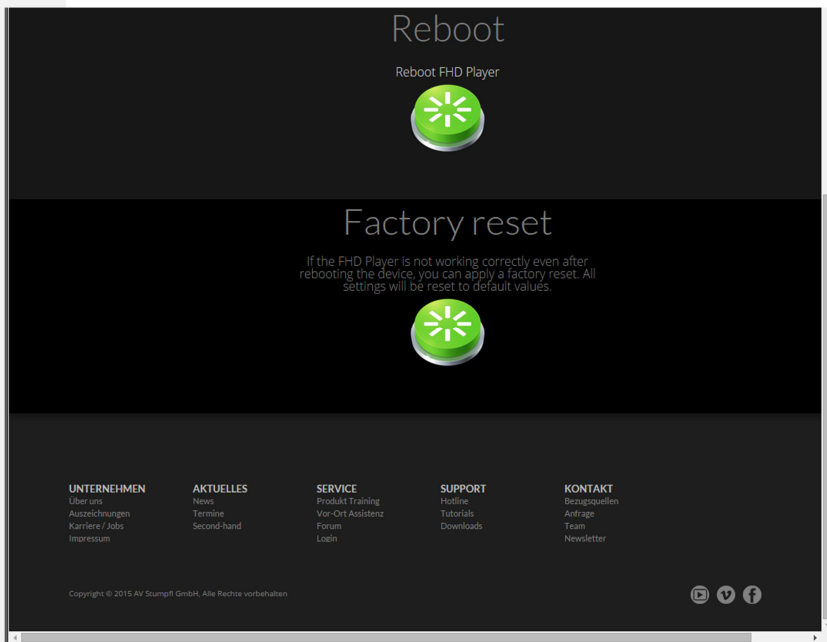


Abb. 7: Web Interface – Remote Control Part 2

7.2 RS232 CONTROL

The FHD Player can be controlled via a number of different RS232 control units.

Precondition for RS232 control:

Data transfer: 9,600 Baud, asynchronous

Data bits: 8

Parity: None

Stop bit: 1

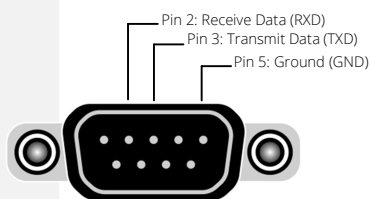


Fig. 8: Pin assignment RS232

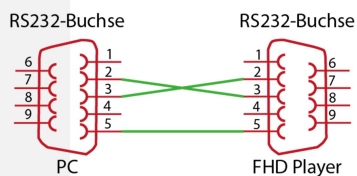


Fig. 9: Accessory: STK-C012 Null-modem cable without handshaking

Control via the
RS232 interface

- Using the null-modem cable connect the FHD Player to a control unit (e.g. PC) via the RS232 interface (see Fig. 9).
- In the web interface click *Setup > Peripheral Setup*.
- Select *Terminal* for controlling.
- Choose the corresponding baud rate.
- Click *APPLY SETTINGS*.
 - ➔ **The command can now be transferred using your individual control program.**
- ① However, the necessary parameters can also be configured via the initialization file.

7.3 UDP CONTROL

Control via UDP

The FHD Player can be remote controlled via network protocols.

- Integrate the FHD Player correctly into the network.
- The FHD Player is pre-configured for UDP port 4950. If this port is already in use assign some free UDP port in the initialization file or in the web interface.
- Identify the FHD Player in your individual control program via its IP address.
 - ➔ **The command can now be transferred using your individual control program.**

UDP is a network protocol for fast data transmission. Predefined commands are used to control the FHD Player. However, UDP has no means to check whether the commands are actually delivered, in what order they are delivered or whether they are delivered multiple times.

Example 5:

<code>PAUSE</code>	<code>0x0D 0x0A</code>	→ The FHD Player pauses media file playback.
ASCII	HEXA	
<code>PLAYINDEX=2</code>	<code>0x0D 0x0A</code>	→ The FHD Player plays ITEM2 on the playlist or the second media file according to the alphanumeric order.
ASCII	HEXA	

