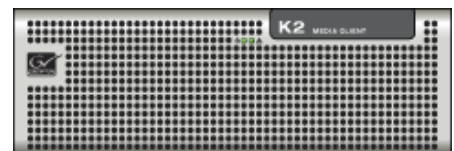
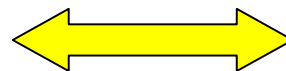




Closed Caption Workflow Revolution with Starfish and K2 Automated CC/Teletext Insertion

Roger Crooks – Product Marketing, Thomson Grass Valley
Peter Blatchford, Sales & Marketing Director, Starfish Technologies

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Closed Caption Workflow Revolution with Starfish & K2

Overview

Traditional broadcast transmission systems can employ a number of options for inserting closed caption (Teletext subtitling) information. Typical solutions are either in pre-transmission, by adding the closed caption data whilst dubbing a broadcast tape master, or live insertion into the outgoing TV signal in real time.

Both methods use dedicated hardware and have advantages and disadvantages. Pre-transmission insertion is time consuming because it's a real time copy process, however it does allow quality control of the finished media. The advantage of live insertion is that it requires less equipment and can be automated, however it does have reliability concerns and transmission monitoring is essential and redundant systems are typically employed.

Key Benefits – Starfish & K2

Starfish Technologies Compositor software, in combination with K2, dramatically improves the workflow for closed caption insertion for both World System Teletext (WST) and North American Line 21 systems.

The Starfish Compositor application eliminates the need for dedicated insertion hardware and timecode locked systems, whilst offering all the advantages of a pre-transmission quality check capability and fully automated faster than real time operation.

Operational Benefits include:

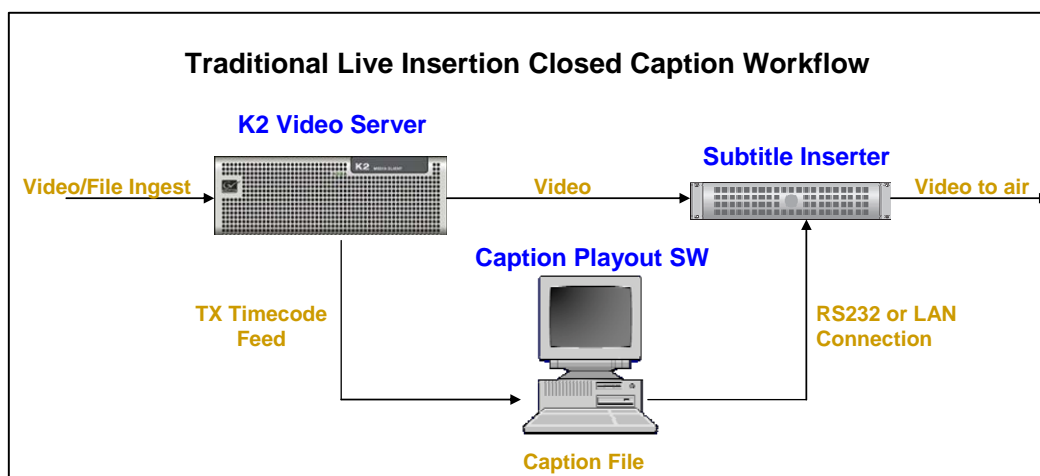
- Embedding takes place prior to transmission, so the final playout file is complete and no downstream caption insertion hardware is required.
- The embedded caption file can be viewed for quality control purposes prior to transmission. Compositor allows the user to play back the broadcast file, decoding the closed captions into visible captions for review.
- The closed captions become an integral part of the programme file. When the material is archived it contains the embedded subtitles, so the process does not need to be repeated when the material is recalled for subsequent transmission.

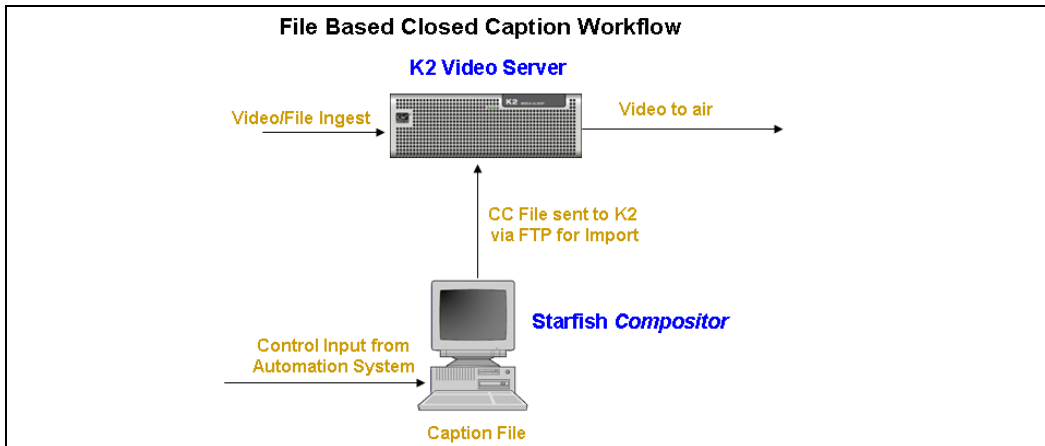
Description

By utilizing Starfish Compositor caption embedding software, customers can now benefit from a dramatically improved workflow that increases reliability and eliminates the need for hardware inserters.

The caption file is delivered to a PC running Starfish Compositor software which embeds the captions directly into GVG encoded media, without decoding or re-encoding the media file, so there is absolutely no opportunity for quality loss during the process.

