PLAYBOX TECHNOLOGY

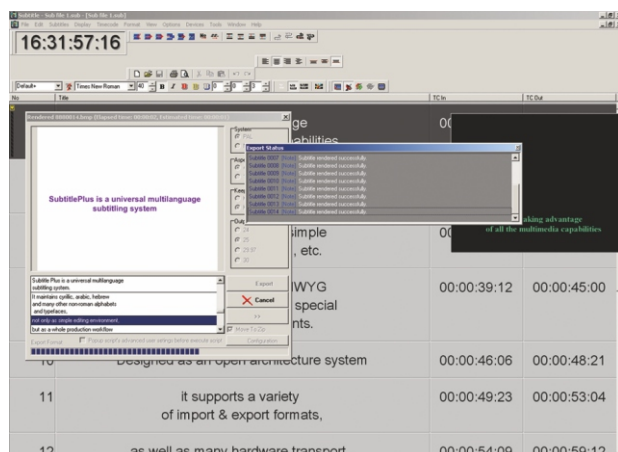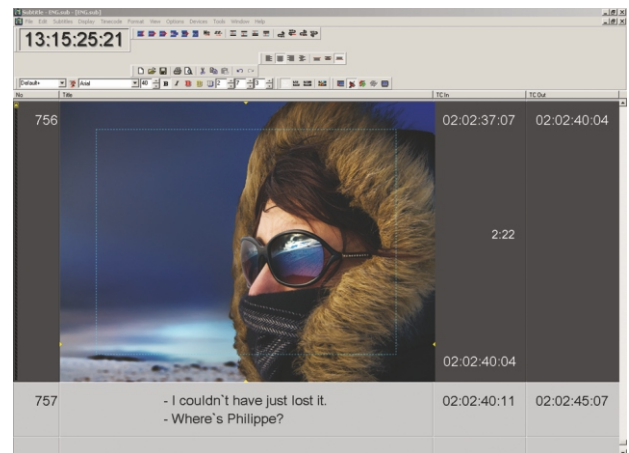## Subtitling Solutions by PlayBox Technology

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Subtitling is one of the many capabilities available in the PlayBox Technology product family. PlayBox subtitling offers innovative and scalable solutions for modern tapeless subtitle list preparation and transmission.

MAIN SUBTITLING SOLUTIONS

Subtitle / Caption Preparation

SubtitlePlus is the universal subtitling preparation system that allows managing and controlling the appearance of titles and captions. It allows entering text, translations, editing, scheduling, etc. You can create subtitles for viewers around the world, in the right language for each country.
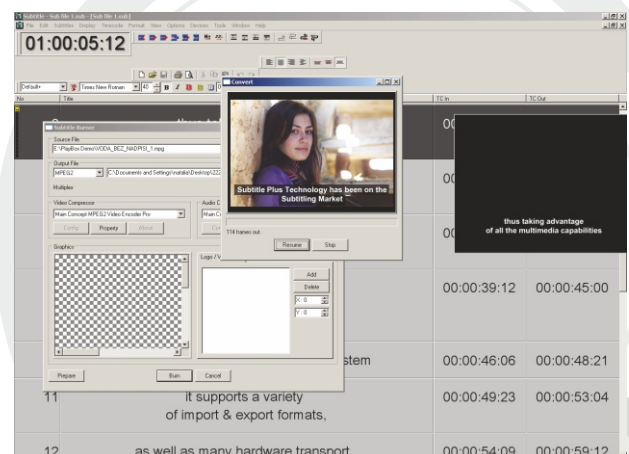

Subtitle Conversion

If you need to change the format of a subtitle file to one that your system supports, SubtitlePlus has the solution with Subtitle Conversion. This can convert subtitle files from a third-party format to PlayBox's customized format, and vice versa.

Offline Subtitle Generation

SubtitlePlus provides offline subtitle generation for:
• DVD authoring - SubtitlePlus creates a graphic image for each subtitle and a cue list. Most of the available DVD authoring systems formats are supported. Other formats can be defined by the user.
• Video editing software (Adobe Premier, AVID, Sony Vegas, others) - SubtitlePlus can prepare a video track containing pre-rendered subtitles, complete with alpha channel, for direct insertion into the video editing software timeline.