RS232/UDP Commands	
PAUSE	Pause the current playback
RESUME	Resume playback of a paused media file
PAUSEPLAY	Change between playback and pause
NEXT	Jump to the next media file
PREV	Jump to the previous media file
VOLUP	Increase volume
VOLDOWN	Reduce volume
VOLUME=	Set volume in dB
VOLUME?	Output volume
MUTE	Mute Mode
UNMUTE	Unmute
TOGGLEMUTE	Toggle Mute Mode
MUTE?	Output of Mute Mode
PLAYINDEX=	Address media files according to ITEM no. on the playlist or alphanumeric order
PLAYFILE=	Play media file according to file name (exact file name)
OUTPUTOFF	Switch off connection to the output device (only possible via HDMI)
OUTPUTON	Switch on connection to the output device (only possible via HDMI)
DATE=	Set date and time
SPEED=	Playback speed
SPEED?	Output playback speed
SKIPSIZE?	Output skip size
SKIPSIZE=	Set skip size (in seconds)
SKIPFORWARD	Playback by one skip forward
SKIPBACKWARD	Playback by one skip backward
JUMPTIME=	Jump to a certain location within the media file (in milliseconds)
JUMPPERCENT=	Jump to a certain location within the media file (in percent)
PLAYBACKTIME?	Output current playback time
TOTALTIME?	Output total duration of the playlist
GETTIMEBYINDEX=	Total duration of the media files selected by means of the index
GETTIMEBYNAME=	Total duration of the media files selected via the file name
TIMETOFINISH?	Remaining playback time
UPDATEPLAYLIST	Update data on the card
MAC?	Output MAC address at the output device and as acknowledgement in the control program
IP?	Output of IP address at the output device and as acknowledgement in the control program
STARTAUTODOWNLOAD	Start autodownload of the defined FTP server
STATUS	Output of the current playback mode (e.g. Play, Pause)
CONFIG?	Output current configuration at the output device and as acknowledgement in the control program
SYNCON	Enable synchronous operation
SYNCOFF	Disable synchronous operation
INDEXLIST?	Output file list on data carrier
PLAYLIST?	Output of playlist on data carrier
FOLDERLIST?	Output of folder list on data carrier
KEY=	Simulate a keystroke
AUDIOTRACK=	Change audio track
AUDIOTRACK?	Read out current audio track

① Every command must be terminated with Carriage Return and Line Feed (CR, LF or 0x0D, 0x0A):

7.4 2-BUTTON GPIO MODE

The FHD Player can be controlled via 2 buttons and the RS232 interface.
Example: Button 1 causes a jump forward by one media file, button 2 a jump back by one media file.

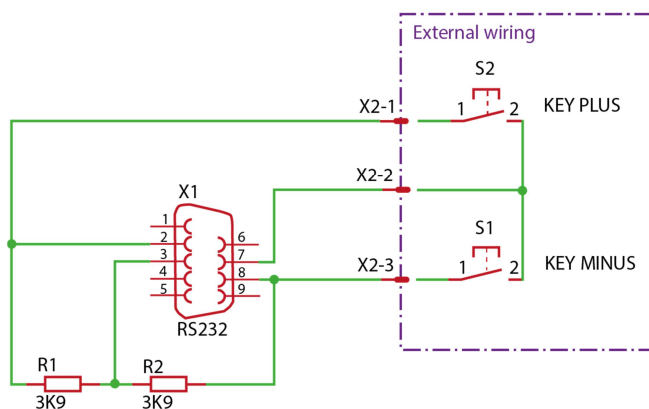


Fig. 10 Circuit diagram for 2 buttons via RS232

- Connect the two buttons in accordance with the circuit diagram.
- In the web interface click *Setup > Peripheral Setup*.
- Select *RC* for control.
- Click *APPLY SETTINGS*.
 - ➔ You can now control the FHD Player in accordance with the default assignment via two buttons.

① Control configuration is also possible via the initialization file by assigning parameter *[RemoteType] RC*.

Information on how to make your own assignment can be found in chapter 6.6 *Customized assignment of wires and keys*.

7.5 PRESENTER

You can control your FHD Player via a Presenter. The FHD Player was tested using the Presenter Logitech R400.

- Plug the receiver into the USB peripheral port (9).
 - In the web interface click *Setup > Peripheral Setup*.
 - Select the USB Device *Presenter* .
 - Click *APPLY SETTINGS*.
- ➔ You can now control the FHD Player in the default functions described below using the Bluetooth Presenter

① Control can also be configured via the initialization file by assigning parameter *[USB Type] Presenter*.

Bluetooth Presenter default functions:

KEY	Action
KEY19	Forward to next ITEM
KEY20	Back to previous ITEM
KEY21	Play
KEY22	Pause
KEY23	Jump to first media file or first ITEM in the playlist

It is also possible to use customized assignments via the playlist (see *Chapter 6.6 CUSTOMIZED ASSIGNMENT inputs*)

7.6 USB NUMBER PAD

You can control your FHD Player via a USB number pad and a playlist.

7.6.1 Connecting the USB number pad

- Plug the cable of the USB number pad into the USB peripheral port (9).
 - In the web interface click *Setup > Peripheral Setup*.
 - Select the USB Device *Numpad* .
 - Click *APPLY SETTINGS*.
- ➔ You can now control the FHD Player via a playlist using a USB number pad.

① Control can also be configured via the initialization file by assigning parameter *[USB Type] Numpad*.