Compositor operates via a standard network connection to a K2 server or any network attached storage where K2 encoded files are stored.

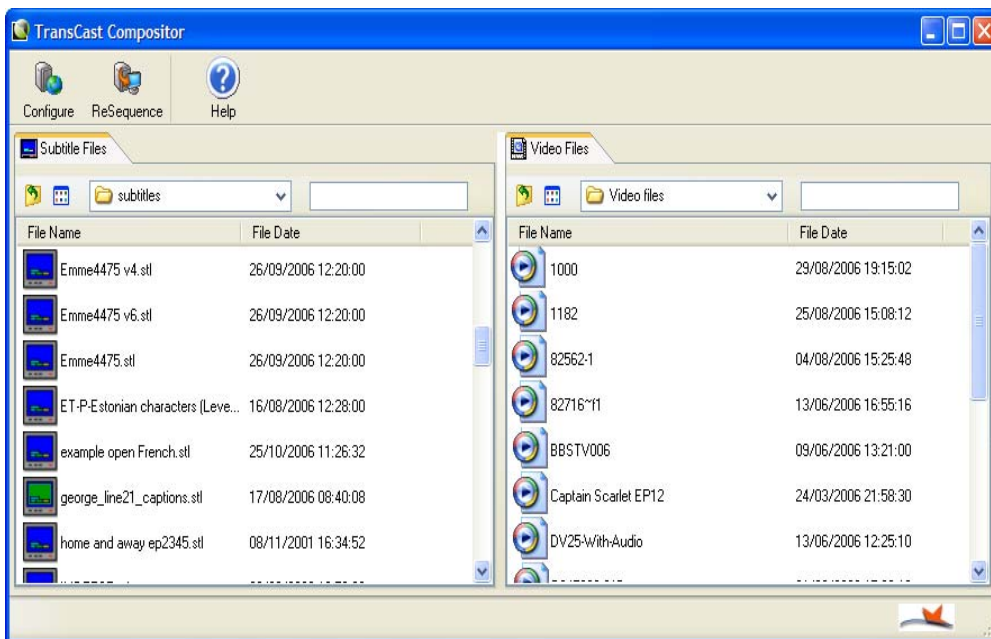




Workflows

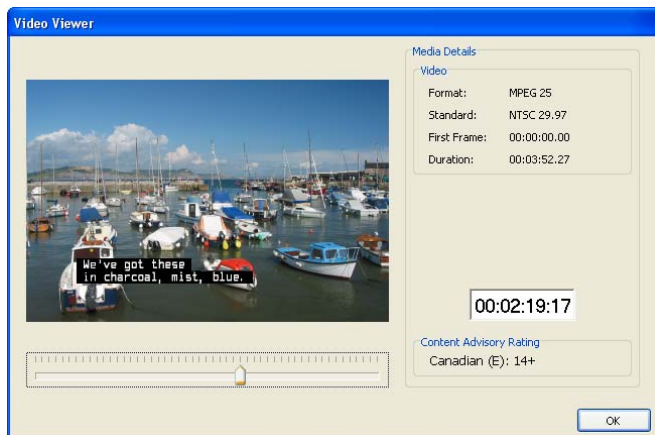
With Starfish Compositor and K2, the workflow process of handling captioning is dramatically simplified and can be totally automated.

By adding captioning upstream, rather than downstream, errors can be detected and fixed before going to air. And by storing captions with the video file, retransmission is easy and archiving is simpler because you are dealing with a single file.



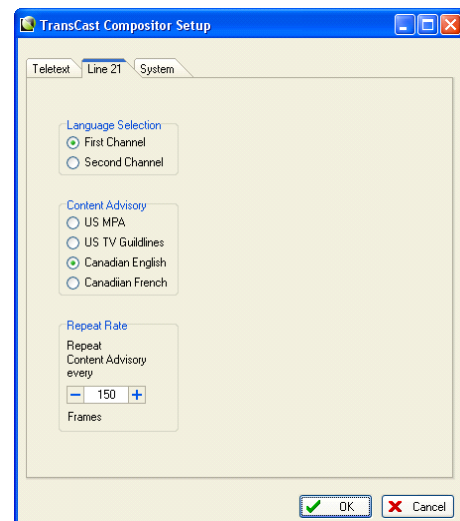
Compositor Main User Interface

Caption files in the left window and media files in the right window



Compositor Preview Window – For QC Check

Shows closed captions as displayed by decoder



V – Chip Menu

Control

Compositor has an easy to use GUI for manual drag-and-drop operation and offers a full API for external control so it can be integrated into a broadcast media management system

Customer Descriptions

A typical customer for this technology is either a broadcaster that wishes to fully exploit the benefits of a file based transmission system, or a caption authoring company who wish to embed closed captions using a very simple and reliable technique that eliminates the need for engineering involvement and video hardware

V-Chip

Compositor also has the capability to encode the V-Chip information used in North America to mark a programme with appropriate content labelling.

Company Profile

Starfish Technologies Limited offers a range of innovative solutions to the Broadcast TV market in technology areas that include: Captioning and Subtitling, Audio Description, Region Insertion Systems and Scheduling.

Starfish has a well deserved reputation for delivering complete end-to-end solutions to an impressive list of international broadcasters. Starfish was formed in 2000 and is an ISO 9001 registered company.

For more information about Starfish Technologies, visit www.starfish.tv or you can contact sales directly at sales@starfish.tv