

Version 1.13.0

# ADVANCED PEOPLE SENSOR

## APS Video Player

Instructions for use



*Instructions for use (original)*

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**HELLA Aglaia** People Sensing Technologies

people-sensing.com



HELLA Aglaia Mobile Vision GmbH  
Ullsteinstraße 140  
12109 Berlin  
Germany

phone: +49 30 2000429-0  
fax: +49 30 2000429-109  
mail: support@people-sensing.com  
www.people-sensing.com

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# Supplemental directives

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Document history

Version	Modification
1.13.0	<p>Open videos from current versions.</p> <p>Adaptation of the pictorial representations to the changed appearance.</p> <p>Chapter 3.3</p> <ul style="list-style-type: none"> <li>■ New structure for the chapter.</li> <li>■ More detailed information.</li> </ul>
1.12.0	<p>No new manual , only firmware</p> <p>Playing APS-RS videos</p> <ul style="list-style-type: none"> <li>■ Displaying the new counting information for groups and carts.</li> <li>■ Displaying tracks for carts.</li> </ul>
1.11.0	<p>Open videos from current versions.</p> <p>The track info window now shows the dwell time of tracks as “dwell” in seconds instead of “age” in frames.</p> <p>Playing APS-RS videos</p> <ul style="list-style-type: none"> <li>■ Possibility to play videos of multi sensor arrays. The player will show moving tracks on a stiched image.</li> <li>■ Adaption for new extended height range in APS-RS SW v1.16</li> </ul> <p>Playing APS-M videos</p> <ul style="list-style-type: none"> <li>■ Visualization of new Stop/Motion Detector in APS-M SW v1.9</li> </ul>
1.10.0	<p>Creation of document</p>

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# 1 Introduction

The Advanced People Sensor (APS) can store videos internally. To keep the video data manageable, APS-M videos have a maximum recording time of 60 minutes, and APS-RS videos are split into intervals having a 30 minutes maximum length. These are stored on the APS in an archive (tar-file) format which contains standard video information and configuration and sensing data.

With a standard video player, it is only possible to play back the video information.

The APS Video Player can also overlay specific configuration and sensing data over the video information, such as:

- Counting lines and results
- Motion state information (only with APS-M videos)
- Zone monitoring info (only with APS-RS videos)
- Object tracks
- Track info
- Range
- Floor area
- Obstructions

Having this configuration and sensing data available allows customer installations to be evaluated and counting errors to be analyzed.

In addition, it is possible to combine these configuration and sensing data overlays with the video information, and convert this into a standard video format (playable on a standard video player).

The APS Video Player version 1.13.0 is needed to play videos from the following APS variants:

- APS retail variants (APS-RS) with firmware 1.18
- APS public transport variants (APS-M) with firmware 1.11

The APS Video Player version 1.13.0 can also play videos from all lower firmware versions.

## 2 Installation

### Requirements

- Windows 7 SP1 / Windows 8 / Windows 10 (64 bit versions only)
- At least 2 GB RAM
- Graphic resolution 1024 x 768, 16 bit
- At least 300 MB free disk space

To install the APS Video Player proceed as follows:

1.  Download the installation file from [www.people-sensing.com/downloads/](http://www.people-sensing.com/downloads/)
2.  Start the installation by double-clicking the downloaded executable file.
3.  You'll be ask: This will install APS Video Player 1.13.0. Do you wish to continue? Confirm with *<Yes>*.
  - ➔ The Setup Wizard starts.
4.  Click *<Next>* for the next step.
5.  The APS Video Player is installed by default in the folder: C:\Program Files\APSVideoPlayer1.13.0.

To change this folder click *<Browse>*.

To go to the next step click *<Next>*.
6.  The settings for the installation are shown. To start the installation click *<Install>*.
  - ➔ Installation starts.
7.  The APS Video Player has been installed on your computer. To exit the Setup Wizard click *<Finish>*.

### 3 Working with the APS Video Player

The easiest way to start the APS Video Player is to double-click the APS Video Player icon on the desktop which has been placed on the desktop during installation. Alternatively select “ → Start Menu → All apps → APS Video Player 1.13.0 → Run APSVideoPlayer 1.13.0 ”.

