

Adoption Of Specification For Satellite Return Channel By ETSI Paves Way For Greater Interactivity

proud to have contributed to initiate and develop the DVB-RCS specification. We are convinced that DVB-RCS will become the de-facto global standard for interactive satellite systems. We are already implementing the world's first interactive satellite network based on DVB-RCS, the ASTRA Broadband Interactive System (BBI) which uses Ka-band payload on the ASTRA 1H satellite. BBI enables the user to benefit from a high peak data rate on the forward and return link, integration with DTH broadcast, independence from terrestrial infrastructure and the inherent multicast support of satellite".

Background

The DVB Project

The Digital Video Broadcasting Project (DVB) is an industry-led consortium of over 290 broadcasters, manufacturers, network operators, software developers, regulatory bodies and others in over 35 countries committed to designing global standards for the delivery of digital television and data services. The DVB standards cover all aspects of digital television from transmission through interfacing, conditional access and interactivity for digital video, audio and data. The consortium came together in 1993 to create unity in the march towards global standardisation, interoperability and future proofing.

To date, there are numerous broadcast services using DVB standards. There are hundreds of manufacturers offering DVB compliant equipment, which is already in use around the world. DVB dominates the digital broadcasting world. A host of other services is also on-air with DVB-T, including data on the move and high-bandwidth Internet over the air. DVB-T also makes possible the introduction of terrestrial pay-TV services.

DVB-RCS

DVB-RCS (ETSI EN 301 790) is a baseline specification for the provision of the interaction channel for GEO satellite interactive networks with fixed return channel satellite terminals (RCST). The present specification facilitates the use of RCSTs for individual or collective installation (e.g. SMATV) in a domestic environment. It also supports the connection of such terminals with in-house data networks. The present specification may be applied to all frequency bands allocated to GEO satellite services.

The solutions provided in the present specification for interaction channel for satellite interactive networks are a part of a wider set of alternatives to implement interactive services for Digital Video Broadcasting (DVB) systems.

In the DVB-RCS system model, two channels are established between the service provider and the user:

- **Broadcast Channel:** a unidirectional broadband Broadcast Channel including video, audio and data is established from the service provider to the users. It may include the Forward Interaction Path.
- **Interaction Channel:** a bi-directional Interaction Channel is established between the service provider and the user for interaction purposes. It is formed by:
 - **Return Interaction Path (Return Channel):** from the user to the service provider. It is used to make requests to the service provider, to answer questions or to transfer data.
 - **Forward Interaction Path:** from the service provider to the user. It is used to provide information from the service provider to the user and any other required communication for the interactive service provision. It may be embedded into the Broadcast Channel. It is possible that this channel is not required in some simple implementations that make use of the Broadcast Channel for the carriage of data to the user.

The RCST is formed by the Network Interface Unit (consisting of the Broadcast Interface Module and the Interactive Interface Module) and the Set Top Unit. The RCST provides interface for both Broadcast and Interaction Channels. The interface between the RCST and the interaction network is via the Interactive Interface Module.

European Telecommunications Standards Institute (ETSI)

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ETSI (the European Telecommunications Standards Institute) is a non-profit making organisation whose mission is to produce the telecommunications standards that will be used for decades to come throughout Europe and beyond. Based in Sophia Antipolis (France), ETSI unites 812 members from 52 countries inside and outside Europe, and represents manufacturers, network operators, administrations, service providers, research bodies and users. The Institute's work programme is determined by its members, who are also responsible for approving its deliverables. As a result, ETSI's activities are maintained in close alignment with the market needs expressed by its members. ETSI plays a major role in developing a wide range of standards and other technical documentation as Europe's contribution to worldwide standardisation in telecommunications, broadcasting and information technology. ETSI's prime objective is to support global harmonisation by providing a forum in which all the key players can contribute actively. ETSI is officially recognised by the European Commission and the EFTA secretariat.

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