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(54) Title: SIGNAL GENERATION AND BROADCASTING

(57) Abstract

The invention includes a mostly conventional digital television system (2000) to transmit compressed digital signals. A multiplexer (2004) receives a plurality of further input signals, assembles one or more transport streams and transmits compressed digital signals to a transmitter (2008) of the broadcast centre via linkage (2010). The transmitter (2008) transmits electromagnetic signals via uplink (2012) towards a satellite transponder (2014), where they are electronically processed and broadcast via notional downlink (2016) to earth receiver (2018). The signals received by receiver (2018) are transmitted to an integrated receiver/decoder (2020) connected to the end user's television set (2022). The receiver/decoder (2020) decodes the compressed MPEG–2 signal into a television signal for the television set (2022). A conditional access system (3000) is connected to the multiplexer (2004) and the receiver/decoder (2020), and is located partly in the broadcast centre and partly in the decoder. It enables the end user to access digital television broadcasts from one or more broadcast suppliers. A smartcard, capable of decrypting messages relating to one or several television programmes sold by the broadcast supplier, can be inserted into the receiver/decoder (2020). Using the decoder (2020) and smartcard, the end user may purchase commercial offers in either a subscription mode or a pay–per–view mode. A number of features of particular interest are disclosed, involving the randomization of EMMs, mixing parameter length and identifier on EMMs and the like to save space, dynamic allocation of bandwidth for specific EMMs, and the STM being separate from the SMS.