#### 3.1 Work Screen

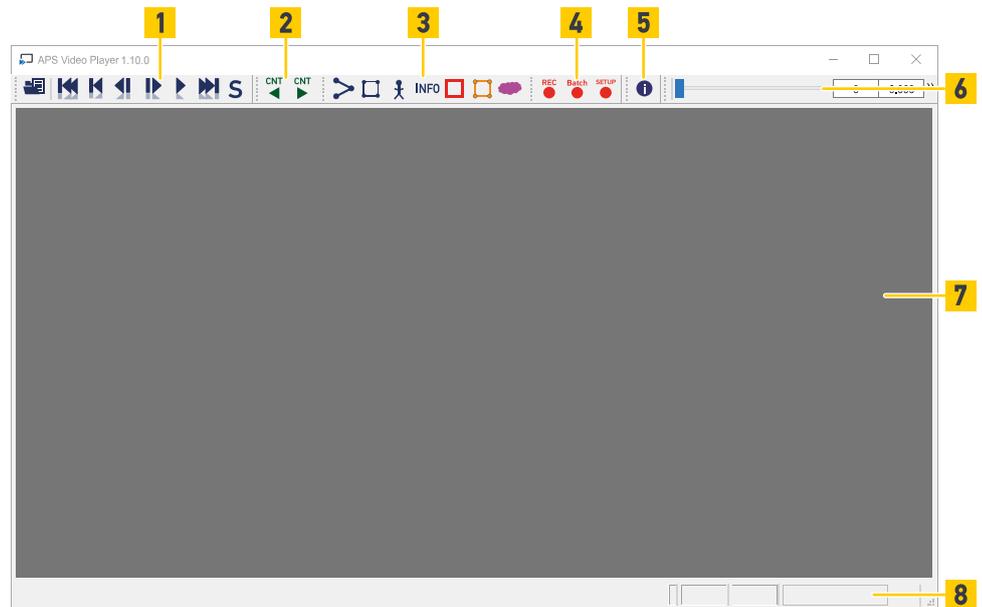


Fig. 1: Elements of the work screen

- |   |                       |   |                      |
|---|-----------------------|---|----------------------|
| 1 | Video control toolbar | 2 | Count event toolbar  |
| 3 | Visualization toolbar | 4 | Video export toolbar |
| 5 | Info toolbar          | 6 | Time slider toolbar  |
| 7 | Video file area       | 8 | Status bar           |

**Video control toolbar**

Use the elements of the video control toolbar to open and play APS video files.



Open a video file



Open the previous video file in the directory



Go to the start of the video (or *<home>*)



Step backwards (or *<shift>* + *<tab>*)



Step forwards (or *<tab>*)



Play/Pause the video (or *<space bar>*)



Open the next video file in the directory



Toggle player speed

**Count event toolbar**

Use the count event toolbar to go directly to the next or previous count event.



Jump to previous count event



Jump to next count event

**Visualization toolbar**

Use the visualization toolbar to show or hide counting lines, areas and tracking information. The available information is based on the configuration and licenses of the APS.



Show / hide counting lines and counting results



Show / hide zone monitoring areas and zone monitoring results



Show / hide tracks



Show / hide track information



Show / hide the monitoring range



Show / hide the configured floor area



Show / hide marked obstructions

### Video export toolbar

Use the video export toolbar to convert the APS video file with all displayed information into standard video formats like avi or mp4.



Start/stop single video conversion (e.g. avi or mp4)



Convert all video files in a directory



Choose video file format for conversion

### Info toolbar

Use the info button  to get information about the program, HELLA Aglaia and Open Source Licenses

### Time slider toolbar

Use the time slider toolbar to move to any point in time of a video by either entering the specific frame, entering a specific time stamp or using the slider.

### Video file area

See the video and counting information if selected.

### Status bar

Get information about the toolbars and the number of files in the current directory.

### 3.2 Playing a video

1. To open an APS video file click the  button.
  - ➔ The file-open dialog opens to select a tar-file on the computer.
2. Select a tar-file and click open.
  - ➔ The video and counting information are displayed in the video file area (Fig. 1 /7).

