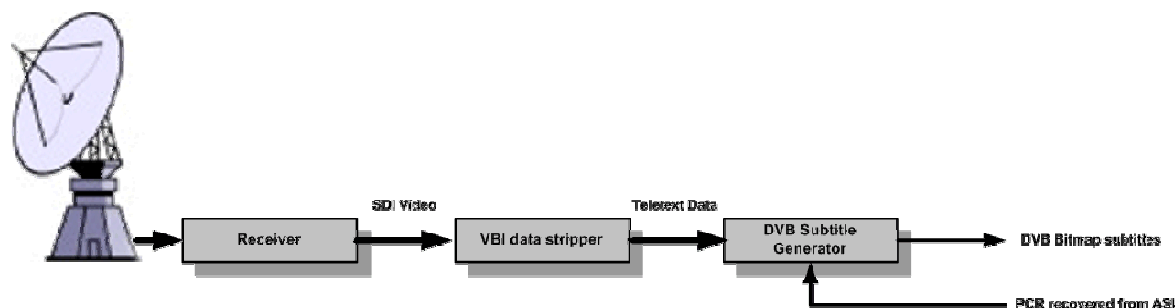# Subtitle Transcoding

Introduction

In the context of subtitling, transcoding refers to the process of taking subtitle data in one format and recoding it into another format. This is also known as pass-though subtitling.

Scope

Although the transcoding process can be done 'off line' by receiving, recording, editing and then re-transmitting the data this White Paper will concentrate on the 'real time' option. Here 'real time' refers to the fact that the transcoding is done directly in the transmission path as quickly as possible so to appear seamless to the viewer.

Why Transcode?

Transcoding is often required where a service is first broadcast with subtitles in one format but downstream is re-broadcast and requires subtitles in a different format. A common example is where analogue services are simulcast as digital services. The analogue services require subtitles in Teletext format but the digital service requires DVB subtitles. In this case the Teletext subtitles are transcoded to DVB. The delay in the signal due to the video MPEG encoding can be used to allow time for the subtitle encoding so the presentation timing of the DVB subtitles closely matches that of the original Teletext subtitles.

Details

There are a number of subtitling formats and it is not possible to transcode from all types. The following table shows the options and feasibility of transcoding.

To From	Line 21	Teletext	DVB Bitmap	Imitext	Open	MPEG Open #
Line 21 Closed Caption		Y*	Y*	Y*	Y*	Y*
Teletext ***	Y**		Y	Y	Y	Y
DVB Bitmap	N	N		N	Y	Y
Imitext	N	N	Y		Y	Y
Open (Burnt in)	N	N	N	N		

Key:

* Although it is technically possible to convert from Line21 to other formats this is not a common requirement. Some of the presentation modes supported in Line 21 such as roll up are not available in some other formats.

** Although technically possible to convert from Teletext to Line 21 there are significant restrictions in the Line 21 format including line length and data rate that make this conversion impractical.

*** Teletext input can be taken from an SDI digital video signal or as DVB Teletext from an ASI Signal.

\# MPEG open subtitling is the process of adding open (in vision) subtitles into a compressed MPEG-2 video signal without decoding and recoding.