

Telephone Modem

Digital Communications

by Ricky Ho

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Telephone Lines

- 200 - 3300 Hz Bandwidth

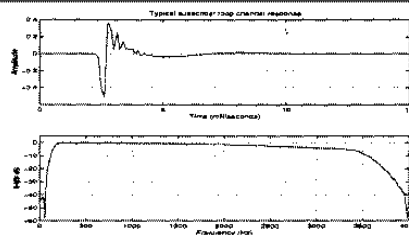
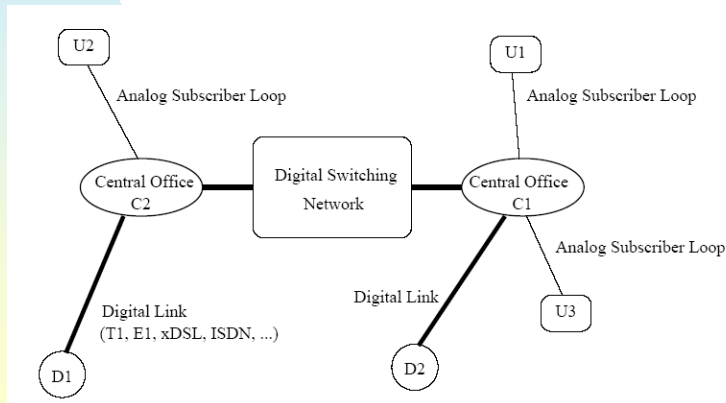


Figure 4: Typical telephone channel response from user to central office comprising a subscriber loop along with the TX/RX filters

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Telephone Network



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V.29 Modem with 9600 b/s 4-wire

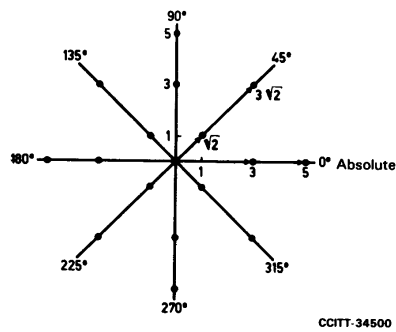


FIGURE 1/V.29
Signal space diagram at 9600 bit/s

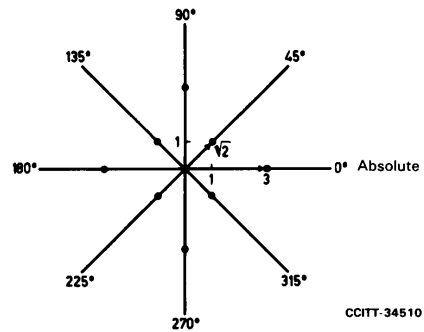
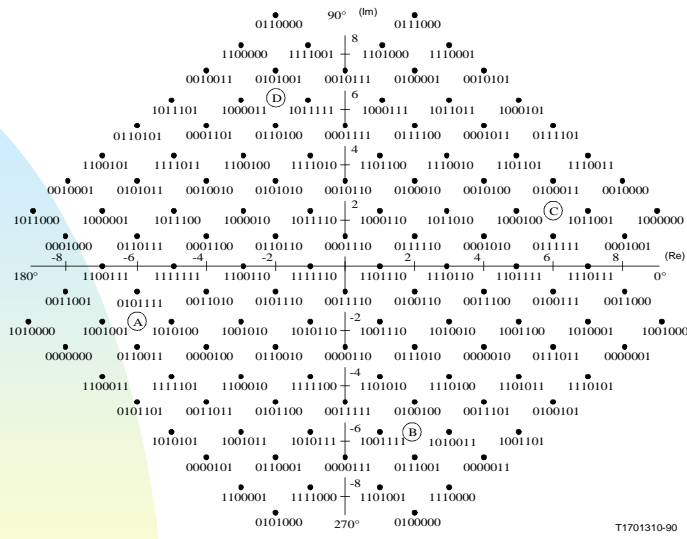
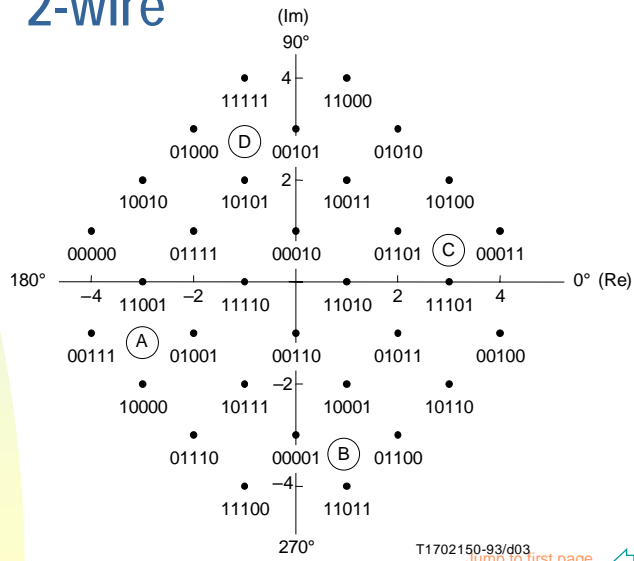


FIGURE 2/V.29
Signal space diagram at 7200 bit/s

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V.32 Modem with 9600 b/s 2-wire



Note - Binary numbers refer to $Y_0^n, Y_1^n, Y_2^n, Q_3^n, Q_4^n, Q_5^n, Q_6^n$.
A, B, C, D refer to synchronizing signal elements.

FIGURE 2-1/V.32 bis
Signal space diagram and mapping for modulation at 14 400 bit/s per second

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