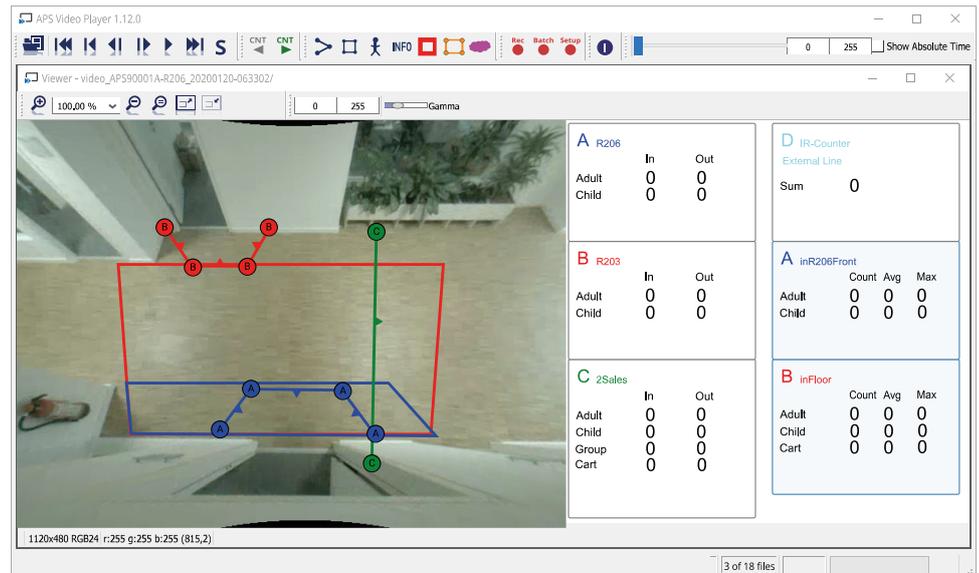


Fig. 2: Displaying APS video file

3. Click the  button to start the play back.
  - ➔ The button changes to .
4. Click the  button to jump to the next count event or the  button to jump to the previous count event. If the video is paused, use the  and  buttons to go step by step through the video.



#### Keyboard commands

Some of the buttons can also be operated using keyboard commands  
 (➔ List of keyboard commands on page 21).

### 3.3 Displaying additional information

Use the visualization toolbar buttons (Fig. 1 /3) to switch the additional information on or off

When starting the video player and opening a video file counting lines, monitored zones and tracks are displayed by default.



**Licensed functions**

Some of the information are licensed functions. They are only displayed if the function is available on the APS.

#### 3.3.1 Displaying counting lines and results

Use to show / hide counting lines and counting results. Based on your firmware version (APS-M or APS-RS) and installed licenses different counting information can be displayed.

APS-M firmware



**Only APS-M variants**

The described functionality is only available with APS-M variants.

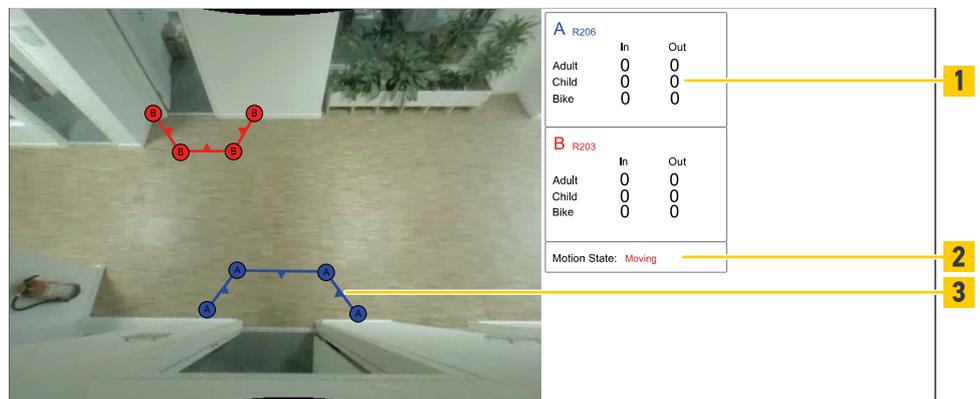


Fig. 3: Displaying counting lines and counting information with APS-M firmware

- The counting results are separated into Adult, Child and Bike (Fig. 3 /1) if an Object Classification license is installed on the device. In the other case, all counting of persons are grouped under Adult.
- The direction of movement IN is indicated by the arrow on the counting line (Fig. 3 /3).
- Since APS-M firmware version 1.09, the motion state (Fig. 3 /1) of the vehicle is displayed as soon as it is used for counting. The state can change between Moving and Standing.

