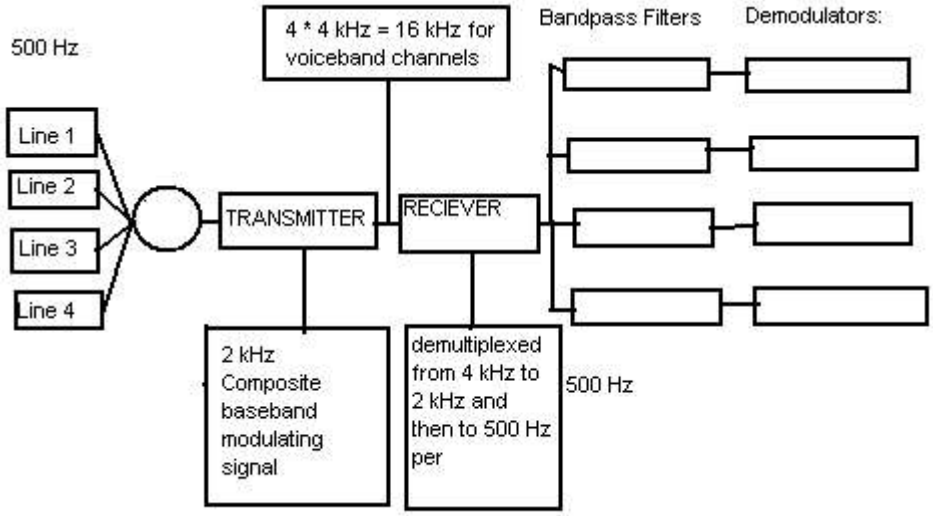
Chapter 8
Philip Bock

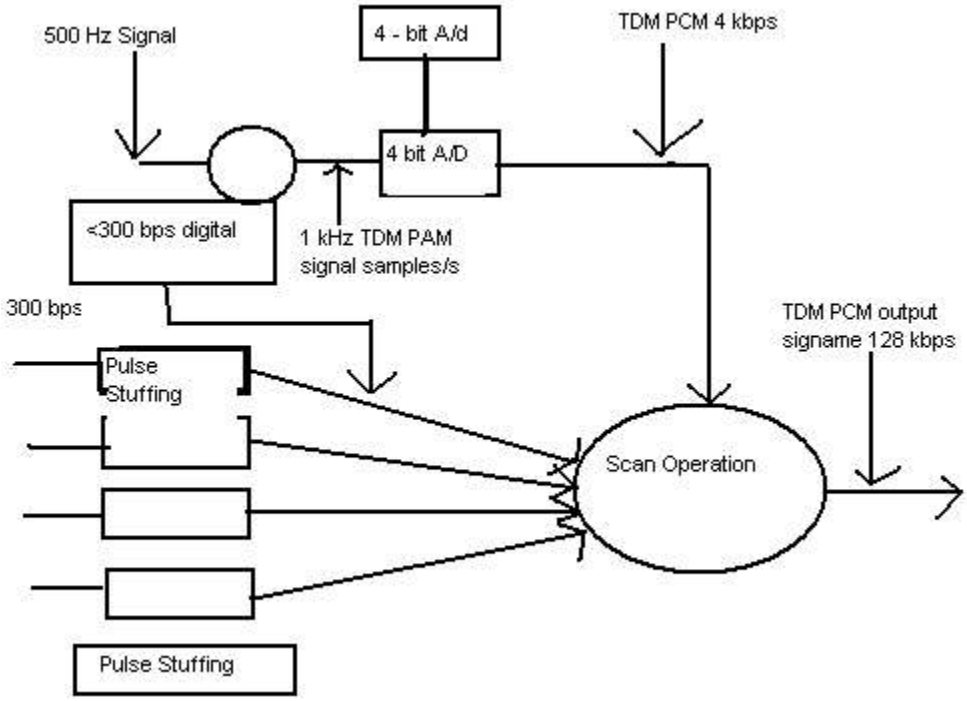
8.1)



8.5) Start and stop bits can be eliminated when character interleaving is used in synchronous TDM, they are removed by the sender and then reinserted buy the receiver. This improves the efficiency of bit interleaving.

8.9) 24 * 4 kHz = 96 kHz bandwidth require of 1 bps/kHz = 96kHz * 2 = 192 kHz = 192 kbps

8.10)



8.13)
Ignoring overhead the max data throughput with line utilization of 80% and the lines being busy 50% of the time: 9600 bps * 0.8 * 0.5 = 9600 * .4 = 3840 bps

8.15)
When considering TDM there are several cost factors to consider: number of repeaters per km, the cost of each repeater vs the overall speed increase since poor quality lines are being used. The overhead of the TDM might be to burden-sum to warrant the cost of installing TDM.

8.19)
The length filed can be omitted if the address field can be can be reduced by using relative addressing, that is, each address specifies the number of the current source relative to the prev source, modulo of the number of sources so instead of an 8 bit address field, a 4 – bit field might suffice.