Connecting the USB number pad

Selecting a media file
using the USB number pad

7.6.2 Using the USB number pad

- Enter the required ITEM number of your playlist using the USB number pad.
 - ➔ This number is displayed at the output device.
 - Press *Enter* on the USB number pad to enable the selected number.
 - ➔ The selected ITEM is now played.
- ① The maximum number is 4-digits.

Control via Touchscreen
Controller

7.7 TOUCHSCREEN CONTROLLER

You can control your FHD Player via a USB Touchscreen Controller. The FHD Player underwent testing for capacitive and resistive touchscreens without Multitouch using 3M and eGalax Touch Controllers.

- Plug the USB cable of the USB Touchscreen Controller into the USB peripheral port (9).
 - ➔ The FHD Player is now connected to the USB Touchscreen Controller.

7.7.1 Defining touchscreen coordinates

- In the web interface click *Setup > Peripheral Setup*.
 - Select the USB Device *TouchCalibrate*.
 - Click *APPLY SETTINGS*.
 - ➔ You can now define the X and Y coordinates for your USB Touchscreen Controller.
- ① Control can also be configured via the initialization file by assigning parameter *[USB Type] TouchCalibrate*.
- Enter the coordinates of the touch fields into your playlist in accordance with the table below.

Txxx,yyy,www,hhhh,a=cccc[pppp]	
T	Permanent identifier for Touch
xxx,	X-coordinate (top left corner of the touch panel)
yyy	Y-coordinate (bottom left corner of the touch panel)
www,	Touch panel width
hhh,	Touch panel height
a=	Action: 0 CMD at button press (when touching) Action: 1 CMD at button release (when releasing)
cccc	Command for the FHD Player Possible commands are as follows: in progress
[pppp]	Optional parameter, e.g. ITEM no. for <i>PLAY 1</i> . Please note the space in front of the number.

Example:

```
[ITEM 1]
File=01.mp4
Displaytime=0
T1234,5678,0100,0050,1=PLAY 1
T8765,4321,0060,0150,1=PLAY 77
T0000,1111,0200,0100,0=PLAY 1234
```

When the field with the coordinates 1234,5678,0100,0050 is touched while ITEM 1 is played, the FHD Player jumps to ITEM 1 and plays the media file of ITEM 1 (01.mp4) . When the field with the coordinates 8765,4321,0060,0150 is touched, ITEM 77 is played, etc.

7.7.2 Using the USB Touchscreen Controller

- In the web interface click *Setup > Peripheral Setup*.

- Select the USB Device *Touch* .

- Click *APPLY SETTINGS*.

➔ You can now select media files via the touch screen.

① Control can also be configured via the initialization file by assigning parameter *[USB Type] Touch*.

7.8 RFID

in progress

7.9 RFID SHOW

in progress

Entering touch panel coordinates in the playlist

Selecting media files using the USB Touchscreen Controller

8 LOOP MODE

Media files can be played in seamless Loop Mode.

8.1 LOOP MODE WITH PLAYLIST

- In the playlist use *Loop=-1* in the corresponding ITEM.

➔ This entry causes the media file to be played in an endless loop.

You can also enter the exact number of repetitions (e.g. *Loop=5* → media file is played 5 times).

8.2 LOOP MODE WITHOUT PLAYLIST

The Loop Mode without playlist can be configured via the initialization file or the web interface.

- ① If the data carrier used does not contain a playlist, the media files are played in an alphanumeric order.

- Change parameter *[PLAYMode]* to the required option.

Repeat All: All the media files on the data carrier are played in a seamless loop.

Repeat Default: The first media file on the data carrier is played in an endless loop until another one is selected via the external control system (e.g. 2-button GPIO Mode). Following this the first media file starts playing in a seamless loop again.

Repeat Selected: A media file selected via an external control unit is played in a seamless loop until a new media file is selected.

- Plug the data carrier with the modified initialization file into the FHD Player or click *APPLY SETTINGS* in the web interface.

➔ The selected loop mode is now performed.

9 SYNC MODE

You can play a Multidisplay Presentation by syncing several FHD Players. Sync mode can be configured via the initialization file or via the web interface.

① For Sync Mode the media files of all FHD Players must have the same playing time.

The media files must contain audio tracks.

The playlists of all FHD Players must be harmonized or deleted.

The FHD Players must be integrated into the network.

For every synchronous group only one master must be defined.

- Change parameter [SYNCControl] to *On*.
 - Change parameter [SYNCType] to *Master* or *Slave*.
 - Define the desired sync group in parameter [Group].
 - Plug the data carrier with the modified initialization file into the FHD Player or click *APPLY SETTINGS* in the web interface.
- ➔ **All slaves will now automatically follow the master.**

Sync Mode

10 FTP ACCESS TO DATA CARRIER

You can use FTP to access the files on the data carrier used. Install the required FTP Client (e.g. FileZilla).