APS-RS firmware



**Only APS-RS variants**

*The described functionality is only available with APS-M variants.*

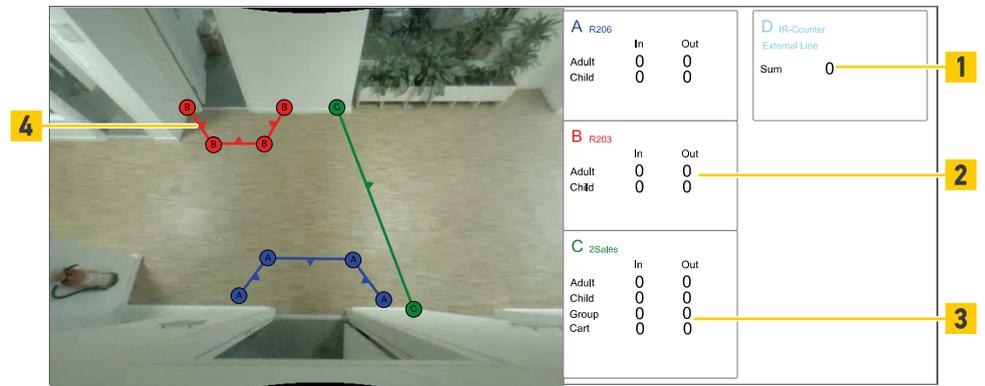


Fig. 4: Displaying counting lines and counting information with APS-RS firmware

- The counting results are separated into Adult, Child, Groups and Carts (Fig. 4 /2) if an Object Classification license is installed on the device. In the other case, all counting of persons are grouped under Adult. The counting of groups and carts can be individually configured for each counting line (Fig. 4 /3).
- The direction of movement IN is indicated by the arrow on the counting line (Fig. 4 /4).
- It is possible to use a digital input e.g. with a infrared sensor for counting. In this case, the counting line (Fig. 4 /1) cannot distinguish between direction of movement and classification. The counting line is not displayed in the video.

### 3.3.2 Displaying zone monitoring areas and results



**Only APS-RS variants**

*The described functionality is only available with APS-M variants.*

Use  to show / hide zone monitoring areas and zone monitoring results.

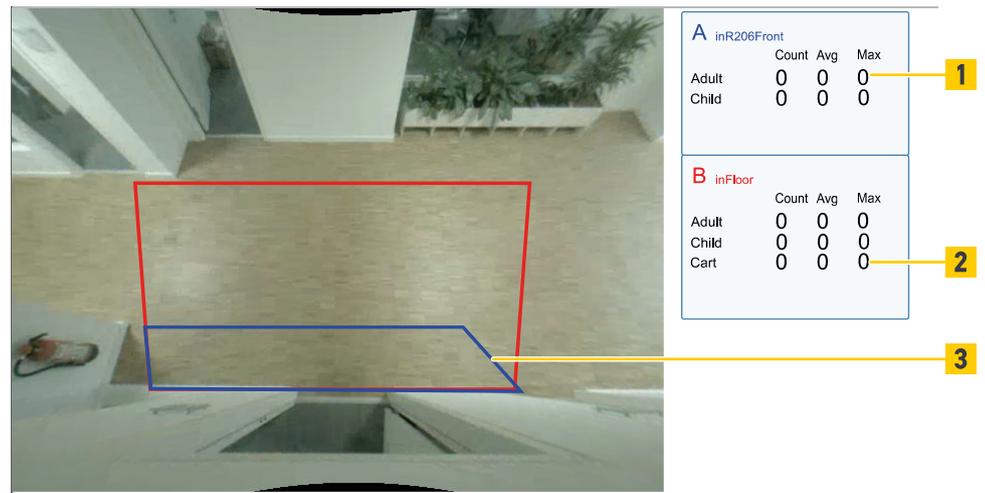


Fig. 5: Displaying zone monitoring areas and zone monitoring results

- Information about the monitored zones are displayed with a blue background (Fig. 5 /1).
- The information about the monitored zones (Fig. 5 /3) are separated into Adult, Child and Carts (Fig. 5 /2) if an Object Classification license is installed on the device. In the other case, all information are grouped under Adult.

### 3.3.3 Displaying tracks and track information

Use  to show / hide tracks.

Use  to show / hide track information.



Fig. 6: Displaying tracks and track info

- The tracks (Fig. 6 /1) visualize moving objects. They mark the top and bottom of the objects. The color of the tracks based on the object classification.

