

Sonamic TimeScaling

Synchronized transition for hybrid radio

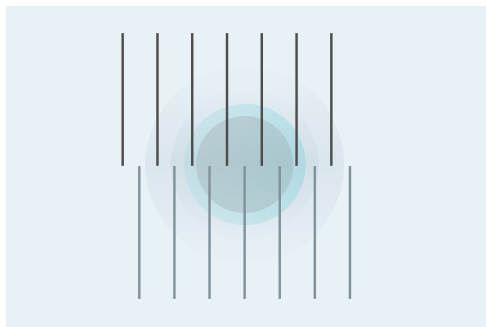
With hybrid radio, passengers can continuously listen to a radio station during a car ride even when leaving the broadcast area. This works by combining a radio transmission with the accompanying web stream.

Compared to a radio signal's reception, a web stream can have a delay of 20 seconds or more. When switching to the web stream, portions of the delayed feed are either lost or played twice; both of which are irritating to the listener. Fraunhofer Sonamic TimeScaling synchronizes both signals with each other to produce a precise, indistinguishable transition (see illustrations).

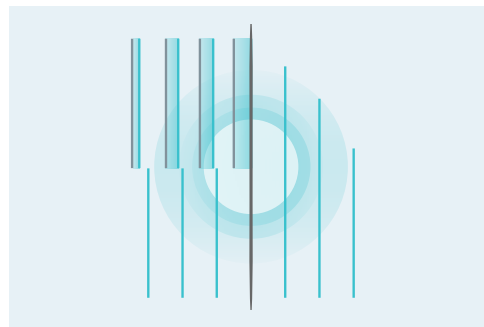
This seamless switch works by having the system recognize in advance that the radio signal will soon be interrupted. The radio begins to calculate the existing offset to the

web stream. The resulting value is needed to delay the signal in a way that is inaudible to the customer. Compensating this time difference allows seamless switching, which means passengers can continue to listen to the radio station far beyond the transmission area.

The process also works in reverse, when the system recognizes that the radio signal is strong enough again for good reception. This means it can seamlessly switch from the web stream to the radio signal while keeping the amount of mobile data used for Internet access to a minimum.



*Time-offset between two radio signals
(e.g. FM and streaming)*



*Seamless switch between two different radio
sources*

Contact

Fraunhofer Institute for Integrated Circuits IIS

Management of the institute
Prof. Albert Heuberger
(executive)
Prof. Bernhard Grill
Prof. Alexander Martin

Am Wolfsmantel 33
91058 Erlangen, Germany
Phone +49 9131 776-0
info@iis.fraunhofer.de

Kristoffer Gottschalk
Business Development
Automotive Audio
Phone +49 9131 776-6145
kristoffer.gottschalk@
iis.fraunhofer.de

www.iis.fraunhofer.de/automotive