

# MPEG2 transport stream analysis in networked DVB monitoring system using Stream Explorer software

MPEG2 Measurement Decoder DVMD [1] and the optional Stream Explorer® [2] software form a test system for comprehensive monitoring and detailed analysis of MPEG2 transport streams. A whole variety of extended functions make the market leader fit for new tasks. The increased networking of DVB transmission equipment calls for network-compatible test systems into which the new Stream Explorer (version 2.00) with all its complex analysis functions can be integrated. In addition, extended measurement functions in both DVMD and Stream Explorer allow insight into the increasingly complex and flexible structures of MPEG2 transport streams.

Compact MPEG2 Measurement Decoder DVMD ensures interruption-free and automatic monitoring of transport stream syntax in real time. The interactive Stream Explorer PC software enhances these functions so that now even the most concealed details can be explored. As a 32-bit application for standard operating systems Windows 95 and Windows NT, the software combines and expands many of DVMD's individual functions and uses all modern means of structuring and graphically visualizing transport stream data. This combination of decoder and software is a convenient tool for any user as its capabilities exceed by far those of the decoder alone.

With the new version of Stream Explorer Rohde & Schwarz makes all these enhanced functions also available for automatic operation thanks to implementation of the software interface for the Microsoft component object model (COM). The COM interface is the standard interface on which Windows programs of any kind can exchange data and commands. Stream Explorer operates as an OLE automation server for other Windows programs. Monitoring software can thus access all functions and use them as required (FIG 1a).

Stream Explorer also supports DCOM (distributed COM), so networked monitoring systems located at separate sites can be implemented. If two sites are interconnected via a network link, a central monitoring computer can use it to access the detached test stations (FIG 1b).

For applications not requiring an automatic monitoring system (eg remote maintenance), Stream Explorer can also be remotely controlled direct via the network. The standard pcANYWHERE software provides a convenient solution for every application (FIG 1c).

In addition to network capability, the current versions of DVMD and Stream Explorer feature a number of valuable innovations: Statistical multiplex will be used increasingly in future to transmit the programs contained in a transport stream, so monitoring of program data rates becomes all the more important. In statistical multiplex the data are no longer transmitted at a fixed rate but at a variable rate that may fluctuate considerably depending on the redundancy of picture contents. The user can now set two limits for monitored data rates. The lower limit defines minimum quality, while the upper limit allows excessive utilization of transport stream

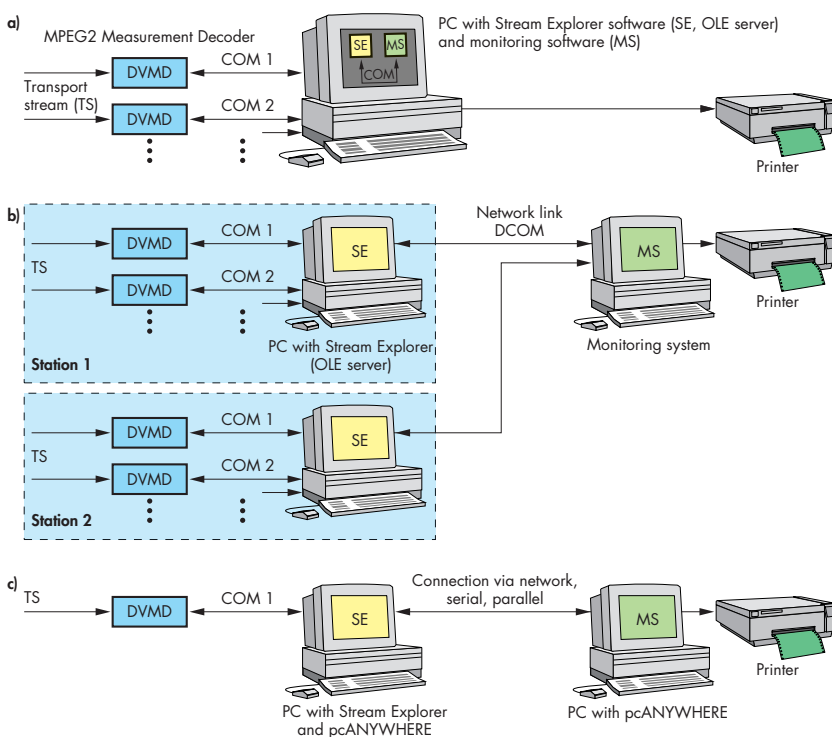


FIG 1 Connection of MPEG2 transport stream test points to DVB monitoring system via network; a) automatic monitoring system, remote control of Stream Explorer via COM, b) automatic monitoring system with separate sites, c) remote control of Stream Explorer via pcANYWHERE software