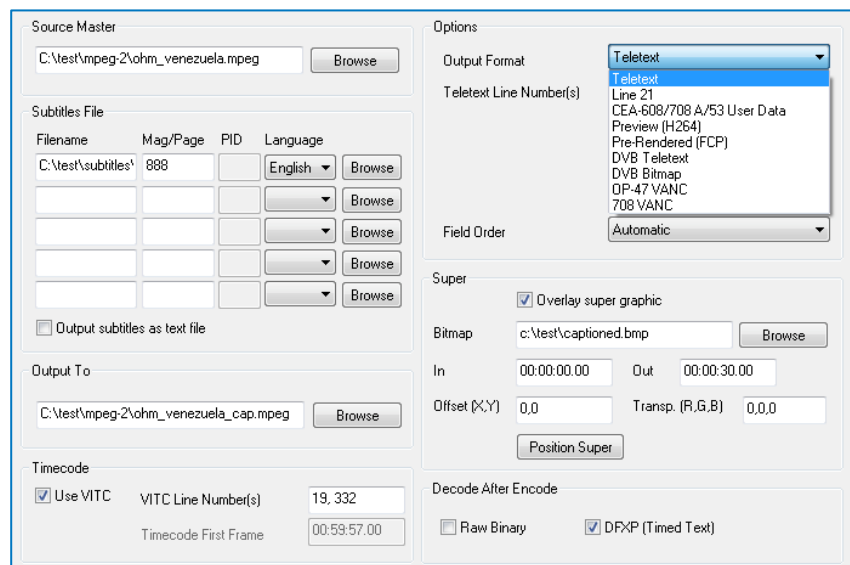


InFILE Subtitle Inserter Software

InFILE is an easy-to-use software utility that inserts subtitles into a broadcast quality video file or DVB transport stream. As software working at the file level InFILE avoids the need for specialist SDI video hardware, video tapes, manual dubbing or re-ingestion/encoding processes, thereby saving on equipment costs as well as time and effort.

The increasing use of compressed video files as a storage and distribution format for broadcast television content, replacing traditional tapes and uncompressed SDI video, now demands a software approach to subtitle data insertion in order to preserve the benefits of the digital file-based workflow.

Traditional SDI inserters need a real-time dub process using the original uncompressed material with the resultant new master being re-ingested to the server ready for playout, adding unnecessary time and cost compared to inserting the data directly into the video file or transport stream.



- **Fits into a digital workflow**
- **Saves operator/production time and saves machine room time**
- **Software only, no expensive special hardware**
- **File based operation: no linear video, no SDI, no tapes, and no re-encoding**
- **Simultaneous insertion of multiple files/pages/languages**
- **Automation API**

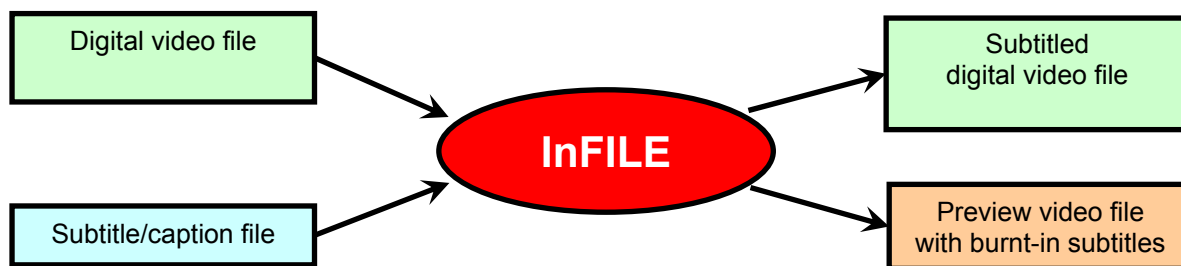
The software can handle one or more streams of subtitles using the most common subtitle formats:

- **Open captions**
- **Teletext and Line 21 VBI closed captions**
- **CEA 708 and OP-47 VANC encoding (MXF, Seachange)**
- **DVB bitmap and teletext subtitles (transport stream)**
- **CEA 608/708 A/53 user data**

The software can also produce open-caption previews of teletext subtitles or closed captions and has the option to include an overlay graphic as a spoiler, bug or an identifier for a subtitled programme version).

API and batch processing to save time – InFILE offers a simple command line API with a batch queue for ease of automated operation as well as the easy-to-use manual user interface shown here, which also includes queue management functions. Its processing is considerably faster than real-time so it's much quicker than an equivalent dubbing operation (actual speed is dependent on the host computer).

Job #	Source Master	Subtitles File	Output To	Output Type	Status
1	ohm_venezuela.mpeg	DOTV9126000H.cap	ohm_venezuela_cap.mpeg	Preview	Processing
2	ohm_venezuela.mpeg	DOTV9126000H.cap	ohm_venezuela_cap2.mpeg	Line 21	Queued
3	ohm_venezuela.mpeg	DOTV9126000H.cap	ohm_venezuela_cap3.mpeg	CEA-608/708 A/53 User Data	Queued



- overlays HD/SD open-caption subtitles - authored using WinCAPS (any language, any font)
- inserts teletext subtitles or line 21 closed captions into user defined VBI line(s) or PID (and teletext page number with options to repeat subtitles and add continuous headers)
- preserves all source video characteristics including other VBI data (e.g. VITC)
- adds optional user defined overlay graphic within specific timecode range
- also creates an H264 web-ready preview version with burnt-in subtitles
- includes read-after-write capability to verify the proper insertion of closed captions (delivers raw binary or DFXP (timed text) format)

Video Format	Open Subtitles ¹	Teletext		Line 21 Closed Captions		
		VBI	OP-47 VANC	608 VBI	708 VANC	708 A/53
MPEG-2/M2V MP@ML, 422P@ML (SD), MP@HL, 422P@HL (HD)	✓	✓	-	✓	-	✓
Omneon	✓	✓ ²	✓	✓ ²	✓	✓
SeaChange	✓	✓	✓	✓	✓	✓
GXF (Grass Valley)	✓	✓	-	✓	-	✓
MXF	✓	✓	✓	✓	✓	✓
QuickTime (inc DVC Pro and IMX D10)	✓	✓	-	✓	-	-
H.264	✓	-	-	-	-	-
WMV	✓	-	-	-	-	-
Transport stream file equivalents to the above ³	✓	✓	-	✓	✓	✓

¹ Open subtitles should be authored in WinCAPS to ensure WYSIWYG safe area checks, direct TrueType font rendering for open and DVB bitmap subtitles using STL and CAP files is planned for version 3.3 (due for release mid-2010)

² Support for the Omneon VBI sidecar format as well is planned for version 3.3

³ Support for transport streams including DVB teletext (EN 300472) and DVB bitmap (EN 300743) is also planned for version 3.3

Preview video files too - Programme schedulers and reviewers, lawyers or censors, external translators and end clients who have traditionally been sent a VHS preview tape can now be sent a video file with burnt-in subtitles to view on their PC or media player. This can be distributed immediately, as many times as needed, using an Internet/FTP download rather than duplicating tapes and using an expensive courier service. *SysMedia also produces the WinCAPS Screener utility to produce low bitrate preview WMV files.*

Timecode handling to ensure synchronisation normally uses VITC in the source master as its timecode reference, however the user can specify an alternative start timecode reference if there is no VITC or if the timecode in the subtitle/caption file is offset compared to the VITC.