- Enter the FHD Player's IP address into the server path.
- Use user name and password of the corresponding data carrier. The access data can be changed in the initialization file or in the web interface. FHD Player is pre-configured for the following access data:
SD card: user name: AVS, password: AVStumpfl
USB data carrier: user name: usbler, password: usb

The left side of the FTP Client allows navigation in your PC's file system. On the right side you will find the file system of your FHD Player's data carrier.

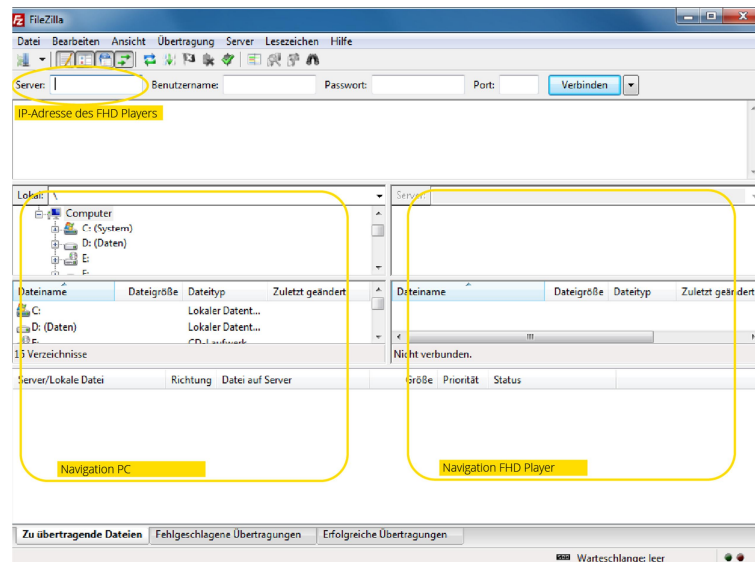


Fig. 11: Example of an FTP Client

- Copy the required files via drag & drop or via the context menu (right-click > upload) onto the data carrier.
- Update the data carrier contents via the web interface, via UDP command or unplug the data carrier and plug it in again.
 - ➔ The FHD Player will now play the updated media files.

11 FILE UPDATE BETWEEN USB DATA CARRIER AND SD CARD

Files on the SC card can be deleted or added via the USB data carrier during operation.

11.1 ADDING MEDIA FILES

- In the text editor of your choice create a file *COPY.txt*. as illustrated in the example.

Example

File=01.mp4

File=02.wav

Media files *01.mp4* and *02.wav* are to be added.

Kommentar [S2]: Habe hier und bei 11.2. analog zu den anderen Beispielen das Wort „Datei“ durch „File“ ersetzt. Bitte kontrollieren!

- Save file *COPY.txt* and the media files to be added on the USB data carrier.
- Plug the USB data carrier into the FHD Player.
 - ➔ The media files are now transferred automatically to the SC card.

11.2 DELETING MEDIA FILES

- In the text editor of your choice create a file *DELETE.txt*.

This file must be created as illustrated in the example.

Example

File=03.mp4

File=04.mp3

Media files *03.mp4* and *04.mp3* are to be deleted.

- Save file *DELETE.txt* on the USB data carrier.
- Plug the USB data carrier into the FHD Player.
 - ➔ The media files are now automatically deleted from the SD card.

12 SETTING TIME AND DATE

12.1 AUTOMATIC TIME SYNCHRONIZATION

The time configuration of your FHD Player can be synced automatically via a public NTP server or an NTP server in your network.

- Open the web interface as described in chapter 4.1 *Configuration via the Web Interface*.
- Open *SETUP > NTP Setup*.
- Change parameter *NTP Control* to *On*.
- If you want to use your own NTP server assign its IP address or web address.
- Click on *Apply Settings*.

➔ **Automatic time synchronization is now active.**

You can also change the parameters in the initialization file. To do so read chapter 4.2 *Configuration via the initialization file*.

12.2 TIME CONFIGURATION VIA THE WEB INTERFACE.

in progress

12.3 TIME CONFIGURATION VIA UDP/RS232 COMMAND

- Configure the RS232 control as described in chapter 7.2 *RS232 CONTROL* or the UDP control as described in chapter 7.3 *UDP Control*.
- Transfer data and time using the command
Date=dd.mo.yyyy hh:mm:ss

Example:

```
Date= 08.08.2015 11:55:00 <CR><LF>
```

➔ **Date and time have now been set.**

13 AVIO

in progress

14 APPENDIX

14.1 WASTE DISPOSAL



Please do not dispose of your FHD Player in the household waste.
Take your device to the corresponding collection or recycling center.

14.2

ACCESSORY

14.3 EC DECLARATION OF CONFORMITY

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