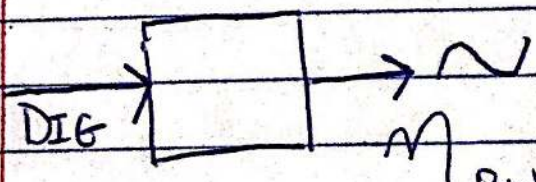
Course Name: Networking Technologies Date: September 25, 2018,
Course Num: CPET 481-01
Professor: Mark Indelicato

Quadrature Amplitude Modulation

QAM - Combination of changing the phase (∅) and the amplitude (A)

256

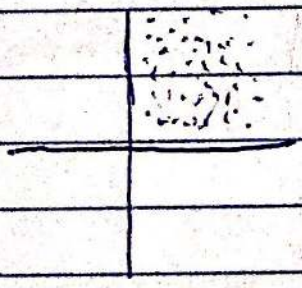
$2^M = 256$



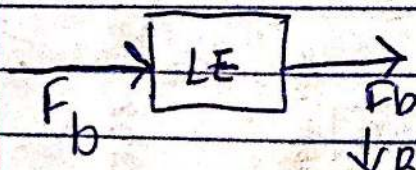
$BW = \frac{1}{2} S/N$

Bandwidth Efficiency

F_b



Line Encoding - Keep everything into a digital domain



- Error Detection
- Error Correction FEC

Network

Circuit SW → Time Slot Interchange

- TSI → Translation

Area Code ← AC - Exchange - StationID

(5) - SLC

Pack SW

Network -

Subnet -

HOST

SN Mask

Subnet Mask

Sampling freq. ← F_s → Nyquist

DS-1 → n → 7 → Dynamic Range (DR)

n ↑ → Fidelity

as (n) increases, the quality increases

↓ → BW

↳ however you need more bandwidth

Eg. $T = RC$ • $T = T_{agu}$ → Aquisition Time → Nyquist

Tau $C_1 = \frac{T}{R_T} = \frac{1}{F_s}$

$C_2 = i \cdot \frac{dt}{dv_{p-p}} \rightarrow T = \frac{1}{F_s}$

$BW_{sig} \rightarrow 4k$

$F_s = 2B_W \rightarrow 8000 \frac{\text{sample}}{\text{sec}}$

→ 125 µs