The tracks are colored in:

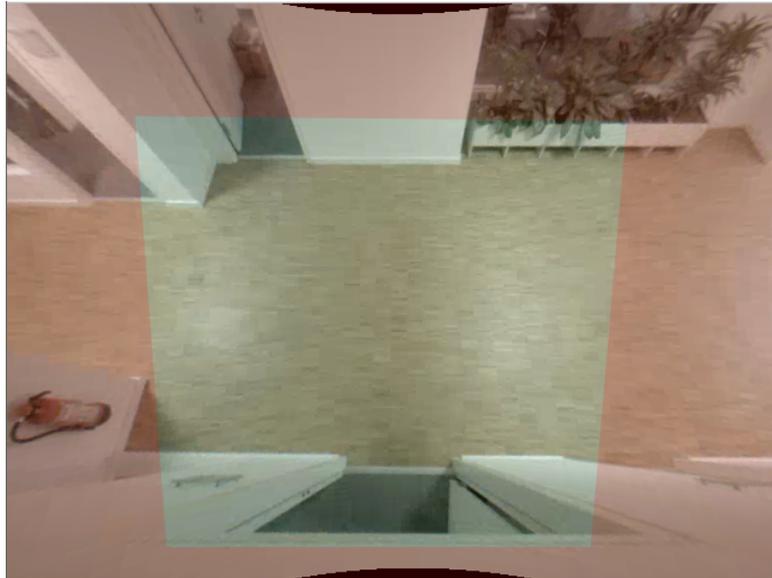
-  for adults.
-  for children.
-  for bicycles (only APS-M variants).
-  for carts (only APS-RS variants).
-  for other moving objects (only APS-RS variants).
- The track info (Fig. 6 /2) shows some information about the object.

It shows:

- the unique ID of the object.
- the height of the object.
- the dwell time of the object.

### 3.3.4 Displaying monitoring range and floor area

Use  to show / hide the range.



*Fig. 7: Displaying the range*

The range shows where people can be tracked and counted. The red area is not usable for counting.

Use  to show / hide the configured floor area.



*Fig. 8: Displaying the configured floor area*

The floor area is the area where people be counted if they cross a counting line.

### 3.3.5 Displaying obstructions

Use  to show / hide marked obstructions.



*Fig. 9: Displaying marked obstructions*

Ceiling panels, door compartments, exit signs or hanging objects can intrude into the monitored area of the device from the top. If people can stand below these objects, they must be masked to disregard them in count calculations.

### 3.3.6 Multi Sensor Fusion



*Only APS-RS variants*

*This functionality is only available with APS-RS variants.*

When a video is played from a Multi Sensor Fusion, the stitched image is displayed. This image is larger than the standard videos. It shows the fusion and can also be in a T- or L-shape, like the fusion is.

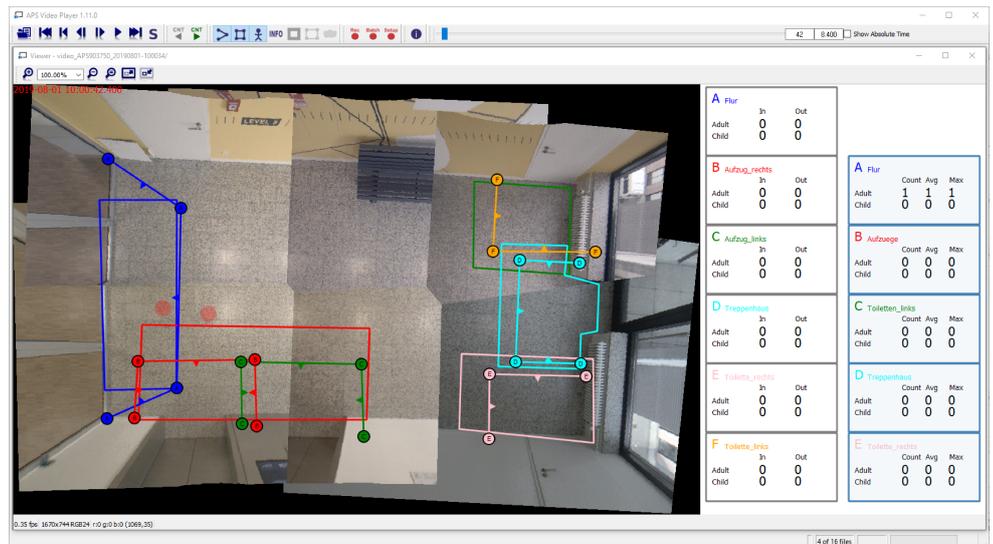


Fig. 10: Multi Sensor Fusion

The video doesn't show any people. Movements can only be recognized by the tracks. Tracks should therefore be displayed.