On-air Subtitling (burning & broadcasting)

Subtitles/captions can either be generated and keyed over live video (burnt in) at transmission time, or delivered as closed captions, separate to the video - allowing viewers to add them to the video at home, if they want.
On-air subtitle burning (keying) is a real-time process. There may be either specific hardware (for video-in / video-out setups) or, it can be available in top-grade playout software.
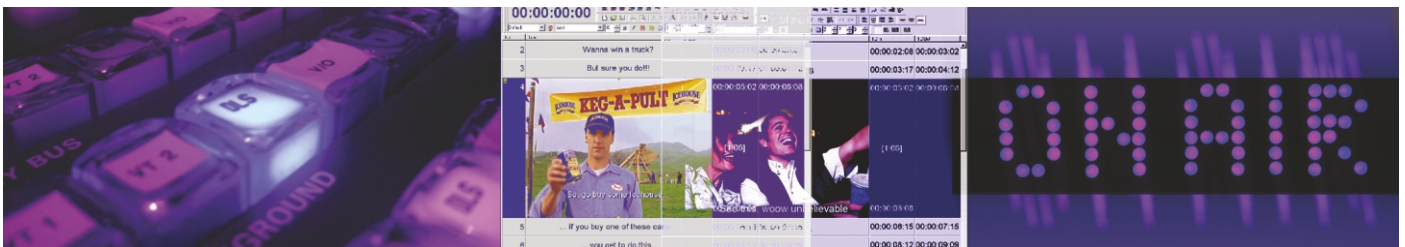
ON-AIR SUBTITLING

• Burning

Subtitle burning and broadcasting with SubtitleBox

SubtitleBox, a module of the PlayBox AirBox playout server, can burn-in single language subtitles in real time. A number of AirBox plugins can access SubtitleBox's output and burn-in the subtitles over video. SubtitleBox supports Decklink, Streaming, Stradis and multi-format playout. Other AirBox plugins can also support subtitling and captioning through AirBox. In addition, an API provided by SubtitleBox allows new third-party plugins to be created.

Subtitle burning with SubtitlePlus

SubtitlePlus is the solution for subtitle burning only. In this case you may need additional hardware or add-ons. To provide multi-language versions of one channel SubtitlePlus for each language is required.

• Closed captioning (CC) / subtitling

Closed Captioning

In the USA, Canada and some other North American countries the standard used, EIA 608, can transmit up to four different languages or streams. The newer EIA 708 standard can transmit a lot more but other top level broadcast standards limit this to 20. In the analogue television only EIA 608 can be used. In digital domain (SDI, DVB, ATSC, SD and HD) both are possible. CC is text-based subtitles which allow changing a limited set of text formatting attributes such as color, italic and the subtitle background.

Teletext

Teletext is service used to transmit data like information pages, clocks, private data, and also subtitle pages.
It is supported by all TV signals - analogue, digital (SDI), DVB, ATSC. Teletext is mainly used in Europe.

Digital Video Broadcasting (DVB)

DVB Subtitles are generated as a graphical bitmap. There is no restriction on the languages that can be supported. It is also possible to create special characters and logos. DVB Subtitles can only be used in DVB.

• Single or Multi-channel subtitling/captioning with Single or Multi-language support via PlayBox solutions

This can be achieved with the appropriate subtitling solutions

- **SubtitlePlus** with additional output plugins (available on request)
- **SubtitleBox** (available on request)
- **DVB Subtitle Server** providing:
- Graphic DVB subtitles - for DVB only
- Text DVB subtitles - possible conversion into another type of closed subtitles such as teletext, subtitles or closed captions (EIA 608, EIA 708 or others).

Areas of use

- Single or multi-channel subtitling with single or multiple language support for TV programs, TV commercials, videos, DVDs, CD-ROM and Internet productions

- Subtitles for live or near live events such as news, sport and special events

- Teletext services for wide range of customers, from large national broadcaster sites to Small TV Channels

- Closed captioning for providing a link to news, entertainment, and information for individuals who are deaf or hard-of-hearing.