

CSM FUNCTIONALITY

External Interfaces

All parameters that can be generated with Service Control and Conditional Access Control can also be received over the SI and Parameter Interface. This interface connects the CSM to external equipment such as a Traffic Control System or an Automation System. One CSM can be connected to multiple systems.

A second interface, the Event Trigger Interface, is provided to allow external equipment to directly trigger the event transitions.

PSI and SI Management

PSI and SI tables are derived from the actual configuration and parameters entered with Network Control, Service Control and CA control, or, if applicable, over the SI and Parameter Interface. These tables are transmitted to the TokenMux multiplexers that will activate them at the scheduled time, or upon the reception of an external trigger (see below).

Conditional Access and Simulcrypt

The CSM uses a generic mechanism to handle Conditional Access in the Compression System so that most major Conditional Access systems can be applied¹. The ECM parameters are entered with Conditional Access Control, or they are added by means of the SI and Parameter Interface.

The CSM also allows for Simulcrypt: Multiple Conditional Access systems can protect the very same services. In this case, the control word for scrambling is distributed to multiple ECM generators and the returned ECM streams are all included in the Transport Stream.

Remultiplexing

The Compression System is able to receive incoming Transport Streams and remultiplex included services or even individual components into the outgoing Transport Stream together with locally encoded content. The TokenMux multiplexer in this case will analyse the PSI and SI contained in the incoming Transport Streams and re-use it to generate new PSI and SI for the outgoing Transport Stream.

Redundancy Switching

The CSM supports both manual and system initiated redundancy switching. In the latter case the system will automatically re-route the service upon failure detection. When using the manual mode, the CSM first activates the switch on the hot stand-by multiplexer for monitoring purposes.

CSM Computing Platform

When event scheduling is not required and the CSM is not critical, the CSM may run on just a single industrial PC. User Interface clients can run on this PC as well, but the use of separate PCs, connected to the CSM via a LAN, is also allowed. In case of event scheduling, the CSM runs on two PCs (or four in case of high performance requirements) in a configuration with a SCSI switch and a RAID array. In this case, separate PCs provide the User Interface clients to the CSM.

¹ The Philips Compression System uses the DVB scrambling algorithm and therefore the scrambling system is subject to export control and the user is required to accept the DVB/ETSI license.

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Information subject to change without notice.
Printed in the Netherlands
3122 312 50112

Compression System Manager



- Control of multi Transport Stream Compression Systems
- Integrated control system for several authorised operators
- Generation of PSI and SI according to the DVB guidelines
- Support for Simulcrypt applications
- Prepared event transitions triggered by internal scheduler or external devices
- Multi-master play-list interface for integration in automated environments
- Manual, semi-automatic and automatic redundancy switching
- Graphical User Interfaces for Network Management, SI data, and Conditional Access parameters

The Compression system Manager integrates the building blocks such as TokenMuxes and video encoders into an MPEG-2/DVB compliant Compression System.

The CSM is suited for small applications e.g. primary distribution systems that require less performance from the management system, as well as for complex DTH systems in which encoding, conditional access and (P)SI parameters have to be played out at precisely the right time.

Philips provides complete end-to-end digital video distribution systems. These systems are based on the globally accepted MPEG-2 and DVB standards, and represent the fruits of Philips many years of experience with digital compression technologies. The Compression System Manager gives quick, direct and user friendly control of the systems, even in complex situations.

Compression System Manager: Total system control

Services

The CSM in the Philips Compression System supports:

- (digital) television services: video, audio, Teletext and private data,
- (digital) radio (sound) services: audio and private data,
- data services: data streams that are grouped in a service,
- data streams that are not referenced in the PSI/SI,
- Near Video On Demand services consisting of repetitions of events both sequentially and in parallel on several encoders.