Information about the floor area, range or obstructions cannot be displayed. The corresponding buttons cannot be selected.

## 3.4 Converting videos

Converting a video means to combine the video data and the selected counting information as overlay into one video file, that can be played by a standard video player software.

There are 2 possibilities to convert:

- Converting a single file.
- Converting all video files in a folder.

For both possibilities first open a file (➔ Further information on page 11).

### 3.4.1 Setting a video format

1. To set the video format of the exported video click .
  - ➔ The Video Settings window opens.
2. Select a video format from the list (Fig. 11 /2).
3. To confirm the selection click OK (Fig. 11 /1).
  - ➔ The Video Settings window closes.



Fig. 11: Video settings



#### Settings

*The video export settings are not stored permanently.*

### 3.4.2 Convert single files

1. To convert a single file switch on .
2. Switch on all additional information you want to display in the converted video (➔ Chapter 3.3 Displaying additional information on page 12).



#### Speed up conversion

*You can speed up the conversion by clicking the Toggle Player Speed button  before you start the conversion. This is useful when converting very large files or batch converting many files!*

3. To start the conversion click .
4. To stop the conversion, click  again.
  - ➔ The converted file is stored in a subfolder called “ → *Converted*”, which is created in the same directory as your chosen video file.

The file is named: <original file name>\_<sequential number>.<format extension>.

### 3.4.3 Convert all files within a folder

1. ➤ Switch on all additional information you want to display in the converted videos (➔ Chapter 3.3 Displaying additional information on page 12).
2. ➤ To convert all files in a folder switch on .
  - ➔ The Batch Video Conversion window opens.
3. ➤ See the number of files to convert (Fig. 12 /1).



Fig. 12: Batch Video Conversion



#### Speed up conversion

You can speed up the conversion by clicking the Toggle Player Speed button **S** before you start the conversion. This is useful when converting very large files or batch converting many files!

4. ➤ To start the conversion click Start (Fig. 12 /2).
  - ➔ Each file in the folder is converted.
5. ➤ The conversion stops when all files are converted. To close the window click Ok (Fig. 13 /1).
  - ➔ The converted files are stored in a subfolder called “→ *Converted*”, which is created in the same directory as your chosen batch folder.



Fig. 13: Batch Video Conversion finished

The files are named: <original file name>.<format extension>.

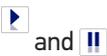


#### Storing files

Files with the same name will be overwritten.

## 4 Appendix

### List of keyboard commands

Key	Button	Description
<home>		Go to the start of the video.
<shift> + <tab>		Step backwards
<tab>		Step forwards
<space bar>	 and 	Play/Pause the video

## 5 Glossary and abbreviations

<b>APS</b>	<b>Advanced People Sensor</b> Second generation people sensor, successor of the APC.
<b>APS-M</b>	<b>APS</b> for <b>M</b> obile applications such as busses and trains.
<b>APS-RS</b>	<b>APS</b> for <b>R</b> etail & <b>S</b> ecurity and other stationary applications.
<b>AVI</b>	<b>Audio Video Interleave</b> Audio Video Interleave is a multimedia container format from Microsoft that allows synchronous audio-with-video playback.
<b>HAGL</b>	<b>HELLA Aglaia</b>
<b>MP4</b>	<b>MotionPicture4</b> or <b>MPEG-4 Part 14</b> is a digital multimedia container format most commonly used to store video and audio, but it can also be used to store other data such as subtitles and still images
<b>tar-file</b>	A <b>tapearchive-file</b> is an archive file to store many files into one single file.

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**DRIVING  
SOFTWARE  
INNOVATION**

246 **HELLA Aglaia Mobile Vision GmbH**  
247 A member of the HELLA group  
248 Ullsteinstraße 140  
249 12109 Berlin / Germany  
250  
251 phone +49 (0) 30 2000 429-625  
252 fax +49 (0) 30 2000 429-149  
253 mail [info@people-sensing.com](mailto:info@people-sensing.com)  
254 [www.people-sensing.com](http://www.people-sensing.com)