



## PRESS RELEASE

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## DVB STANDARDS SHINE IN BRASILIA

**Geneva, 11 January 2001** -- DVB once again highlighted its flexibility and ease of installation with a magnificent presentation of DVB-T technology in the Brazilian federal capital, Brasilia. The DVB Project Office, together with major broadcasting equipment manufacturers, demonstrated the simultaneous reception of mobile SDTV and fixed HDTV using its Hierarchical Modulation technology.

Ministers and government officials were able to experience, at first hand, the mobile capabilities of DVB-T by touring the federal capital in a 20-seater bus especially equipped with LCD screens and a DVB-T receiver. Within the same 6MHz channel an embedded HDTV signal was also being transmitted to fixed locations. The exercise culminated at the Academia de Tennis where a cocktail party and dinner was held for key Brazilian government officials.

As well as viewing the HDTV transmissions on multiple plasma screens, the SDTV signals were received on the portable (mobile) Nokia Media Screen and a golf cart fitted out for the occasion. Other DVB technologies were also on display, in particular the ministers and government officials were introduced to the new and innovative Multimedia Home Platform (MHP) with a demonstration of various applications and hardware.

These demonstrations enabled the DVB to counter misinformation regarding DVB-T and the capabilities of the technology, which have appeared recently in the Brazilian and American press. DVB has proved once and for all that DVB-T supports simultaneous (Hierarchical Modulation) mobile SDTV and fixed HDTV reception if required. Demonstrating that DVB is the market leader, not only in terms of standards, but also with regards to its widely implemented terrestrial system - DVB-T. Manufacturers and companies supporting the operation came from all over the world symbolising DVB's global spread.

DVB acknowledges the roles of, and would like to thank for their help and support: Philips, Philco, Tandberg, Rohde & Schwarz, Nokia, Continental Microwave, Broadcast Technology, Huber Suhner, Adherent, ABC and Ebcomm.

### Technical Demonstration Details:

Two separate streams were hierarchically transmitted within the following parameters, 204 packets with a  $1/32^{\text{nd}}$  guard interval, alpha 1.

- HP stream (SDTV): QPSK in 64QAM, 4.909 Mbit/sec, FEC 1/2, 576I\* 50Hz
- LP stream (HDTV): In 64QAM, 14.726 Mbit/sec, FEC 3/4, 720P, 59.64Hz
- Channel 40, 629 MHz centre frequency ERP approx. 5kW
- Transmitter location: Shopping Pateo Brazil (14 story building)
- Antenna height above ground: Approx. 100 meters

### 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-Hierarchical Modulation

In hierarchical modulation, two separate data streams are modulated onto a single DVB-T stream. One stream, called the "High Priority" (HP) stream is embedded within a "Low Priority" (LP) stream. Receivers with "good" reception conditions can receive both streams, while those with poorer reception conditions may only receive the "High Priority" stream. Broadcasters can target two different types of DVB-T receivers with two completely different services. Typically, the LP stream is of higher bit rate, but lower robustness than the HP one. For example, a broadcaster could choose to deliver HDTV in the LP stream, while delivering an independent SDTV service in the HP stream.

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