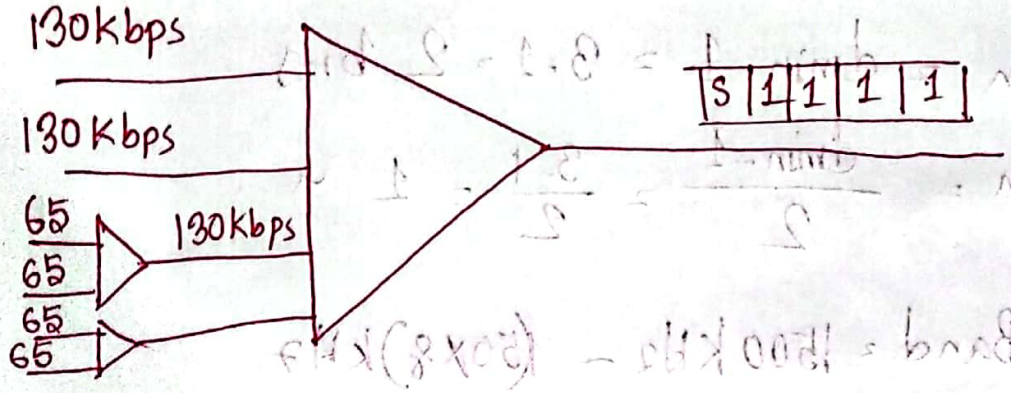


a) 4

b) Input Bit duration = $\frac{1}{130 \times 10^3} = 7.69 \times 10^{-6}$

c) 5

d) frame rate = $\frac{1}{\frac{1}{130 \times 10^3}} = 130,000$ fps

e) Frame duration

$= \frac{1}{130 \times 10^3}$

f) Data Rate = $130,000 \times 5 = 650000$ bps

g) Output Slot Duration = $\frac{\frac{1}{130 \times 10^3}}{4}$

$= 1.92 \times 10^{-6}$ s

h) Output Bit duration

$= \frac{1}{650000} = 1.53 \times 10^{-6}$

2. Detection = $d_{min} - 1 = 3 - 1 = 2$ bits

Correction = $\frac{d_{min} - 1}{2} = \frac{3-1}{2} = 1$

3. Guard Band = 1500 KHz − (50×8) KHz

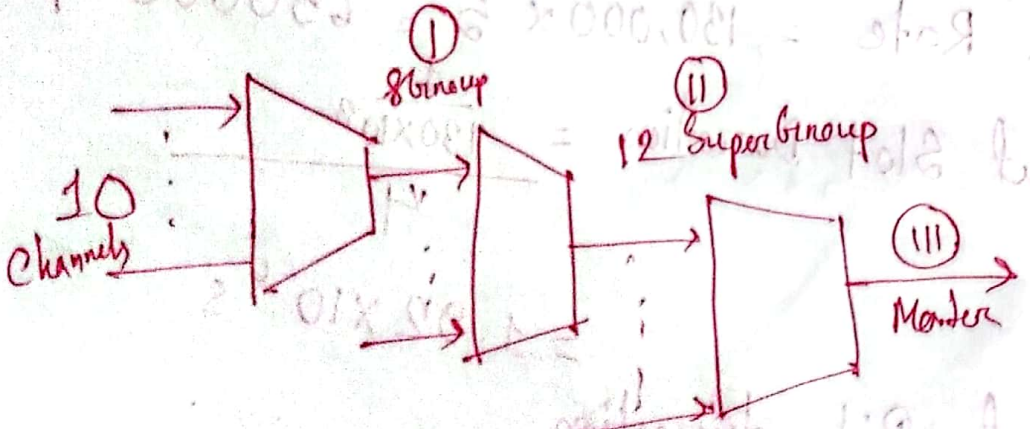
= 300 KHz

7

∴ Each Guard Band Required

= $\frac{300}{7}$ = 42.85 KHz

4. Total Channels = 10 × 8 × 12 = 960



① 10 × 4 = 40 KHz

② 40 × 8 + 3 = 323 KHz

③ 323 × 12 + 4 = 3880 KHz

∴ Total = 3880 KHz