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Abstract

Protocols for transmission of data, in particular over telephone line

New features are proposed for protocols for transmitting data through lines such as telephone lines. A first proposal is that the tones of a signal are grouped, and that Trellis encoding is applied within each group. A second proposal is that tone ordering, bit swapping and selection of paths is done within the members of a group. A third proposal is that the sizes of the bands for the transmit and/or receive directions are selected so as to permit an efficient IFFT. A fourth proposal is that the number of tones in a low power mode is reduced, such that only a selected number of the tones are present in the signal input to the IFFT. A fifth proposal is that the number of tones is reduced and the number of frequency components increased by up-sampling to create the VDSL spectrum. A sixth proposal is to effect the low power mode by following a different standard having a lower data transmission rate, such as one according to an ADSL standard.

Figure 4